



# Engineering Standard

SAES-H-101V

30 April 2002

Approved Saudi Aramco  
Data Sheets – Paints and Coatings

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## Saudi Aramco DeskTop Standards

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## 1 Arabian Danish – Approved Materials

APCS-10	Koppers Super Service Black 30255	Bituminous: Black
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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-10**

Type of Coating : Bituminuous  
Manufacturer : Arabian Danish Paints Co. Ltd.  
Product Name : Koppers Super Service Black 30255  
SAMS S/N : 09-611-715/720/725

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
  2. Mixing
    - 2.1 No. of Components : 1
    - 2.2 Mixing Ratio : N/A
    - 2.3 Thinner : Xylene (for cleaning only)  
SAMS S/N : -
    - 2.4 Thinning Requirements : None
    - 2.5 Induction Time : N/A
    - 2.6 Pot Life : N/A
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 60°C
    - 3.2 Typical Wet Film Thickness Per Coat : 500 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 350 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 27 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 2
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**Manufacturer - Approved Saudi Aramco Data Sheet**  
**APCS-10 - Koppers Super Service Black 30255 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum	
10°C	10 Hours	-	None	16 Days
30°C	6 Hours	-	None	14 Days
50°C	5 Hours	-	None	10 Days

3.7 Recommended Equipment

Airless Spray

Brush

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	68%
4.2	Product Weight	(ASTM D1475)	:	1.45 Kg/L
4.3	Viscosity	(ASTM D562)	:	65 KU
4.4	Flash Point	(ASTM D93 OR D56)	:	28°C

Approval Date: July 15, 1986

## **2 Ciba Geigy Ltd. – Approved Materials**

APCS-20A      Araldite GY 257      Fiberglass Reinforced Epoxy: Hand Applied

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-20A**

Type of Coating : Fiberglass Reinforced Epoxy; Hand-Applied  
Manufacturer : Ciba-Specialty Chemicals, Switzerland  
Product Name : Araldite GY 257 (Curing Agents HY 830 and HY 850)  
SAMS S/N : None

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 3

2.2 Mixing Ratio : 100:52:8; GY 257:HY 830:HY 850 (by weight)

2.3 Thinner : N/A (clean up only)

SAMS S/N : None

2.4 Thinning Requirements : Nil

2.5 Induction Time : Not Applicable

2.6 Pot Life (GY 257 + HY 830 + HY 850); Measured with TECAM gel timer @ 65% relative humidity. (1 kg. mixture) : 3 hrs. 45 mins. @ 20°C

3. Installation Procedure

3.1 Surface Preparation

3.1.1 The surface is degreased and cleaned to ensure the removal of all oil, grease, salts, dirt, and other surface contaminants prior to further surface preparation.

3.1.2 Prior to the start of the blasting work, all the surface irregularities including weld spatters, weld fluxes, rough capping, etc., shall be removed or smoothed using mechanical tools. The surface is blasted to SA 2 ½ (near white metal).

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## **Manufacturer - Approved Saudi Aramco Data Sheet**

### **APCS-20A - Ciba's Araldite GY 257 (Cont'd)**

- 3.1.3 Blasted surfaces shall be vacuumed or blown clean, and extra care should be taken to avoid contamination of the blast cleaned surface. Severe corrosion, undercuts, or weld porosity (larger than 1 inch in diameter) should be reported for remedial work.
- 3.1.4 Priming shall take place while surface preparation is still fresh (directly after blasting and before oxidation). The overall steel surfaces such as the shell wall, support column, tank floor, and bottom shall be primed with a solvent based epoxy to a dry film thickness (DFT) of 25-30 microns (~1 mil).

### 3.2 Caulking

Caulking shall be applied on all sharp edges, mainly between shell and floor, between floor plates, in and around sumps, around connection between pipes and hull, and around support pipes.

- 3.2.1 For the area between the shell and the floor, the amount of filler will determine the sharpness of the turn. The sharper the turn, the more difficult it becomes to construct a laminate that is free from wrinkles and air bubbles, and therefore must be avoided. Use minimal epoxy filler as necessary to make the turn. A throat of approximately 5 cm is usually adequate.
- 3.2.2 Caulking between the floor plates shall be applied directly before lamination, and while the epoxy mortar is still wet, lamination on the floor can proceed.

### 3.3 Landing Plates

In floating roof tanks, steel panel may be inserted under the support legs. Landing plates (~6 mm thick) are first blast cleaned and primed on both sides, and the lamination system is applied to one side only. While still wet, sand (clean and dry) is sprinkled on the perimeter to provide for subsequent mechanical bond. While blast cleaning is in progress, work shall start on the landing legs in the following manner:

- 3.3.1 The welds on the striker plate are caulked.
- 3.3.2 Two to three hydraulic jacks are placed around the leg on timber spreaders, clear of the area to be lined, and the roof is lifted about 15mm. The pin holding the leg is removed, and the leg is raised.
- 3.3.3 The area under the leg is cleaned.
- 3.3.4 The lining is applied so it extends 10 cm from the landing plate. The lining should be resin rich in the center.

## **Manufacturer - Approved Saudi Aramco Data Sheet**

### **APCS-20A - Ciba's Araldite GY 257 (Cont'd)**

- 3.3.5 The prepared plate is placed, laminate side up, and forced slightly in the wet laminate. The system is allowed to set, the leg is lowered, the pin replaced and the jacks are released.
- 3.3.6 Any gaps between the landing plate and the striker plate should be filled with epoxy mortar (caulking).

#### **3.4 Laminate Application**

- 3.4.1 Apply a generous amount of epoxy mix (~500 microns) onto the primed steel surface, as evenly as possible.
- 3.4.2 Apply one layer of 450 g/m<sup>2</sup> fiberglass chopped strand mat (CSM) to the wet epoxy mix.
- 3.4.3 Embed fully to remove wrinkles and roll with steel roller to remove trapped air. Add resin where required and consolidate well with steel roller.
- 3.4.4 Apply a second generous coating of Epoxy mix.
- 3.4.5 Apply the second layer of 450 g/m<sup>2</sup> fiberglass CSM with a 50% of the nominal width of the mat overlap on the previous layer in order to achieve a 2 layer system. Care should be taken to ensure the second layer is overlapping the previous one with the untrimmed edge.
- 3.4.6 Repeat smoothing and rolling as in step 3.4.3 and add resin mix if required.
- 3.4.7 Lay a surfacing tissue of 30 g/m<sup>2</sup> in such a manner that it overlaps the mat without aligning with mat edge, and ensuring that the strands of mat are not exposed or protruding @ the laminate surface.
- 3.4.8 Repeat smoothing and rolling as in step 3.4.3.
- 3.4.9 Apply a fourth coat of Epoxy mix/ gel coat to give a resin rich finish.

#### **3.5 Repair of Defects**

- 3.5.1 Air inclusion shall be cut out to a tapered edge, sanded around, and application of mat and tissue carried out with an overlap of 50mm on the sound laminate. If the overcoating interval was exceeded, the overlap shall be of 100mm.
- 3.5.2 Overlaps of less than 30mm shall be patched with a strip 100mm wide.
- 3.5.3 Areas where the laminate does not appear to be resin rich shall be patched with an extra layer of surface tissue and resin.



**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-20A - Ciba's Araldite GY 257 (Cont'd)**

3.6 Maximum Allowable Substrate Temperature : 55°C

3.7 Drying Time

Substrate Temperature	To Handle	Recoat Interval		Full Cure
		Minimum	Maximum	
20°C	1 Day 6 Hours	20 Hours	1 Day 16 Hrs.	1 Day 6 Hrs.
40°C	10 Hours	7 Hours	15 Hours	11 Hours
50°C	3 Hours	3 Hours	7 Hours	5 Hours

In case overcoating interval is past the maximum limit, abrade the cured film with sand paper or sweep blast prior to application of fresh coat.

3.8 Recommended Equipment

Hand application only.

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 100%
- 4.2 Product Weight (ASTM D1475) : 1.12 Kg/L
- 4.3 Viscosity (@25°C) (ASTM D562) : 1,400 m Pa S
- 4.4 Flash Point (ASTM D93 or D56) : 138°C (GY 257)  
183°C (HY 830)  
163°C (HY 850)

Related Materials:

1. Fiberglass Mat: Vetrotex® M4 40 P3 (Emulsion bonded) by Vetrotex International, Scandinavian Glass fiber (MK 12) by Owens Corning or equivalent
2. Surfacing Tissue: Fiberil® T 1773; 30-40 g/m<sup>2</sup>; Manufactured by Carl Freudenberg
3. Primer: Hempel's Hempadur 1559 or approved equivalent.
4. Caulking (either):
  - 4.1 100 parts resin mix and 20 parts Aerosil 202, Cabosil or equivalent
  - 4.2 Hempadur Caulking 3588

Approval Date: August 9, 1997  
Replaces: New

### **3 Fosam-Approved Products**

APCS-10      Nitoproof 120                      Bituminous Coating

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**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-10**

Type of Coating : Bituminous Coating: Self-Priming  
Manufacturer : Fosam Co.  
Product Name : Nitoproof 120  
SAMS S/N : 09-611-715/720/725

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1-½ years ||
  2. Mixing ||
    - 2.1 No. of Components : One ||
    - 2.2 Mixing Ratio : N/A ||
    - 2.3 Thinner : Fosroc Solvent 103 ||
      - SAMS S/N : None ||
    - 2.4 Thinning Requirements : Nil ||
    - 2.5 Induction Time : N/A ||
    - 2.6 Pot Life : N/A ||
  3. Application ||
    - 3.1 Maximum Allowable Substrate Temperature : °C ||
    - 3.2 Typical Wet Film Thickness Per Coat : 500 micrometers ||
    - 3.3 Typical Dry Film Thickness Per Coat : 325 micrometers ||
    - 3.4 Theoretical Coverage @ 25 Micrometers : 13 M<sup>2</sup>/L ||
    - 3.5 Minimum Number of Coats (Spray Application): Three for buried. ||  
Four for immersion. ||
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**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-10  
 Nitoproof 120**

3.6	Drying Time					
	<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>		<b>To Immersion</b>	
			<b>Minimum</b>	<b>Maximum</b>	<b>Water</b>	<b>Buried</b>
	10°C	8 to 16 Hours	12 Hours	None	7 Days	
	30°C	2 to 4 Hours	4 Hours	None	7 Days	
	50°C	30 Minutes	2 Hours	None	4 Days	

3.7	Recommended Equipment					
	Airless Spray:			Tip Size: 0.026 inch		
				Fluid Pressure: 2,030 psi		
	Conventional Spray:			Not recommended		
	Brush:					

4.	Technical Properties					
4.1	Volume Solids (ASTM D2697)			:	65%	
4.2	Product Weight (ASTM D1475)			:	1.17 Kg/L	
4.3	Viscosity (ASTM D562)			:	KU	
4.4	Flash Point (ASTM D93 or D56)			:	37°C	

Approval Date: February 4, 1999  
 Replaces: New

#### 4 Hempel – Approved Materials

APCS-1A	Galvosil 8571 or 1578 Galvosil 1561 Hempadur Mastic 45881	Inorganic Zinc Primer: Solvent-Based Inorganic Zinc Primer: Water-Based Epoxy Topcoat: Red/Gray/Yellow	
APCS-1B	Hempadur HB Primer 17300 Hempadur 1557 Hempadur Mastic 45881	Epoxy Primer: Yellow Epoxy Primer: Red or Green Epoxy Topcoat: Red/Gray/Yellow	
APCS-1C	Hempadur Zinc 17360 Hempadur Mastic 45881	Zinc-Rich Epoxy Primer: Gray Epoxy Topcoat: Red/Gray/Yellow	
APCS-1D	(Use APCS-1A as primer and intermediate coat. Hempathane Topcoat 55210	Polyurethane Topcoat: Yellow/White Gray/Green/Red	
APCS-1E	(Use APCS-1A as primer and intermediate coat. Hempathane Topcoat 55210	Polyurethane Topcoat: Yellow/White Gray/Green/Red	
APCS-1F	(Use APCS-1A as primer and intermediate coat. Hempathane Topcoat 55210	Polyurethane Topcoat: Yellow/White Gray/Green/Red	
APCS-2A/B/C	Hempadur 85671	Epoxy: Off White/ Red / Green	
APCS-2D	Hempadur 85210	Primer: Yellow FS 595a 23594 Topcoat: White FS 595a 27780	
APCS-3	Hempadur 35670	Coal Tar Epoxy: Reddish Brown/Black	
APCS-4	Hempel's ZP Alkyd Primer 12090 Aluminum 5253	Zinc Phosphate Alkyd: Red Aluminum Topcoat	
APCS-6	Hempel's ZP Alkyd Primer 12090 Hempalin 52140	Zinc Phosphate Alkyd: Red Alkyd Topcoat: Various Colors	
APCS-9	Hempatex 1635 Hempatex 4639	Chlorinated Rubber Primer: Orange Chlorinated Rubber Topcoat: Gray/Green/Brown/Blue	
APCS-10	Hempinol HB 10270	Bituminous: Black	

**Hempels - Approved Materials (Cont'd)**

APCS-11A	Hempel's Galvosil 8571 or 1578 Hempel's Galvosil 1561 Hempalin 5691 or 5694	Inorganic Zinc Primer: Solvent-Based Inorganic Zinc Primer: Water-Based Heat Resistant Topcoat: Aluminum	
APCS-11B	Hempel's Silicone Aluminium 56910 or Hempel's Silicone Acrylic 56940	Heat Resistant Self-Priming System: Aluminum	
APCS-12	Hempadur Primer 1530 Hempadur 1557 Hempadur Hi-Build 4523	Epoxy Primer: Yellow Epoxy Primer: Red or Green Epoxy Topcoat: Red/Gray/Yellow	
APCS-17A	Hempel's Galvosil 8571 or 1578	Inorganic Zinc Primer: Solvent-Based	
APCS-17B	Hempel's Galvosil 1561	Inorganic Zinc Primer: Water-Based	
APCS-19A	Hempadur Spray Guard 8555- (Formerly Hempadur Multi-Mil 8549)	Splash Zone Compound: Hand-Applied	
APCS-19B	Hempadur 3549	Splash Zone Compound: Spray-Applied	
APCS-20A	Epoxy Resin System 05500	Fiberglass Reinforced Epoxy: Hand Lay-Up	
APCS-20B Applied	Hempel's Sprayfibre 3589	Fiberglass Reinforced Epoxy: Hand Spray-	
APCS-22	Hempadur 45070	Epoxy: Gray/Yellow/Black	
APCS-23	Hempinol 10270	High Temperature Mastic: Black	
APCS-26	Hempadur Mastic 45881	Epoxy Mastic: Aluminum/White/Orange/Red/ Yellow/Gray/Black	
APCS-26T	(Use APCS-26 as primer and Hempthane in APCS-1D as topcoat.)		

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A**

Type of Coating : Inorganic Zinc Primer; Solvent-Based  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempel's Galvosil 8571  
SAMS S/N : 09-611-958

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 6 months

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 8.1 kg liquid: 20.5 kg Zinc dust ||

2.3 Thinner : Hempel's 08700 ||

SAMS S/N : 09-738-220

2.4 Thinning Requirements : Up to 30%

2.5 Induction Time : Nil

2.6 Pot Life : 6 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 40°C

3.2 Typical Wet Film Thickness Per Coat : 91 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 28.8 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Primer - Hempel's Galvosil 8571 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum*
10°C	4 Hours	7 days	None
30°C	1 Hour	2 days	None
50°C	¼ Hour	10 Hours	None

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.019 to 0.023 inch Fluid pressure 1,450 psi	
Conventional Spray	:	Tip Size Atomizing Pressure	
Brush	:	For touch-up only.	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	70 to 74%
4.2	Product Weight	(ASTM D1475)	:	2.89 to 2.91 Kg/L
4.3	Viscosity	(ASTM D562)	:	92 to 98 KU
4.4	Flash Point	(ASTM D93 or D56)	:	18°C

**Note:** Topcoating is done when the inorganic zinc primer is fully cured. The minimum overcoating time is valid @ 75% relative humidity and sufficient ventilation.

Approval Date: March 25, 2002  
 Replaces : July 7, 1994



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A**

Type of Coating : Inorganic Zinc Primer; Water-Based  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempel's Galvosil 1561  
SAMS S/N : 09-611-969

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 12 months ||

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 8.1 kg liquid:23.3 kg Zinc Dust ||

2.3 Thinner : Fresh water (sweet water)

SAMS S/N : N/A

2.4 Thinning Requirements : Up to 50%

2.5 Induction Time : Nil

2.6 Pot Life : 3-¾ hours @ 25°C  
1-¼ hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 40°C ||

3.2 Typical Wet Film Thickness Per Coat : 96 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 27.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Primer - Hempel's Galvosil 1561 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum*
10°C	4 Hours	30 days	None
30°C	1 Hour	7 days	None
50°C	¼ Hour	2 Days	None

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	N/A
Conventional Spray	:	Tip Size Atomizing Pressure
Brush	:	For touch-up only.

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	66 to 70%
4.2	Product Weight	(ASTM D1475)	:	3.11 to 3.19 Kg/L
4.3	Viscosity	(ASTM D562)	:	67 to 73 KU
4.4	Flash Point	(ASTM D93 or D56)	:	N/A

**Note:** Topcoating is done when the inorganic zinc primer is fully cured. The minimum overcoating time is valid @ 75% relative humidity and sufficient ventilation.

Approval Date: March 25, 2002  
Replaces : July 7, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A**

Type of Coating : Inorganic Zinc Primer; Solvent-Based  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempel's Galvosil 1578  
SAMS S/N : 09-611-958

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 6 months

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 10 L liquid: 17 kg Zinc Dust ||

2.3 Thinner : Hempel's 08700

SAMS S/N : 09-738-220

2.4 Thinning Requirements : Up to 30%

2.5 Induction Time : Nil

2.6 Pot Life : 9 hours @ 25°C  
3 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 40°C

3.2 Typical Wet Film Thickness Per Coat : 105 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 24.8 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Primer - Hempel's Galvosil 1578 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum*
10°C	4 Hours	4 days	None
30°C	1 Hour	1 day	None
50°C	¼ Hour	8 Hours	None

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure sweet water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.019 to 0.023 inch Fluid pressure: 1,500 psi	
Conventional Spray	:	Tip Size Atomizing Pressure	
Brush	:	For touch-up only.	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	60 to 64%
4.2	Product Weight	(ASTM D1475)	:	2.35 to 2.41 Kg/L
4.3	Viscosity	(ASTM D562)	:	67 to 73 KU
4.4	Flash Point	(ASTM D93 or D56)	:	14°C (57°F)

**Note:** Topcoating is done when the inorganic zinc primer is fully cured. The minimum overcoating time is valid @ 75% relative humidity and sufficient ventilation.

Approval Date: July 7, 1994  
 Replaces : March 14, 1993

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A**

Type of Coating : Epoxy Topcoat: Polyamide Cured  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempadur Mastic 45881  
SAMS S/N : 09-612-364/369/375

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 3:1 by volume

2.3 Thinner : Hempel's 08450

SAMS S/N : 09-738-260

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : Nil

2.6 Pot Life : 2-¼ hours @ 25°C  
¾ hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 125 - 138 micrometers

3.3 Typical Dry Film Thickness Per Coat : 100 - 110 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 32 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Topcoat - Hempadur Mastic 45881**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	14 Hours	10 Hours	60 Days
30°C	4 Hours	4 Hours	12 Days
50°C	2 Hours	2 Hours	5 Days

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.017 to 0.023 inch Fluid pressure: 3,600 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush	:	For touch-up only.

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	78 to 82%
4.2	Product Weight	(ASTM D1475)	:	1.30 to 1.50 Kg/L
4.3	Viscosity	(ASTM D562)	:	105 to 115 KU
4.4	Flash Point	(ASTM D93 or D56)	:	28°C (108°F)

Approval Date: March 25, 2002  
Replaces : New

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1B**

Type of Coating : Epoxy Primer: Polyamide Cured  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempadur Hi-Build 17300  
SAMS S/N : 09-612-362

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 5:1 by volume

2.3 Thinner : Hempel's 08450

SAMS S/N : 09-738-280

2.4 Thinning Requirements : maximum 5%

2.5 Induction Time : Nil

2.6 Pot Life : 6 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 91 micrometers

3.3 Typical Dry Film Thickness Per Coat : 50 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 22 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1B Primer - Hempadur Hi-Build 17300**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	6 Hours	10 Hours	60 Days
30°C	1-½ Hours	2-½ Hours	18 Days
50°C	1 Hour	1 Hour	7 Days

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.021 inch Fluid pressure: 2,900 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush	:	For touch-up only.

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	53 to 57%
4.2	Product Weight	(ASTM D1475)	:	1.48 to 1.54 Kg/L
4.3	Viscosity	(ASTM D562)	:	75 to 80 KU
4.4	Flash Point	(ASTM D93 or D56)	:	26°C

Approval Date: March 25, 2002  
Replaces : New



**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1B**

Type of Coating : Epoxy Primer: Polyamide Cured  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempadur 1557  
SAMS S/N : 09-612-362

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 3:1 by volume

2.3 Thinner : Hempel's 0845

SAMS S/N : 09-738-280

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : ½ hour

2.6 Pot Life : 3 hours @ 25°C  
1 hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 142 micrometers

3.3 Typical Dry Film Thickness Per Coat : 75 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 21.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1B Primer - Hempadur 1557**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	16 Hours	24 Hours	60 Days
30°C	4 Hours	10 Hours	20 Days
50°C	1 Hour	6 Hours	7 Days

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.021 inch Fluid pressure: 2,550 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush	:	For touch-up only.

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	51 to 55%
4.2	Product Weight	(ASTM D1475)	:	1.28 to 1.37 Kg/L
4.3	Viscosity	(ASTM D562)	:	77 to 85 KU
4.4	Flash Point	(ASTM D93 or D56)	:	25°C

Approval Date: July 7, 1994  
Replaces : March 14, 1993

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1B**

Type of Coating : Epoxy Topcoat  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempadur Hi-Build 45881  
SAMS S/N : 09-612-364/369/375

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See APCS-1A Data Sheet

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1C**

Type of Coating : Zinc Rich Epoxy Primer  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempadur Zinc 17360  
SAMS S/N : 09-612-580/590

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4:1 by volume

2.3 Thinner : Hempel's 08450

SAMS S/N : 09-738-240

2.4 Thinning Requirements : 5% maximum

2.5 Induction Time : ½ hour

2.6 Pot Life : 1-½ hours @ 25°C  
½ hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 62 micrometers

3.3 Typical Dry Film Thickness Per Coat : 40 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1C Primer - Hempadur Zinc 17360 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum*
10°C	5 Hours	4 Hours	None
30°C	1 Hour	1 Hours	None
50°C	½ Hour	½ Hours	None

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure sweet water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.017 to 0.021 inch Fluid pressure 2,200 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush	:	For touch-up only.

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	63 to 67%
4.2	Product Weight	(ASTM D1475)	:	2.64 to 2.72 Kg/L
4.3	Viscosity	(ASTM D562)	:	97 to 101 KU
4.4	Flash Point	(ASTM D93 or D56)	:	24°C

Approval Date: March 25, 2002

Replaces : New

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1C**

Type of Coating : Epoxy Topcoat  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempadur Hi-Build 45881  
SAMS S/N : 09-612-364/369/375

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See APCS-1A Data Sheet

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F Topcoat**

Type of Coating : Polyurethane Topcoat: Aliphatic  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hemptane Topcoat 55210  
SAMS S/N : 09-612-365/366/367/368/371

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 7:1  
Base:Hardener by volume ||
    - 2.3 Thinner : Hempel's 08080  
SAMS S/N : 09-738-345
    - 2.4 Thinning Requirements : Up to 5% maximum
    - 2.5 Induction Time : Nil
    - 2.6 Pot Life : 1-½ hours @ 25°C  
½ hour @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 77 micrometers ||
    - 3.3 Typical Dry Film Thickness Per Coat : 40 micrometers ||
    - 3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 20.8 M<sup>2</sup>/L ||
    - 3.5 Minimum Number of Coats : 1
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F Topcoat - Hemptane Topcoat 55210 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		
		Minimum	Maximum	
10°C	1 Day	1-½ Days	90 Days	
30°C	6 Hours	12 Hours	60 Days	
50°C	2 Hours	5 Hours	15 Days	

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.017 to 0.019 inch Fluid pressure 2,200 psi	
Conventional Spray	:	Tip size Atomizing Pressure	
Trowel/Hand	:	For touch-up only	

4. Technical Properties

4.1 Volume Solids	(ASTM D2697)	:	49 to 53% 50 to 54%	
4.2 Product Weight	(ASTM D1475)	:	1.10 to 1.32 Kg/L	
4.3 Viscosity	(ASTM D562)	:	69 to 74 KU	
4.4 Flash Point	(ASTM D93 or D56)	:	33°C	

**Note:** For APCS-1D, use APCS-1A as primer and intermediate coat. For APCS-1E, use APCS-1B as primer and intermediate coat. For APCS-1F, use APCS-1C as primer and intermediate coat.

Approval Date: March 25, 2002  
 Replaces: February 4, 1999



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2A/B/C**

Type of Coating : Phenolic Epoxy: Amine Adduct Cured  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempadur 85671  
SAMS S/N : 09-612-425/453 (APCS-2A); 09-612-518/546 (APCS-2B);  
09-612-312/313/314 (APCS-2C)

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 8.8:1.2 by volume,  
base: hardener

2.3 Thinner : Hempel's 08450

SAMS S/N : 09-738-140

2.4 Thinning Requirements : 2% maximum

2.5 Induction Time : 15 mins. @ 20°C

2.6 Pot Life : 2-¼ hours @ 25°C  
¾ hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 147 micrometers

3.3 Typical Dry Film Thickness Per Coat : 100 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 27.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 3

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2A/B/C - Hempadur 85671 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum	
10°C	25 Hours	1.5 days	50 Days	18 Days
15°C		1.25 days	40 Days	14 Days
20°C		1 day	30 Days	10.5 Days
25°C		18 Hours	20 Days	7 Days
30°C	5 Hours	12 Hours	10 Days	3.5 Days
35°C		10 Hours	8 Days	3 Days
40°C		7.5 Hours	6.5 Days	2.5 Days
45°C		5.5 Hours	4.5 Days	2.25 Days
50°C	1 Hour	3 Hours	3 Days	2 Days
55°C		2.5 Hours	2 Days	1.5 Days
60°C		2 Hours	1 Day	1 Days

(Please see graphs in the Attachment.)

3.7 Recommended Equipment

- Airless Spray : Tip size 0.018 to 0.023 inch  
Fluid pressure 2,200 to 2,900 psi
- Conventional Spray : Tip size  
Atomizing Pressure
- Brush : For touch-up only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 66 to 70%
- 4.2 Product Weight (ASTM D1475) : 1.67 to 1.73 Kg/L
- 4.3 Viscosity (ASTM D562) : 75 to 81 KU
- 4.4 Flash Point (ASTM D93 OR D56) : 26°C

Approval Date: March 25, 2002  
 Replaces: November 20, 2001

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2D**

Type of Coating : Amine Adduct Cured Epoxy: Primer/Topcoat  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempadur 85210 (Hardener 89110)  
SAMS S/N : 09-612-316/317

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4:1 by volume,  
base: hardener

2.3 Thinner : Hempel's 89460 ||

SAMS S/N : 09-738-290

2.4 Thinning Requirements : 5% maximum

2.5 Induction Time : Nil

2.6 Pot Life : 1-½ hours @ 25°C  
½ hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 152 micrometers ||

3.3 Typical Dry Film Thickness Per Coat : 100 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26.4M<sup>2</sup>/L ||

3.5 Minimum Number of Coats : 2

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2D Primer/Topcoat - Hempadur 85210 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum	
10°C	1.25 Days	1.25 Days	7.5 Days	18 Days
15°C		1 Day	6 Days	14 Days
20°C		18 Hours	4.5 Days	10.5 Days
25°C		12 Hours	3 Days	7 Days
30°C	6 Hours	6 Hours	1.5 Days	3.5 Days
35°C		5 Hours	1.2 Days	3 Days
40°C		4 Hours	21 Hours	2.5 Days
45°C		3 Hours	14 Hours	2.25 Days
50°C	2 Hours	2 Hours	14 Hours	2 Days
55°C		1 Hour	12 Hours	17 Hours
60°C		0.6 Hour	7 Hours	12 Hours

(Please see graphs in the Attachment.)

3.7 Recommended Equipment

- Airless Spray : Tip size 0.021 inch  
Fluid pressure 2,175 psi
- Conventional Spray : Tip size  
Atomizing Pressure
- Brush : For touch-up only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 64 to 68%
- 4.2 Product Weight (ASTM D1475) : 1.33 to 1.38 Kg/L
- 4.3 Viscosity (ASTM D562) : 70 to 75 KU
- 4.4 Flash Point (ASTM D93 OR D56) : 35°C

Approval Date: March 25, 2002  
 Replaces: January 6, 1998

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-3**

Type of Coating : Coal Tar Epoxy  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempel's Coal Tar Epoxy Mastic 35670 ||  
SAMS S/N : 09-612-318/320

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years ||
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 4:1 by volume
    - 2.3 Thinner : Hempel's 08450 ||  
SAMS S/N : 09-738-180
    - 2.4 Thinning Requirements : 5% maximum
    - 2.5 Induction Time : ½ hour
    - 2.6 Pot Life : 6 hours @ 25°C  
2 hours @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 217 micrometers ||
    - 3.3 Typical Dry Film Thickness Per Coat : 200 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 36.8 M<sup>2</sup>/L ||
    - 3.5 Minimum Number of Coats : 2
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-3 - Hempel's Coal Tar Epoxy Mastic 35670 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum	
10°C	1 Day	2.5 Days	18 Days	18 Days
15°C		2 Days	14 Days	14 Days
20°C		1.5 Day	10.5 Days	10.5 Days
25°C		1 Day	7 Days	7 Days
30°C	12 Hours	12 Hours	3.5 Days	3.5 Days
35°C		10 Hours	2.5 Days	2.5 Days
40°C		7.5 Hours	2 Days	2 Days
45°C		5.5 Hours	1.5 Days	1.5 Days
50°C	6 Hours	3 Hours	1 Day	22 Hours
55°C		2 Hours	1.1 Days	17 Hours
60°C		1.2 Hours	17 Hours	12 Hours

(Please see graphs in the Attachment.)

3.7 Recommended Equipment

- Airless Spray : Tip size 0.021 to 0.023 inch  
Fluid pressure 3,625 psi
- Conventional Spray : Tip size  
Atomizing Pressure
- Brush : For touch-up only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 90 to 94%
- 4.2 Product Weight (ASTM D1475) : 1.3 to 1.6 Kg/L
- 4.3 Viscosity (ASTM D562) : More than 141 KU
- 4.4 Flash Point (ASTM D93 OR D56) : 25°C

Approval Date: March 25, 2002  
 Replaces: January 6, 1998

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4/6**

Type of Coating : Zinc Phosphate Alkyd Primer  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempel's ZP Alkyd Primer 12090  
SAMS S/N : 09-708-133/137

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : Hempel's 08230

SAMS S/N : 09-738-340

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : N/A

2.6 Pot Life : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 98 micrometers

3.3 Typical Dry Film Thickness Per Coat : 50 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 19.6 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4/6 Primer – Hempel's ZP Alkyd Primer 12090 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	12 Hours	22 Hours	7 Days
30°C	5 Hours	8.5 Hours	3 Days
50°C	2 Hours	3 Hours	1 Day

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.018 inch Fluid pressure: 2,200 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush	:	For touch-up only.

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	46 to 50%
4.2	Product Weight	(ASTM D1475)	:	1.25 to 1.30 Kg/L
4.3	Viscosity	(ASTM D562)	:	75 to 80 KU
4.4	Flash Point	(ASTM D93 or D56)	:	38°C

Approval Date: March 25, 2002  
Replaces : New



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4**

Type of Coating : Aluminum Topcoat  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempalin Aluminium 5253  
SAMS S/N : 09-686-354

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1. Storage
  - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years
2. Mixing
  - 2.1 No. of Components : 1
  - 2.2 Mixing Ratio : N/A
  - 2.3 Thinner : Hempel's 0808 (Xylene)  
SAMS S/N : 09-738-340
  - 2.4 Thinning Requirements : 5% maximum
  - 2.5 Induction Time : N/A
  - 2.6 Pot Life : N/A
3. Application
  - 3.1 Maximum Allowable Substrate Temperature : 50°C
  - 3.2 Typical Wet Film Thickness Per Coat : 65 micrometers
  - 3.3 Typical Dry Film Thickness Per Coat : 25 micrometers
  - 3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 15.6 M<sup>2</sup>/L
  - 3.5 Minimum Number of Coats : 2

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4 - Hempalin Aluminium 5253 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	2 Days	15 Hours	None
30°C	12 Hours	6 Hours	None
50°C	8 Hours	3 Hours	None

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.015 to 0.019 inch Fluid pressure: 2,175 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush	:	For touch-up only.

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	37 to 41%
4.2	Product Weight	(ASTM D1475)	:	0.95 to 0.99 Kg/L
4.3	Viscosity	(ASTM D562)	:	51 to 57 KU
4.4	Flash Point	(ASTM D93 or D56)	:	38°C
4.5	Gloss	(ASTM D523)	:	100 to 110

Approval Date: March 25, 2002  
Replaces : July 7, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-6**

Type of Coating	:	High Gloss Alkyd Enamel Topcoat	
Manufacturer	:	Hempel Paints (Saudi Arabia)	
Product Name	:	Hempalin Enamel 52140	
SAMS S/N	:	09-630-753/758/763/768/769/770/771/773/784/785/794/796 09-631-301/322/450/455/462/465/590/645	

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1.	Storage		
1.1	Shelf life, sheltered storage @ 35°C maximum	:	2 years
2.	Mixing		
2.1	No. of Components	:	1
2.2	Mixing Ratio	:	N/A
2.3	Thinner	:	Hempel's 08080 (Xylene)
	SAMS S/N	:	09-738-340
2.4	Thinning Requirements	:	5% maximum
2.5	Induction Time	:	N/A
2.6	Pot Life	:	N/A
3.	Application		
3.1	Maximum Allowable Substrate Temperature	:	50°C
3.2	Typical Wet Film Thickness Per Coat	:	76 micrometers
3.3	Typical Dry Film Thickness Per Coat	:	35 micrometers
3.4	Theoretical Coverage @ 25 Micrometers Dry Film Thickness	:	18.4 M <sup>2</sup> /L
3.5	Minimum Number of Coats	:	1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-6 Topcoat - Hempalin Enamel 52140 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		
		Minimum	Maximum	
10°C	2 Days	16 Hours	None	
30°C	12 Hours	6 Hours	None	
50°C	8 Hours	3 Hours	None	

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.018 inch Fluid pressure: 2,200 psi	
Conventional Spray	:	Tip Size Atomizing Pressure	
Brush	:	For touch-up only.	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	41 to 45% 48 to 52%	
4.2	Product Weight	(ASTM D1475)	:	0.92 to 1.23 Kg/L	
4.3	Viscosity	(ASTM D562)	:	66 to 78 KU	
4.4	Flash Point	(ASTM D93 or D56)	:	38°C	
4.5	Gloss	(ASTM D523)	:	90 @ 60°C	

Approval Date: March 25, 2002

Replaces : July 7, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-9**

Type of Coating : Chlorinated Rubber Primer  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempatex Red Lead 1635  
SAMS S/N : 09-685-442

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : Hempel's 0808 (Xylene)

SAMS S/N : 09-740-416

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : N/A

2.6 Pot Life : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 40°C

3.2 Typical Wet Film Thickness Per Coat : 125 micrometers

3.3 Typical Dry Film Thickness Per Coat : 50 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 16 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-9 Primer - Hempatex 1635 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	6 Hours	9 Hours	None
30°C	3 Hours	4 Hours	None
50°C	1 Hour	-	None

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.021 to 0.023 inch Fluid pressure: 2,175 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush	:	For touch-up only.

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	38 to 42%
4.2	Product Weight	(ASTM D1475)	:	1.62 to 1.68 Kg/L
4.3	Viscosity	(ASTM D562)	:	75 to 80 KU
4.4	Flash Point	(ASTM D93 or D56)	:	31°C

Approval Date: July 7, 1994  
Replaces : March 14, 1993

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-9**

Type of Coating : Chlorinated Rubber Topcoat  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempatex Hi-Build 4639  
SAMS S/N : 09-685-436/438/448/450

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : Hempel's 0808 (Xylene)

SAMS S/N : 09-740-416

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : N/A

2.6 Pot Life : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 40°C

3.2 Typical Wet Film Thickness Per Coat : 122 micrometers

3.3 Typical Dry Film Thickness Per Coat : 50 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 16.4 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-9 Topcoat - Hempatex 4639 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	1.5 Days	9 Hours	None
30°C	8 Hours	4 Hours	None
50°C	2 Hour	-	None

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.021 to 0.025 inch Fluid pressure: 2,175 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush	:	For touch-up only.

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	37 to 41% 39 to 43%
4.2	Product Weight	(ASTM D1475)	:	1.27 to 1.32 Kg/L
4.3	Viscosity	(ASTM D562)	:	80 to 90 KU
4.4	Flash Point	(ASTM D93 or D56)	:	31°C

Approval Date: July 7, 1994  
Replaces : March 14, 1993



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-10**

Type of Coating	:	Bituminous	
Manufacturer	:	Hempel Paints (Saudi Arabia)	
Product Name	:	Hempinol HB 10270	
SAMS S/N	:	09-611-715/720/725	

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1.	Storage		
1.1	Shelf life, sheltered storage @ 35°C maximum	:	2 years
2.	Mixing		
2.1	No. of Components	:	1
2.2	Mixing Ratio	:	N/A
2.3	Thinner	:	Hempel's 08080 (Xylene)
	SAMS S/N	:	09-740-416
2.4	Thinning Requirements	:	5% maximum
2.5	Induction Time	:	N/A
2.6	Pot Life	:	N/A
3.	Application		
3.1	Maximum Allowable Substrate Temperature	:	45°C
3.2	Typical Wet Film Thickness Per Coat	:	605 micrometers
3.3	Typical Dry Film Thickness Per Coat	:	375 micrometers
3.4	Theoretical Coverage @ 25 Micrometers Dry Film Thickness	:	24.8 M <sup>2</sup> /L
3.5	Minimum Number of Coats	:	2 for buried service 3 for immersion service

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-10 - Hempinol HB 10270 (Cont'd)**

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3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum	
10°C	3 Days	2 Days	None	7 Days
30°C	1 Day	18 Hours	None	5 Days
50°C	18 Hours	-	None	3 Days

3.7 Recommended Equipment

- Airless Spray : Tip size 0.021 to 0.031 inch  
Fluid pressure 2,900 psi
- Conventional Spray : Tip size  
Atomizing Pressure
- Brush : For touch-up only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 60 to 64%
- 4.2 Product Weight (ASTM D1475) : 1.19 to 1.21 Kg/L
- 4.3 Viscosity (ASTM D562) : More than 141 KU
- 4.4 Flash Point (ASTM D93 OR D56) : 38°C

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Approval Date: March 25, 2002  
Replaces: July 7, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A**

Type of Coating : Inorganic Zinc Primer: Solvent Based  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempel's Galvosil 1578  
SAMS S/N : 09-611-958

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 6 months

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 10 L Liquid: 17.8 Kg Zinc Dust

2.3 Thinner : Hempel's 08700 ||

SAMS S/N : 09-738-220

2.4 Thinning Requirements : 30% maximum

2.5 Induction Time : Nil

2.6 Pot Life : 9 hours @ 25°C  
3 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 40°C

3.2 Typical Wet Film Thickness Per Coat : 81 micrometers ||

3.3 Typical Dry Film Thickness Per Coat : 50 micrometers ||

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 24.8 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Primer - Hempel's Galvosil 1578 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum*
10°C	4 Hours	4 Days	None
30°C	1 Hour	1 Day	None
50°C	¼ Hour	8 Hours	None

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure sweet water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.019 to 0.023 inch Fluid pressure 1,500 psi	
Conventional Spray	:	Tip Size Atomizing Pressure	
Brush	:	For touch-up only.	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	60 to 64%
4.2	Product Weight	(ASTM D1475)	:	2.35 to 2.41 Kg/L
4.3	Viscosity	(ASTM D562)	:	67 to 73 KU
4.4	Flash Point	(ASTM D93 or D56)	:	14°C

**Note:** Overcoating is to be done when the inorganic zinc is fully cured.

Approval Date: March 25, 2002  
 Replaces : July 7, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A**

Type of Coating : Inorganic Zinc Primer: Water Based  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempel's Galvosil 1561  
SAMS S/N : 09-611-969

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year ||
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 8.1 Kg Liquid: 23.3 Kg Zinc Dust
    - 2.3 Thinner : Fresh Water (sweet water)  
SAMS S/N : N/A
    - 2.4 Thinning Requirements : 50% maximum
    - 2.5 Induction Time : N/A
    - 2.6 Pot Life : 3-¾ hours @ 25°C  
1-¼ hours @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 40°C ||
    - 3.2 Typical Wet Film Thickness Per Coat : 74 micrometers ||
    - 3.3 Typical Dry Film Thickness Per Coat : 50 micrometers ||
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 27.2 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 1
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Primer - Hempel's Galvosil 1561 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum*
10°C	4 Hours	30 Days	None
30°C	1 Hour	7 Days	None
50°C	¼ Hour	2 Days	None

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	N/A
Conventional Spray	:	Tip Size Atomizing Pressure
Brush	:	For touch-up only.

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	66 to 70%
4.2	Product Weight	(ASTM D1475)	:	3.11 to 3.19 Kg/L
4.3	Viscosity	(ASTM D562)	:	67 to 73 KU
4.4	Flash Point	(ASTM D93 or D56)	:	N/A

Approval Date: March 25, 2002  
Replaces: July 7, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A**

Type of Coating : Inorganic Zinc Primer: Solvent Based  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempel's Galvosil 8571  
SAMS S/N : 09-611-958

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 6 months

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 8.1 Kg Liquid:20.5 Kg Zinc Dust ||

2.3 Thinner : Hempel's 08700 ||

SAMS S/N : 09-738-220

2.4 Thinning Requirements : 30% maximum

2.5 Induction Time : Nil

2.6 Pot Life : 6 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 40°C

3.2 Typical Wet Film Thickness Per Coat : 70 micrometers ||

3.3 Typical Dry Film Thickness Per Coat : 50 micrometers ||

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 28.8 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Primer - Hempel's Galvosil 8571 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum*</b>
10°C	4 Hours	7 Days	None
30°C	1 Hour	2 Days	None
50°C	¼ Hour	10 Hours	None

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.019 to 0.023 inch Fluid pressure 1,450 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush	:	For touch-up only.

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	70 to 74%
4.2	Product Weight	(ASTM D1475)	:	2.89 to 2.91 Kg/L
4.3	Viscosity	(ASTM D562)	:	92 to 98 KU
4.4	Flash Point	(ASTM D93 or D56)	:	18°C

Approval Date: March 25, 2002

Replaces: July 7, 1994



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A**

Type of Coating : Silicone Aluminum Topcoat  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempel's Silicone Aluminium 56910 ||  
SAMS S/N : 09-687-325

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years ||
  2. Mixing
    - 2.1 No. of Components : 1
    - 2.2 Mixing Ratio : N/A
    - 2.3 Thinner : Hempel's 08080 (Xylene) ||  
SAMS S/N : 09-740-416
    - 2.4 Thinning Requirements : 5% maximum
    - 2.5 Induction Time : N/A
    - 2.6 Pot Life : N/A
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 81 micrometers ||
    - 3.3 Typical Dry Film Thickness Per Coat : 25 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 12.4 M<sup>2</sup>/L ||
    - 3.5 Minimum Number of Coats : 1
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Topcoat - Hempel's Silicone Aluminum 56910 (Cont'd)**

||

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum*
10°C	12 Hours	2 Days	None
30°C	2 Hours	18 Hours	None
50°C	1 Hour	8 Hours	None

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.017 inch Fluid pressure 1,825 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush	:	For touch-up only.

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	29 to 33%
4.2	Product Weight	(ASTM D1475)	:	1.10 to 1.14 Kg/L
4.3	Viscosity	(ASTM D562)	:	59 to 65 KU
4.4	Flash Point	(ASTM D93 or D56)	:	25°C

||

Approval Date: March 25, 2002  
Replaces: July 7, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A**

Type of Coating : Acrylic Modified Silicone Topcoat  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempel's Silicone Acrylic 5694 ||  
SAMS S/N : 09-687-325

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years ||
  2. Mixing
    - 2.1 No. of Components : 1
    - 2.2 Mixing Ratio : N/A
    - 2.3 Thinner : Hempel's 08080 (Xylene) ||  
SAMS S/N : 09-740-416
    - 2.4 Thinning Requirements : 5% maximum
    - 2.5 Induction Time : N/A
    - 2.6 Pot Life : N/A
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 84 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 25 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 12 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 1
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Topcoat - Hempel's Silicone Acrylic 5694 (Cont'd)**

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3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	4 Hours	15 Hours	None
30°C	1 Hour	6 Hour	None
50°C	½ Hour	1 Hour	None

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3.7 Recommended Equipment

- Airless Spray : Tip size 0.017 inch  
Fluid pressure 1,825 psi
- Conventional Spray : Tip Size  
Atomizing Pressure
- Brush : For touch-up only.

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 28 to 32%
- 4.2 Product Weight (ASTM D1475) : 1.07 to 1.11 Kg/L
- 4.3 Viscosity (ASTM D562) : 59 to 65 KU
- 4.4 Flash Point (ASTM D93 or D56) : 25°C

Approval Date: March 25, 2002  
Replaces: July 7, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11B**

Type of Coating : Silicone Aluminum  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempel's Silicone Aluminium 56910 ||  
SAMS S/N : 09-687-330

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years ||
  2. Mixing
    - 2.1 No. of Components : 1
    - 2.2 Mixing Ratio : N/A
    - 2.3 Thinner : Hempel's 08080 (Xylene) ||  
SAMS S/N : 09-740-416
    - 2.4 Thinning Requirements : 5% maximum
    - 2.5 Induction Time : N/A
    - 2.6 Pot Life : N/A
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 81 micrometers ||
    - 3.3 Typical Dry Film Thickness Per Coat : 25 micrometers ||
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 12.4 M<sup>2</sup>/L ||
    - 3.5 Minimum Number of Coats : 2 ||
-

**Manufacturer - Approved Saudi Aramco Data Sheet**  
**APCS-11B - Hempel's Silicone Aluminium 56910 (Cont'd)**

||

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	12 Hours	2 Days	None
30°C	2 Hours	18 Hours	None
50°C	1 Hour	8 Hours	None

3.7 Recommended Equipment

- Airless Spray : Tip size 0.017 inch  
Fluid pressure 1,825 psi
- Conventional Spray : Tip Size  
Atomizing Pressure
- Brush : For touch-up only.

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 29 to 33%
- 4.2 Product Weight (ASTM D1475) : 1.10 to 1.14Kg/L
- 4.3 Viscosity (ASTM D562) : 59 to 65 KU
- 4.4 Flash Point (ASTM D93 or D56) : 25°C

||

Approval Date: March 25, 2002  
Replaces: July 7, 1994

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-12**

Type of Coating : Epoxy Primer: Polyamide-Cured  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempadur HB Primer 17300 or Hempadur 1557  
SAMS S/N : 09-612-362

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(Refer to APCS-1B Primer Data Sheet)

Approval Date: March 25, 2002  
Replaces: October 30, 1996

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-12**

Type of Coating : Epoxy Topcoat: Polyamide-Cured  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempadur Mastic 45881  
SAMS S/N : 09-612-364/369/375

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(Refer to APCS-1B topcoat data sheets. Also, refer to APCS-12 of Saudi Aramco Engineering Standard SAES-H-101 for application of aggregates (Hempel's Anti-Slint 6750).)

Approval Date: March 25, 2002  
Replaces: October 30, 1996



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17A**

Type of Coating : Inorganic Zinc Primer: Solvent Based  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempel's Galvosil 8571  
SAMS S/N : 09-611-958

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 6 months

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 8.1 Kg Liquid: 20.5 Kg Zinc Dust

2.3 Thinner : Hempel's 08700

SAMS S/N : 09-738-220

2.4 Thinning Requirements : 30% maximum

2.5 Induction Time : Nil

2.6 Pot Life : 6 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 40°C

3.2 Typical Wet Film Thickness Per Coat : 91 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 28.8 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17A - Hempel's Galvosil 8571 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum*
10°C	4 Hours	7 Days	None
30°C	1 Hour	2 Days	None
50°C	¼ Hour	10 Hours	None

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.019 to 0.023 inch Fluid pressure 1,450 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush	:	For touch-up only.

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	70 to 74%
4.2	Product Weight	(ASTM D1475)	:	2.89 to 2.91 Kg/L
4.3	Viscosity	(ASTM D562)	:	92 to 98 KU
4.4	Flash Point	(ASTM D93 or D56)	:	18°C

Approval Date: March 25, 2002  
Replaces: July 7, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17A**

Type of Coating : Inorganic Zinc Primer: Solvent Based  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempel's Galvosil 1578  
SAMS S/N : 09-611-958

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 6 months

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 10 L Liquid: 17.8 Kg Zinc Dust

2.3 Thinner : Hempel's 08700

SAMS S/N : 09-738-220

2.4 Thinning Requirements : 30% maximum

2.5 Induction Time : Nil

2.6 Pot Life : 9 hours @ 25°C  
3 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 40°C

3.2 Typical Wet Film Thickness Per Coat : 105 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 24.8 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17A - Hempel's Galvosil 1578 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum*</b>
10°C	4 Hours	4 Days	None
30°C	1 Hour	1 Day	None
50°C	¼ Hour	8 Hours	None

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure sweet water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.019 to 0.023 inch Fluid pressure 1,500 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush	:	For touch-up only.

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	60 to 64%
4.2	Product Weight	(ASTM D1475)	:	2.35 to 2.41 Kg/L
4.3	Viscosity	(ASTM D562)	:	67 to 73 KU
4.4	Flash Point	(ASTM D93 or D56)	:	14°C

Approval Date: March 25, 2002  
Replaces: July 7, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17B**

Type of Coating : Inorganic Zinc Primer: Water Based  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempel's Galvosil 1561  
SAMS S/N : 09-611-969

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 8.1 Kg Liquid:23.3 Kg Zinc Dust

2.3 Thinner : Fresh water (sweet water)

SAMS S/N : N/A

2.4 Thinning Requirements : 50% max. for conventional spray

2.5 Induction Time : Nil

2.6 Pot Life : 3-¾ hours @ 25°C  
1-¼ hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 40°C

3.2 Typical Wet Film Thickness Per Coat : 96 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 27.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17B - Hempel's Galvosil 1561 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum*</b>
10°C	4 Hours	30 Days	None
30°C	1 Hour	7 Days	None
50°C	¼ Hour	2 Days	None

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	N/A
Conventional Spray	:	Tip Size Atomizing Pressure
Brush	:	For touch-up only.

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	66 to 70%
4.2	Product Weight	(ASTM D1475)	:	3.11 to 3.19 Kg/L
4.3	Viscosity	(ASTM D562)	:	67 to 73 KU
4.4	Flash Point	(ASTM D93 or D56)	:	N/A

Approval Date: March 25, 2002  
Replaces: July 7, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-19A**

Type of Coating : Splash Zone Compound: Hand-Applied  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : HempadurMulti-Mil 8549  
(Formerly Hempadur 3543-SA)  
SAMS S/N : 09-612-345

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1. Storage

1.1 Shelf life, sheltered storage @ 35° C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 1:1, Base:Hardener by volume

2.3 Thinner : N/A

SAMS S/N : N/A

2.4 Thinning Requirements : N/A

2.5 Induction Time : Nil

2.6 Pot Life : 1-½ hours @ 25°C  
½ hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 2,500 micrometers

3.3 Typical Dry Film Thickness Per Coat : 2,500 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 40 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-19A - Multi-Mil 8549 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion		
		Minimum	Maximum	Water	Buried*	
10°C	16 Hours	23 hours	7 days	10 hours	8 Days	
30°C	8 Hours	7 hours	2 days	3 hours	2 Days	
50°C	3 Hours	2 hours	14 hours	2 hours	12 hours	

**Note:**

\* For soil burial, the coating must be hard enough to withstand backfill. The backfill time can be shortened or extended slightly @ the discretion of the Saudi Aramco coating inspector.

3.7 Recommended Equipment

Airless Spray	:	N/A
Conventional Spray	:	N/A
Trowel/Hand	:	Suitable

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	00%	
4.2	Product Weight	(ASTM D1475)	:	1.59 to 1.61 Kg/L	
4.3	Viscosity	(ASTM D562)	:	More than 141 KU	
4.4	Flash Point	(ASTM D93 or D56)	:	N/A	

Approval Date: March 25, 2002  
 Replaces: July 7, 1994



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-19B**

Type of Coating : Splash Zone Compound: Spray-Applied  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempadur Spray-Guard 85550 (Old Reference Number 3549)  
SAMS S/N : 09-612-339

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 5.3:1, Base:Hardener by volume

2.3 Thinner : N/A

SAMS S/N : N/A

2.4 Thinning Requirements : N/A

2.5 Induction Time : Nil

2.6 Pot Life :  $\frac{3}{4}$  hour @ 25°C  
 $\frac{1}{4}$  hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 2,500 micrometers

3.3 Typical Dry Film Thickness Per Coat : 2,500 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 40 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-19B - Hempadur 85550 (Cont'd)**

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3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion	
		Minimum	Maximum	Water	Buried*
10°C	16 hours	15 hours	75 days	2 days	14 days
30°C	8 hours	3 hours	15 days	12 hours	3-½ days
50°C	3 hours	1 hour	3 days	3 hours	21 hours

**Note:**

\* For soil burial, the coating must be hard enough to withstand backfill. The backfill time can be shortened or extended slightly @ the discretion of the Saudi Aramco coating inspector.

3.7 Recommended Equipment

Airless Spray	:	Graco President 10:1 Model 225-841, Carousel pump or quick spray hopper gun (for small areas)
Conventional Spray	:	N/A
Hand Application	:	Not suitable

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	100%
4.2	Product Weight	(ASTM D1475)	:	1.85 to 1.87 Kg/L
4.3	Viscosity	(ASTM D562)	:	More than 141 KU
4.4	Flash Point	(ASTM D93 or D56)	:	60°C

Approval Date: March 25, 2002  
Replaces: July 7, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-20A**

Type of Coating : Fiberglass Reinforced Epoxy: Hand-Applied  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempel's Epoxy Resin System 05500 ||  
SAMS S/N : None

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years ||
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 1.8:1, Base:Hardener by volume
    - 2.3 Thinner : N/A
    - SAMS S/N : N/A
    - 2.4 Thinning Requirements : N/A
    - 2.5 Induction Time : ¼ hour
    - 2.6 Pot Life : 3 hours @ 25°C  
1 hour @ 40°C
  3. Application
    - 3.1 For Corrosion Protection
      - 3.1.1 Abrasive blast clean to Sa 2-1/2 with surface profile Rugotest #3 BN11 min. All sharp dimensional changes such as welds, plate laps, and fillets shall be filled with an epoxy patching compound. The minimum throat dimension of shell-to-bottom of storage tanks shall be 25 mm.
      - 3.1.2 Apply epoxy resin @ about 250 micrometers wet film thickness (WFT) onto primed surface. ||
      - 3.1.3 Apply a layer of 450 G/M<sup>2</sup> fiberglass mat to the wet resin.
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-20A - Hempel's 05500 (Cont'd)**

- 3.1.4 Smooth the mat by hand to remove wrinkles, and roll with metal rollers to remove entrapped air.
- 3.1.5 Apply epoxy resin @ about 250 micrometers WFT. (The total WFT of the coating system up to this paragraph should be 650 micrometers minimum.)
- 3.2
  - 3.2.1 When the coating is dry, repeat procedures 3.1.2 to 3.1.5. However, the fiberglass mat should be laid @ right angle to that previously installed.
  - 3.2.2 When dry, apply one seal coat of epoxy resin @ a WFT of 300 micrometers.
- 3.3 Maximum Allowable Substrate Temperature : 50°C

3.4 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion		
		Minimum	Maximum	Water	Buried	
10°C	25 hours	36 hours	50 days	18 Days	N/A	
30°C	5 hours	12 hours	10 day	3-½ Days	N/A	
50°C	1 hour	3 hours	3 days	2 Days	N/A	

3.5 Recommended Equipment

Conventional spray for the resin and hand application for the fiberglass mat.

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 100%
- 4.2 Product Weight (ASTM D1475) : 1.10 to 1.20 Kg/L ||
- 4.3 Viscosity (ASTM D562) : More than 140 KU
- 4.4 Flash Point (ASTM D93 or D56) : N/A

Approval Date: March 25, 2002  
 Replaces: July 7, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-20B**

Type of Coating : Fiberglass Reinforced Epoxy: Spray-Applied  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempel's Sprayfibre 3589  
SAMS S/N : None

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 2:1, Base:Hardener by volume

2.3 Thinner : N/A

SAMS S/N : N/A

2.4 Thinning Requirements : N/A

2.5 Induction Time : N/A

2.6 Pot Life :

3. Application

3.1 Abrasive blast clean to Sa 2-1/2 with surface profile Rugotest #3 BN11 min.

3.2 Apply one coat of primer (Hempadur 1559) to a dry film thickness of 40 micrometers.

3.3 When dry but within 30 days and by using modified "Graco" Hydracat, apply Hempel's Sprayfibre 3588 caulking material to all welds, plate laps, fillets and other areas of sharp dimensional changes.

3.4 When dry but within three days @ 25°C, apply a mixture of Hempel's Sprayfibre 3589 and a chopped fiberglass. The mixture is applied by a modified Graco hydracat to a minimum of 1,250 micrometers dry film thickness. The fiberglass is applied @ approximately 450 g/m<sup>2</sup>.

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-20B - Sprayfibre 3589 (Cont'd)**

- 3.5 When dry but within three days @ 25°C, apply a gel coat of Sprayfibre 3589 by using a Graco hydrocat. The dry film thickness should be 350 micrometers minimum.
- 3.6 The system should have a minimum total of 1,600 micrometers film thickness.
- 3.7 Maximum Allowable Substrate Temperature : 50°C
- 3.8 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion	
		Minimum	Maximum		
10°C	1 Day	N/A	2.5 Days	18 Days	
30°C	12 Hours	N/A	12 Hours	3-½ Days	
50°C	6 Hours	N/A	3 Hours	2 Days	

- 3.9 Recommended Equipment  
 Specialized "Graco" hydrocat with fiber chopper.

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 100%
- 4.2 Product Weight (ASTM D1475) : 1.17 to 1.21 Kg/L
- 4.3 Viscosity (ASTM D562) : 98 to 102 KU ||
- 4.4 Flash Point (ASTM D93 or D56) : 26°C for 1559  
96°C for 3589

Approval Date: March 25, 2002  
 Replaces: May 2, 1993

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22**

Type of Coating	:	Polyamine Cured Epoxy	
Manufacturer	:	Hempel Paints (Saudi Arabia)	
Product Name	:	Hempadur Mastic 45070	
SAMS S/N	:	09-612-352/357/358/359/360/361/459/462/465/467	

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1.	Storage		
1.1	Shelf life, sheltered storage @ 35°C maximum	:	2 years
2.	Mixing		
2.1	No. of Components	:	2
2.2	Mixing Ratio	:	4:1, Base:Hardener by volume
2.3	Thinner	:	Hempel's Thinner 08450
	SAMS S/N	:	09-738-300
2.4	Thinning Requirements	:	5% maximum
2.5	Induction Time	:	Nil
2.6	Pot Life	:	2 hours @ 25°C    1 hour @ 40°C
3.	Application		
3.1	Maximum Allowable Substrate Temperature	:	50°C
3.2	Typical Wet Film Thickness Per Coat	:	205 micrometers
3.3	Typical Dry Film Thickness Per Coat	:	150 micrometers
3.4	Theoretical Coverage @ 25 Micrometers Dry Film Thickness	:	29.2 M <sup>2</sup> /L
3.5	Minimum Number of Coats	:	2

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22 - Hempadur Mastic 45070 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	1 Day	32 Hours	10 Days
20°C	12 Hours	16 Hours	5 days
30°C	7 Hours	12 Hours	5 Days
40°C	4 Hours	9 Hours	2-½ Days
50°C	3 Hours	7 Hours	2 Days

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.021 to 0.023 inch Fluid pressure 3,600 psi
Conventional Spray	:	N/A
Trowel/Hand	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	71 to 75%
4.2	Product Weight	(ASTM D1475)	:	1.33 to 1.45 Kg/L
4.3	Viscosity	(ASTM D562)	:	93 to 103 KU
4.4	Flash Point	(ASTM D93 or D56)	:	25°C

Approval Date: March 25, 2002  
Replaces: July 7, 1994



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-23**

Type of Coating : High Temperature Bituminous Coating  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempinol Black H.B. 10270 ||  
SAMS S/N : 09-611-754/757

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 year ||
  2. Mixing
    - 2.1 No. of Components : 1
    - 2.2 Mixing Ratio : N/A
    - 2.3 Thinner : Hempel's 08080 (Xylene)  
SAMS S/N : 09-740-416
    - 2.4 Thinning Requirements : 5% maximum ||
    - 2.5 Induction Time : N/A
    - 2.6 Pot Life : N/A
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 45°C
    - 3.2 Typical Wet Film Thickness Per Coat : 403 micrometers ||
    - 3.3 Typical Dry Film Thickness Per Coat : 250 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 24.8 M<sup>2</sup>/L ||
    - 3.5 Minimum Number of Coats : 2 for buried service  
3 for immersion service
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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-23 - Hempinol H.B. 10270 (Cont'd)**

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3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum	
10°C	3 Days	1 Day	None	7 Days
30°C	1 Day	9 Hours	None	5 Days
50°C	18 Hours	4 Hours	None	3 Days

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3.7 Recommended Equipment

- Airless Spray : Tip size 0.021 to 0.031 inch  
Fluid pressure 2,900 psi
- Conventional Spray : Tip size  
Atomizing Pressure
- Brush : For touch-up only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 60 to 64%
- 4.2 Product Weight (ASTM D1475) : 1.19 to 1.21 Kg/L
- 4.3 Viscosity (ASTM D562) : More than 141 KU
- 4.4 Flash Point (ASTM D93 OR D56) : 38°C

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Approval Date: March 25, 2002  
 Replaces: July 7, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26**

Type of Coating	:	Polyamine Cured Epoxy Mastic	
Manufacturer	:	Hempel Paints (Saudi Arabia)	
Product Name	:	Hempadur Mastic 45881	
SAMS S/N	:	09-612-330/331/332/333/334/335/336/337	

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1.	Storage		
1.1	Shelf life, sheltered storage @ 35°C maximum	:	2 year
2.	Mixing		
2.1	No. of Components	:	2
2.2	Mixing Ratio	:	3:1 by volume
2.3	Thinner	:	Hempel's 08450
	SAMS S/N	:	09-738-420
2.4	Thinning Requirements	:	5% maximum
2.5	Induction Time	:	Nil
2.6	Pot Life	:	1.5 hours @ 25°C 1 hour @ 40°C
3.	Application		
3.1	Maximum Allowable Substrate Temperature	:	50°C
3.2	Typical Wet Film Thickness Per Coat	:	156 micrometers; 169 micrometers (Aluminum)
3.3	Typical Dry Film Thickness Per Coat	:	125 micrometers
3.4	Theoretical Coverage @ 25 Micrometers Dry Film Thickness	:	32.8 M <sup>2</sup> /L 29.6 M <sup>2</sup> /L (Aluminum)
3.5	Minimum Number of Coats	:	1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26 - Hempadur Mastic 45881 (Cont'd)**

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3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	14 Hours	10 Hours	88 Days
30°C	4 Hours	4 Hours	18 Days
50°C	2 Hours	2 Hour	3-½ Days

||

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3.7 Recommended Equipment

- Airless Spray : Tip size 0.017 to 0.023 inch  
Fluid pressure 3,600 psi
- Conventional Spray : Tip size  
Atomizing Pressure
- Trowel/Hand : For touch-up only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 78 to 82%  
72 to 76% (Aluminum)
- 4.2 Product Weight (ASTM D1475) : 1.30 to 1.50 Kg/L  
1.33 to 1.39 Kg/L (Aluminum)
- 4.3 Viscosity (ASTM D562) : 105 to 115 KU
- 4.4 Flash Point (ASTM D93 or D56) : 28°C

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Approval Date: March 25, 2002  
 Replaces: July 7, 1994

**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-26T TOPCOAT**

Type of Coating : Aliphatic Polyurethane Topcoat  
Manufacturer : Hempel Paints (Saudi Arabia)  
Product Name : Hempthane Topcoat 55210  
SAMS S/N : 09-612-365/366/367/368/371

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(Refer to APCS-26 data sheet for the primer and to polyurethane of APCS-1D/E/F data sheet for the topcoat.)

## 5 International - Approved Products

APCS-1A	Interzinc 22 Interzinc 250 Intergard 410	Inorganic Zinc Primer: Solvent Based Inorganic Zinc Primer: Water-Based Epoxy Topcoat: Red/Gray/Yellow	
APCS-1B	Intergard 291 Intergard 410	Epoxy Primer: Red Oxide Epoxy Topcoat: Red/Gray/Yellow	
APCS-1C	Interzinc 52 Intergard 410	Zinc-Rich Epoxy Primer: Gray Epoxy Topcoat: Red/Gray/Yellow	
APCS-1D	(Use APCS-1A as primer and intermediate coat.) Interthane 990	Polyurethane Topcoat: Yellow/White Gray/Green/Red	
APCS-1E	(Use APCS-1B as primer and intermediate coat.) Interthane 990	Polyurethane Topcoat: Yellow/White Gray/Green/Red	
APCS-1F	(Use APCS-1A as primer and intermediate coat.) Interthane 990	Polyurethane Topcoat: Yellow/White Gray/Green/Red	
APCS-2D	Interline 925	Primer: Yellow FS 595a 23594 Topcoat: White FS 595a 27780	
APCS-3	Intertuf 708	Coal Tar Epoxy	
APCS-4	CPA400 Interprime 409 Intertherm 891	Zinc Chromate Primer: Yellow Zinc Phosphate Primer: Red Aluminum Topcoat	
APCS-6	CPA400 Interprime 409 Interlac 665	Zinc Chromate Primer: Yellow Zinc Phosphate Primer: Red Alkyd Topcoat: Various Colors	
APCS-9	Interchlor 37	Chlorinated Rubber: Gray/Green/Brown/Blue	
APCS-11A	Interzinc 22 Intertherm 50	Inorganic Zinc Primer: Solvent-Based Heat Resistant Topcoat: Aluminum	
APCS-11B	Intertherm 50	Heat Resistant System: Aluminum	

- 2 -

APCS-12	Intergard 291 Intergard 410	Epoxy Primer: Red Oxide Epoxy Topcoat: Red/Gray/Yellow	
APCS-17A	Interzinc 22	Inorganic Zinc System: Solvent-Based	
APCS-17A	Interzinc 250	Inorganic Zinc System: Solvent-Based	
APCS-19B	Interzone 6000	Splash Zone Compound	
APCS-20B	Interline 982 Interline 983 Interline 985	Holding Primer (use if required) Caulking Material Matcote Resin	
APCS-22	Interseal 414 Interzone 954	Epoxy Primer: Red Oxide Epoxy Topcoat: Gray/Yellow/Black	
APCS-26	Interseal 738	Epoxy Mastic: Aluminum/White/Orange/Red/ Yellow/Gray/Black	
APCS-26T	(Use APCS-26 as primer and Interthane in APCS-1D as topcoat.)		

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Primer**

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interzinc 22  
SAMS S/N : 09-611-958

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 2.08 parts by weight QHA027  
to 1 part weight of QHA028

2.3 Thinner : GTA 803

SAMS S/N : 09-738-220

2.4 Thinning Requirements : Up to 5% by volume

2.5 Induction Time : Nil

2.6 Pot Life : 4 hours @ 25°C and 50% RH  
2 hours @ 40°C and 50% RH

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 103 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 25.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Primer - Interzinc 22 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum*
10° C	3 Hours	6 Hours	Indefinite
30° C	2 Hours	4 Hours	Indefinite
50°C	¾ Hour	4 Hours	Indefinite

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

As with all Zinc Silicates, paint reservoir should be equipped with a mechanical agitator.

Airless Spray	:	Tip size 0.017 to 0.020 inch Fluid pressure 1,600 psi
Conventional Spray	:	Tip size Atomizing Pressure
Trowel/Hand	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	61 to 65%
4.2	Product Weight	(ASTM D1475)	:	2.42 to 2.62 Kg/L
4.3	Viscosity	(ASTM D562)	:	70 to 80 KU
4.4	Flash Point	(ASTM D93 or D56)	:	10°C

5. Special Instruction - Curing stops @ below 50% relative humidity.

Approval Date: April 6, 2002  
Replaces: June 25, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Primer**

Type of Coating : Inorganic Zinc Primer: Water-Based  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interzinc 250  
SAMS S/N : 09-611-969

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 2.43 parts by weight TQA252  
to 1 part weight TAQ253

2.3 Thinner : Water: Sweet

SAMS S/N : N/A

2.4 Thinning Requirements : Up to 5% by volume

2.5 Induction Time : N/A

2.6 Pot Life : 8 hours @ 25°C  
4 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 40°C

3.2 Typical Wet Film Thickness Per Coat : 96 micrometers

3.3 Typical Dry Film Thickness Per Coat : 75 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 31.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Primer - Interzinc 250 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum*
10°C	30 Minutes	6 Hours	Indefinite
30°C	12 Minutes	4 Hours	Indefinite
50°C	5 Minutes	4 Hours	Indefinite

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

As with all Zinc Silicates, paint reservoir should be equipped with a mechanical agitator.

Airless Spray	:	Tip size 0.018 to 0.021 inch Fluid pressure 2,300 psi
Conventional Spray	:	Tip size Atomizing Pressure
Trowel/Hand	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	75 to 80%
4.2	Product Weight	(ASTM D1475)	:	3.1 to 3.3 Kg/L
4.3	Viscosity	(ASTM D562)	:	75 to 85 KU
4.4	Flash Point	(ASTM D93 or D56)	:	N/A

Approval Date: April 6, 2002  
Replaces: June 25, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A/B/C Topcoat**

Type of Coating : Epoxy Topcoat  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Intergard 410  
SAMS S/N : 09-612-364/369/375

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 4 parts EM series to 1 part  
EBA 744 by volume
    - 2.3 Thinner : GTA220  
SAMS S/N : 09-738-260
    - 2.4 Thinning Requirements : Up to 5% by volume
    - 2.5 Induction Time : Nil
    - 2.6 Pot Life : 6 hours @ 25°C  
2 hours @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 60°C
    - 3.2 Typical Wet Film Thickness Per Coat : 167 to 250 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 100 to 150 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 24 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 2
-

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A/B/C Topcoat - Intergard 410 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum*
10°C	6 Hours	1 Days	10 Days
30°C	2 Hours	12 Hours	7 Days
50°C	1 Hour	6 Hours	4 Days

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.018 to 0.023 inch Fluid pressure 2,500 psi
Conventional Spray	:	Tip size Atomizing Pressure
Trowel/Hand	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	58 to 62%
4.2	Product Weight	(ASTM D1475)	:	1.20 to 1.40 Kg/L
4.3	Viscosity	(ASTM D562)	:	97 to 107 KU
4.4	Flash Point	(ASTM D93 or D56)	:	23°C

Approval Date: April 6, 2002  
Replaces: June 25, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1B**

Type of Coating : Epoxy Primer  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Intergard 291  
SAMS S/N : 09-612-362

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- 
1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 4:1 (EPA530:EPA501)  
by volume
    - 2.3 Thinner : GTA 220  
SAMS S/N : 09-738-280
    - 2.4 Thinning Requirements : Up to 5% by volume
    - 2.5 Induction Time : Nil
    - 2.6 Pot Life : 8 hours @ 25°C  
3 hours @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 60°C
    - 3.2 Typical Wet Film Thickness Per Coat : 142 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 75 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 21.2 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 1

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1B Primer - Intergard 291 (Cont'd)**



3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	1.5 Days	1 Day	Indefinite
30°C	1.5 Days	16 Hours	Indefinite
50°C	16 Hours	12 Hours	Indefinite

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.015 to 0.021 inch Fluid pressure 2,500 psi
Conventional Spray	:	Tip size Atomizing Pressure
Trowel/Hand	:	For touch-up and small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	51 to 55%
4.2	Product Weight	(ASTM D1475)	:	1.29 to 1.35 Kg/L
4.3	Viscosity	(ASTM D562)	:	56 to 66 KU
4.4	Flash Point	(ASTM D93 or D56)	:	23°C

Approval Date: April 6, 2002  
Replaces: January 18, 1995

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1C**

Type of Coating : Zinc-Rich Epoxy Primer  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interzinc 52  
SAMS S/N : 09-612-580/590

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 4:1 (EPA094:EPA095)  
by volume
    - 2.3 Thinner : GTA 220  
SAMS S/N : 09-738-240
    - 2.4 Thinning Requirements : Up to 5% by volume
    - 2.5 Induction Time : Nil
    - 2.6 Pot Life : 5 hours @ 25°C  
2 hours @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 60°C
    - 3.2 Typical Wet Film Thickness Per Coat : 127 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 75 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 20 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 1
-



**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1C Primer - Interzinc 52 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	2-½ Hours	6 Hours	Indefinite
30°C	1 Hour	4 Hours	Indefinite
50°C	30 Minutes	2 Hours	Indefinite

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.015 to 0.021 inch Fluid pressure 2,500 psi
Conventional Spray	:	Tip size Atomizing Pressure
Trowel/Hand	:	For touch-up and small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	57 to 61%
4.2	Product Weight	(ASTM D1475)	:	2.42 to 2.62 Kg/L
4.3	Viscosity	(ASTM D562)	:	80 to 90 KU
4.4	Flash Point	(ASTM D93 or D56)	:	Greater than 23°C

Approval Date: April 6, 2002  
Replaces: June 25, 1994

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F Topcoat**

Type of Coating : Polyurethane Enamel Topcoat  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interthane 990  
SAMS S/N : 09-612-365/366/367/368/371

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 6 parts of A with  
1 part B by volume

2.3 Thinner : GTA 713

SAMS S/N : 09-738-345

2.4 Thinning Requirements : Up to 5% by volume

2.5 Induction Time : Nil

2.6 Pot Life : 2 hours @ 25°C  
¾ hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 88 micrometers

3.3 Typical Dry Film Thickness Per Coat : 50 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 22.8 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F - Interthane 990 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum*
10°C	10 Hours	10 Hours	Indefinite
30°C	6 Hours	6 Hours	Indefinite
50°C	3 Hours	3 Hours	Indefinite

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.017 to 0.021 inch Fluid Pressure 2,200 psi minimum
Conventional Spray	:	Tip size Atomizing Pressure
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	57 to 60%
4.2	Product Weight	(ASTM D1475)	:	1.2 to 1.3 Kg/L depending on color
4.3	Viscosity	(ASTM D562)	:	70 to 80 KU
4.4	Flash Point	(ASTM D93 or D56)	:	34°C

5. Additional Notes, Precautions or Special Instructions : Like the other polyurethanes, the applicator should wear an air fed hood when spraying

**Note:** Use either APCS-1A, 1B or 1C (see previous data sheets) as primer and intermediate coat, and the dry film thickness should be in accordance with APCS-1D, 1E or 1F of SAES-H-101.

Approval Date: April 6, 2002  
Replaces: New

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2D**

Type of Coating : Epoxy Primer/Topcoat  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interline 925 (THA125/THA126 Cream; THA125/THA127 White)  
SAMS S/N : 09-612-316/317

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 3:1 by volume, Base: Hardener

2.3 Thinner : GTA 220

SAMS S/N : 09-738-290

2.4 Thinning Requirements : N/A

2.5 Induction Time : Nil

2.6 Pot Life : 1-¼ hours @ 25°C  
¾ hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 125 micrometers

3.3 Typical Dry Film Thickness Per Coat : 125 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 40 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2D Primer/Topcoat - Interline 925 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>Dry to Handle and Walk-on</b>	<b>Ovecoat Interval</b>		<b>To Immersion (Minimum)</b>
		<b>Minimum</b>	<b>Maximum</b>	
10°C	1 Day	1.5 Days	5 Days	10 Days
15°C		1 Day	3 Days	10 Days
20°C		20 Hours	2.1 Days	7 Days
25°C		17 Hours	1.4 Days	7 Days
30°C	6 Hours	14 Hours	1 day	7 Days
35°C		10 Hours	18 Hours	7 Days
40°C		7 Hours	16 Hours	6 Days
45°C		6 Hours	14 Hours	6 Days
50°C	6 Hours	5 Hours	12 Hours	5 Days
55°C		4 Hours	12 Hours	5 Days
60°C		4 Hours	12 Hours	5 Days

(Please see graphs in the Attachment.)

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.021 to 0.025 inch Fluid pressure 3,000 psi
Conventional Spray	:	Not recommended
Brush	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	98 to 100%
4.2	Product Weight	(ASTM D1475)	:	1.40 to 1.60 Kg/L
4.3	Viscosity	(ASTM D562)	:	125 to 150 KU
4.4	Flash Point	(ASTM D93 OR D56)	:	101°C

Approval Date: January 6, 1998  
 Replaces: December 10, 1995

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-3**

Type of Coating : Coal Tar Epoxy: Self-Priming  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Intertuf Pitch Epoxy 708 ||  
SAMS S/N : 09-612-318/320

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 4 parts JXA323 or 324 with  
1 part JXA325 by volume
    - 2.3 Thinner : GTA 220  
SAMS S/N : 09-738-180
    - 2.4 Thinning Requirements : Up to 10% by volume
    - 2.5 Induction Time : Nil
    - 2.6 Pot Life : 2 hours @ 25°C  
30 minutes @ 40°C ||
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 60°C
    - 3.2 Typical Wet Film Thickness Per Coat : 338 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 250 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 29.6 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 2
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-3 – Intertuf 708 (Cont'd)**

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3.6 Drying Time

Substrate Temperature	Dry to Handle and Walk-on	Overcoat Interval Minimum	Overcoat Interval Maximum	To Immersion (Minimum)
5°C		2 Days	14 Days	14 Days
10°C	1 Day	1 Day	10 Days	10 Days
15°C		22 Hours	9 Days	9 Days
20°C		20 Hours	8 Days	8 Days
25°C		18 Hours	7 Days	7 Days
30°C	16 Hours	16 Hours	5 Days	5 Days
35°C		14 Hours	3 Days	3 Days
40°C		12 Hours	2.5 Days	3 Days
45°C		10 Hours	2.3 Days	3 Days
50°C	9 Hours	9 Hours	2 Days	2 Days
55°C		8 Hours	1.8 Days	2 Days
60°C		7 Hours	1.5 Days	2 Days

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry. (Please see graphs in the Attachment.)

3.7 Recommended Equipment

- Airless Spray : Tip size 0.018 to 0.027 inch  
Fluid pressure 2,500 psi
- Conventional Spray : Not normally recommended
- Brush : For small areas only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 73 to 77%
- 4.2 Product Weight (ASTM D1475) : 1.29 to 1.49 Kg/L
- 4.3 Viscosity (ASTM D562) : 115 to 125 KU
- 4.4 Flash Point (ASTM D93 OR D56) : 27°C

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5. Additional Notes - To ensure adequate curing, do not apply when steel temperature falls below 10°C.

Approval Date: January 6, 1998  
 Replaces: June 25, 1994

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4/6**

Type of Coating : Zinc Chromate Primer  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : CPA400  
SAMS S/N : 09-708-133/137

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years
  2. Mixing
    - 2.1 No. of Components : 1
    - 2.2 Mixing Ratio : N/A
    - 2.3 Thinner : GTA004  
SAMS S/N : 09-738-340
    - 2.4 Thinning Requirements : Up to 5% by volume
    - 2.5 Induction Time : N/A
    - 2.6 Pot Life : N/A
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 60°C
    - 3.2 Typical Wet Film Thickness Per Coat : 53 to 119 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 38 to 63 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 20 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 2
-



**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4/6 Primer - CPA400 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	20 Hours	20 Hours	Indefinite
30°C	12 Hours	12 Hours	Indefinite
50°C	6 Hours	6 Hours	Indefinite

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.015 to 0.019 inch Fluid pressure 2,500 psi
Conventional Spray	:	Tip size Atomizing Pressure 40 to 60 psi
Trowel/Hand	:	Suitable

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	51 to 55%
4.2	Product Weight	(ASTM D1475)	:	1.26 to 1.46 Kg/L
4.3	Viscosity	(ASTM D562)	:	55 to 65 KU
4.4	Flash Point	(ASTM D93 or D56)	:	23°C

Approval Date: June 25, 1994  
Replaces: March 10, 1992

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4/6**

Type of Coating : Zinc Phosphate Primer  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interprime 409  
SAMS S/N : 09-708-133/137

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years
  2. Mixing
    - 2.1 No. of Components : 1
    - 2.2 Mixing Ratio : N/A
    - 2.3 Thinner : GTA004  
SAMS S/N : 09-738-340
    - 2.4 Thinning Requirements : Up to 5% by volume ||
    - 2.5 Induction Time : N/A
    - 2.6 Pot Life : N/A
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 60°C
    - 3.2 Typical Wet Film Thickness Per Coat : 53 micrometers ||
    - 3.3 Typical Dry Film Thickness Per Coat : 38 micrometers ||
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 20 M<sup>2</sup>/L ||
    - 3.5 Minimum Number of Coats : 2
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4/6 Primer – Interprime 409 (Cont'd)**

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3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	20 Hours	20 Hours	Indefinite
30°C	12 Hours	12 Hours	Indefinite
50°C	6 Hours	6 Hours	Indefinite

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.015 to 0.019 inch Fluid pressure 2,500 psi
Conventional Spray	:	Tip size Atomizing Pressure 40 to 60 psi
Trowel/Hand	:	Suitable

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	51 to 55%
4.2	Product Weight	(ASTM D1475)	:	1.26 to 1.46 Kg/L
4.3	Viscosity	(ASTM D562)	:	55 to 65 KU
4.4	Flash Point	(ASTM D93 or D56)	:	23°C

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Approval Date: April 6, 2002  
Replaces: December 3, 1995

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4**

Type of Coating : Aluminum Pigmented Alkyd Topcoat  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Intertherm 891  
SAMS S/N : 09-686-354

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : GTA004

SAMS S/N : 09-738-340

2.4 Thinning Requirements : Up to 5% by volume

2.5 Induction Time : N/A

2.6 Pot Life : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 52 micrometers

3.3 Typical Dry Film Thickness Per Coat : 25 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 19.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4 Topcoat – Intertherm 891 (Cont'd)**

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3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	20 Hours	20 Hours	Indefinite
30°C	8 Hours	8 Hours	Indefinite
50°C	4 Hours	4 Hours	Indefinite

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.013 to 0.016 inch Fluid pressure 3,000 psi
Conventional Spray	:	Tip size Atomizing Pressure 40 to 60 psi
Trowel/Hand	:	Suitable

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	46% to 50%	
4.2	Product Weight	(ASTM D1475)	:	0.98 to 1.20 Kg/L	
4.3	Viscosity	(ASTM D562)	:	60 to 64 KU	
4.4	Flash Point	(ASTM D93 or D56)	:	41°C	

Approval Date: April 6, 2002  
Replaces: June 25, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-6**

Type of Coating : High Gloss Enamel Topcoat  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interlac 665 ||  
SAMS S/N : 09-630-753/758/763/768/769/770/771/773/785/794/796  
09-631-301/322/450/455/462/465/590/645

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years
  2. Mixing
    - 2.1 No. of Components : 1
    - 2.2 Mixing Ratio : N/A
    - 2.3 Thinner : GTA004  
SAMS S/N : 09-738-340
    - 2.4 Thinning Requirements : Up to 5% by volume
    - 2.5 Induction Time : N/A
    - 2.6 Pot Life : N/A
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 60°C
    - 3.2 Typical Wet Film Thickness Per Coat : 104 micrometers ||
    - 3.3 Typical Dry Film Thickness Per Coat : 50 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 19.2 M<sup>2</sup>/L ||
    - 3.5 Minimum Number of Coats : 2
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-6 - Interlac 665 (Cont'd)**

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3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	20 Hours	20 Hours	Indefinite
30°C	10 Hours	10 Hours	Indefinite
50°C	4 Hours	4 Hours	Indefinite

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.013 to 0.016 inch Fluid pressure 3,000 psi
Conventional Spray	:	Tip size Atomizing Pressure 40 to 60 psi
Brush/Roller	:	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	40 to 44%
4.2	Product Weight	(ASTM D1475)	:	0.90 to 1.11 Kg/L
4.3	Viscosity	(ASTM D562)	:	62 to 72 KU
4.4	Flash Point	(ASTM D93 or D56)	:	38°C

Approval Date: April 6, 2002  
Replaces: June 25, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-9**

Type of Coating : Chlorinated Rubber  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interchlor 37  
SAMS S/N : 09-685-442/436/438/448/450

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : GTA007 (Xylene)

SAMS S/N : 09-740-416

2.4 Thinning Requirements : Not recommended. If necessary, 10% maximum.

2.5 Induction Time : N/A

2.6 Pot Life : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 40°C

3.2 Typical Wet Film Thickness Per Coat : 174 micrometers

3.3 Typical Dry Film Thickness Per Coat : 75 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 17.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2



**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-9 - Interchlor 37 (Cont'd)**

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3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum*	
10°C	6 Hours	6 Hours	None	7 Days
30°C	3 Hours	3 Hours	None	5 Days
50°C	1 Hour	1 Hour	None	2 Days

3.7 Recommended Equipment

- Airless Spray : Tip size 0.021 to 0.026 inch  
Fluid pressure 2,700 to 3,000 psi
- Conventional Spray : Tip size  
Atomizing Pressure
- Brush and roller : Touch-up only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 41 to 45%
- 4.2 Product Weight (ASTM D1475) : 1.3 to 1.5 Kg/L
- 4.3 Viscosity (ASTM D562) : 40 to 50 KU
- 4.4 Flash Point (ASTM D93 or D56) : 23°C (73°F)

**Note:** Interchlor 37 is a self-priming system complying to Saudi Aramco S/N's 09-685-442/436/438/448/450.

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Approval Date: April 6, 2002  
 Replaces: June 25, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A**

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interzinc 22  
SAMS S/N : 09-611-958

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 2.08 parts by weight of QHA027  
to 1 part by weight of QHA028

2.3 Thinner : GTA 803

SAMS S/N : 09-738-220

2.4 Thinning Requirements : Up to 5% by volume

2.5 Induction Time : N/A

2.6 Pot Life : 4 hours @ 25°C and 50% RH  
1 hour @ 40°C and 50% RH

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 40 to 103 micrometers

3.3 Typical Dry Film Thickness Per Coat : 25 to 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 25.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Primer - Interzinc 22 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum*
10°C	3 Hours	6 Hours	Indefinite
30°C	2 Hours	4 Hours	Indefinite
50°C	3/4 Hour	4 Hours	Indefinite

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

As with all Zinc Silicates, paint reservoir should be equipped with a mechanical agitator.

- Airless Spray : Tip size 0.017 to 0.020 inch  
Fluid pressure not less than 1,600 psi
- Conventional Spray : Tip size  
Atomizing Pressure
- Brush and Roller : Not recommended

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 61 to 65%
- 4.2 Product Weight (ASTM D1475) : 2.42 to 2.64 Kg/L
- 4.3 Viscosity (ASTM D562) : 70 to 80 KU
- 4.4 Flash Point (ASTM D93 or D56) : 10°C

- 5. Additional Notes and Instructions : Curing stops when humidity goes below 50%

Approval Date: April 6, 2002  
 Replaces: June 25, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A**

Type of Coating : Inorganic Zinc Primer: Water-Based  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interzinc 250  
SAMS S/N : 09-611-969

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 1 liquid to 2.43 zinc dust  
by weight

2.3 Thinner : Sweet Water

SAMS S/N : N/A

2.4 Thinning Requirements : -

2.5 Induction Time : N/A

2.6 Pot Life : 8 hours @ 25°C  
4 hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 40°C

3.2 Typical Wet Film Thickness Per Coat : 32 to 83 micrometers

3.3 Typical Dry Film Thickness Per Coat : 25 to 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 31.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Primer - Interzinc 250 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum*
10°C	30 Minutes	6 Hours	Indefinite
30°C	12 Minutes	4 Hours	Indefinite
50°C	5 Minutes	4 Hours	Indefinite

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

As with all Zinc Silicates, paint reservoir should be equipped with a mechanical agitator.

Airless Spray	:	Tip size 0.018 to 0.021 inch Fluid pressure 2,300 psi
Conventional Spray	:	Tip size Atomizing Pressure
Brush and Roller	:	Not recommended

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	75 to 80%
4.2	Product Weight	(ASTM D1475)	:	3.1 to 3.3 Kg/L
4.3	Viscosity	(ASTM D562)	:	75 to 85 KU
4.4	Flash Point	(ASTM D93 or D56)	:	N/A

Approval Date: April 6, 2002  
Replaces: June 25, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A**

Type of Coating : Heat-Resistant Silicone Topcoat  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Intertherm 50  
SAMS S/N : 09-687-325

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : GTA 007 (Xylene)

SAMS S/N : 09-740-416

2.4 Thinning Requirements : Up to 5% by volume

2.5 Induction Time : N/A

2.6 Pot Life : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 63 micrometers

3.3 Typical Dry Film Thickness Per Coat : 25 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 16 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A - Intertherm 50 (Cont'd)**

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3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum*</b>
10°C	3 Hours	16 Hours	Indefinite
30°C	2 Hours	14 Hours	Indefinite
50°C	1 Hour	10 Hours	Indefinite

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.013 to 0.016 inch Fluid pressure 2,500 psi
Conventional Spray	:	Tip size Atomizing Pressure
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	38 to 42%
4.2	Product Weight	(ASTM D1475)	:	1.1 to 1.3 Kg/L
4.3	Viscosity	(ASTM D562)	:	49 to 59 KU
4.4	Flash Point	(ASTM D93 or D56)	:	23°C

5. Additional Notes, Precautions or Special Instructions : Does not require stoving between coats

Approval Date: April 6, 2002  
Replaces: April 3, 1995

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11B**

Type of Coating : Heat-Resistant Silicone Primer/Topcoat  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Intertherm 50  
SAMS S/N : 09-687-330

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : GTA 007 (Xylene)

SAMS S/N : 09-740-416

2.4 Thinning Requirements : Up to 5% by volume

2.5 Induction Time : N/A

2.6 Pot Life : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 63 micrometers

3.3 Typical Dry Film Thickness Per Coat : 25 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 16 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2



**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11B - Intertherm 50 (Cont'd)**

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3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum*</b>
10°C	3 Hours	16 Hours	Indefinite
30°C	2 Hours	14 Hours	Indefinite
50°C	1 Hour	10 Hours	Indefinite

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.013 to 0.016 inch Fluid pressure 2,500 psi
Conventional Spray	:	Tip size Atomizing Pressure
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	38 to 42%
4.2	Product Weight	(ASTM D1475)	:	1.1 to 1.3 Kg/L
4.3	Viscosity	(ASTM D562)	:	49 to 59 KU
4.4	Flash Point	(ASTM D93 or D56)	:	23°C

5. Additional Notes, Precautions or Special Instructions : Does not require stoving between coats

Approval Date: April 6, 2002  
Replaces: April 3, 1995

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-12**

Type of Coating : Epoxy Primer

Manufacturer : International Paint Saudi Arabia Ltd.

Product Name : Intergard 291

SAMS S/N : 09-612-362

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(Refer to APCS-1B Primer Data Sheet)

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-12**

Type of Coating : Epoxy Topcoat  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Intergard 410  
SAMS S/N : 09-612-364/369/375

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(Refer to APCS-1B Topcoat Data Sheet. Also, refer to APCS-12 of Saudi Aramco Engineering Standard SAES-H-101 for application of aggregate).

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17A**

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interzinc 22  
SAMS S/N : 09-611-958

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 2.08 parts by weight of QHA027  
to 1 part by weight of QHA028

2.3 Thinner : GTA 803

SAMS S/N : 09-738-220

2.4 Thinning Requirements : Up to 5% by volume

2.5 Induction Time : Nil

2.6 Pot Life : 4 hours @ 25°C and 50% RH  
2 hours @ 40°C and 50% RH

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 103 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 25.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17A - Interzinc 22 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum*</b>
10°C	3 Hours	6 Hours	Indefinite
30°C	2 Hours	4 Hours	Indefinite
50°C	¾ Hour	4 Hours	Indefinite

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.017 to 0.020 inch Fluid pressure 1,600 psi
Conventional Spray	:	Tip size Atomizing Pressure
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	61 to 63%
4.2	Product Weight	(ASTM D1475)	:	2.42 to 2.62 Kg/L
4.3	Viscosity	(ASTM D562)	:	70 to 90 KU
4.4	Flash Point	(ASTM D93 or D56)	:	10°C
5.	Additional Notes, Precautions or Special Instructions		:	Curing stops when relative humidity goes below 50%

Approval Date: April 6, 2002  
Replaces: June 25, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17B**

Type of Coating : Inorganic Zinc Primer: Water-Based  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interzinc 250  
SAMS S/N : 09-611-969

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 1 liquid to 2.43 Zinc by weight

2.3 Thinner : Sweet Water

SAMS S/N : N/A

2.4 Thinning Requirements : -

2.5 Induction Time : N/A

2.6 Pot Life : 8 hours @ 25°C  
4 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 40°C

3.2 Typical Wet Film Thickness Per Coat : 32 to 83 micrometers

3.3 Typical Dry Film Thickness Per Coat : 25 to 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 31.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17B - Interzinc 250 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum*</b>
10°C	30 Minutes	6 Hours	Indefinite
30°C	12 Minutes	4 Hours	Indefinite
50°C	5 Minutes	4 Hours	Indefinite

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.018 to 0.021 inch Fluid pressure 2,300 psi
Conventional Spray	:	Tip size Atomizing Pressure
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	75 to 80%
4.2	Product Weight	(ASTM D1475)	:	3.1 to 3.3 Kg/L
4.3	Viscosity	(ASTM D562)	:	75 to 85 KU
4.4	Flash Point	(ASTM D93 or D56)	:	N/A

Approval Date: April 6, 2002  
Replaces: June 25, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-19B**

Type of Coating : Splash Zone Compound: Spray-Applied  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interzone 6000  
SAMS S/N : 09-612-339

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 3

2.2 Mixing Ratio : 2.1 (parts EAA277: 1 part  
EAA278: 7 parts GMA463  
by volume

2.3 Thinner : Not recommended

SAMS S/N : N/A

2.4 Thinning Requirements : N/A

2.5 Induction Time : Nil

2.6 Pot Life : 2 hours @ 25°C  
½ hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 2,540 micrometers

3.3 Typical Dry Film Thickness Per Coat : 2,540 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 40 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-19B - Interzone 6000 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum*	
10°C	2 Days	N/A	N/A	Immediately
30°C	16 Hours	N/A	N/A	Immediately
50°C	10 Hours	N/A	Indefinite	Immediately

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

Apply by using Putzmeister/Wagner Screw type pumps.

Airless Spray	:	Not recommended
Conventional Spray	:	Not recommended
Brush and Roller	:	Not recommended

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	99 to 100%
4.2	Product Weight	(ASTM D1475)	:	1.67 to 1.87 Kg/L
4.3	Viscosity	(ASTM D562)	:	N/A
4.4	Flash Point	(ASTM D93 or D56)	:	N/A

Approval Date: June 25, 1994  
Replaces: March 28, 1992

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-20B**

Type of Coating : Fiberglass Reinforced Epoxy: Spray-Applied  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interline 985 (Matcote)  
SAMS S/N :

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 2:1 by volume

2.3 Thinner : Not recommended

SAMS S/N : N/A

2.4 Thinning Requirements : N/A

2.5 Induction Time : Nil

2.6 Pot Life : 30 minutes @ 25°C  
15 minutes @ 40°C

3. Installation Procedure

3.1 All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO8504:1992.

3.2 Where necessary, remove weld spatter and where required, smooth weld seams and sharp edges. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

3.3 All surfaces must be abrasive blast cleaned to Sa 2½ (ISO8501-1:1998) or SSPC-SP10. A sharp angular surface profile of 75-100 microns is recommended.

3.4 Interline 985 must be applied before oxidation of the steel occurs.

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-20B - Interline 985 (Cont'd)**

- 3.5 If necessary surfaces may be primed with Interline 982 applied to give a dry film thickness of 25 microns. Provided that moisture does not settle on the surface, Interline 982 will prevent oxidation for up to 28 days.
- 3.6 All welds, seams, lap joints, plate edges, etc., should be caulked using Interline 983 applied by twin feed airless spray equipment.
- 3.7 Interline 985 should be applied using plural component airless spray equipment (incorporating a fibreglass chopper for the laminate coat). Recommended tip sizes are 27-36 thou for laminate application and 31-36 thou for gel coat application.
- 3.8 Spray apply Interline 985 together with chopped International GQA015 fibreglass roving and consolidate to a 1250-1400 microns dry film thickness laminate by rolling with a ribbed roller. The chopped roving should be spread @ a rate of approximately 450 gm/m<sup>2</sup>.
- 3.9 Prior to application of the gel coat, abrade the surface to remove any protruding fibre glass strands and vacuum clean.
- 3.10 Using plural component airless spray equipment, apply a gel coat of Interline 985 to give a dry film thickness of 250-500 microns according to specification. The total system dry film thickness is 1,500 to 1,900 microns.
- 3.11 Dry film thickness of greater than 500 microns may be tested for pinholes or other holidays using a suitable high voltage pulsating type holiday detector set @ 100 volts per 25 microns dry film thickness.
- 3.12 Maximum Allowable Substrate Temperature : 60°C
- 3.13 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum*	
10°C	2 Days	2 Days	3 Days	7 Days
30°C	15 Hours	15 Hours	30 Hours	5 Days
50°C	5 Hours	5 Hours	12 Hours	4 Days

- 3.14 Recommended Equipment  
 Airless Spray: Modified plural airless spray incorporating a fibreglass chopper.  
 Conventional Spray: Not applicable

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-20B - Interline 985 (Cont'd)**

3.15 Material summary:

Holding Primer (optional)	Interline 982
Caulk (putty)	Interline 983
Laminate (Resin)	Interline 985 incorporating
Fiberglass	International GQA015

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	98 to 100%
4.2	Product Weight	(ASTM D1475)	:	1.1 to 1.3 Kg/L
4.3	Viscosity	(ASTM D562)	:	KU
4.4	Flash Point	(ASTM D93 or D56)	:	101°C

Approval Date: April 6, 2002  
Replaces: New

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-22

Type of Coating : Epoxy Primer: Damp Tolerant  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interseal 414  
SAMS S/N : 09-612-352/459

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 4 parts EPA414 to 1 part EPA415 by volume
    - 2.3 Thinner : GTA220  
SAMS S/N : 09-738-300
    - 2.4 Thinning Requirements : Up to 5% by volume
    - 2.5 Induction Time : Nil
    - 2.6 Pot Life : 8 hours @ 25°C  
2 hours @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 60°C
    - 3.2 Typical Wet Film Thickness Per Coat : 91 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 50 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 22 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 1
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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22 Primer - Interseal 414 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum*</b>
10°C	12 Hours	10 Hours	Indefinite
30°C	6 Hours	6 Hours	Indefinite
50°C	4 Hours	2 Hours	Indefinite

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.018 to 0.021 inch Fluid Pressure 2,500 psi minimum
Conventional Spray	:	Not recommended
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	54 to 56%
4.2	Product Weight	(ASTM D1475)	:	1.4 to 1.6 Kg/L
4.3	Viscosity	(ASTM D562)	:	125 to 150 KU
4.4	Flash Point	(ASTM D93 or D56)	:	23°C

Approval Date: April 6, 2002  
Replaces: June 25, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22**

Type of Coating : Epoxy Topcoat: Damp Tolerant  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interzone 954 ||  
SAMS S/N : 09-612-357/358/359/462/465/467

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 4 parts base: 1 part hardener by volume
    - 2.3 Thinner : GTA220  
SAMS S/N : 09-738-300
    - 2.4 Thinning Requirements : Up to 5% by volume
    - 2.5 Induction Time : Nil
    - 2.6 Pot Life : 1-½ hours @ 25°C  
45 minutes @ 40°C ||
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 60°C
    - 3.2 Typical Wet Film Thickness Per Coat : 352 micrometers ||
    - 3.3 Typical Dry Film Thickness Per Coat : 300 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 34 M<sup>2</sup>/L ||
    - 3.5 Minimum Number of Coats : 1
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22 Topcoat - Interzone 954 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	1 Day	1 Day	14 Days
30°C	8 Hours	8 Hours	7 Days
50°C	3 Hours	3 Hours	5 Day

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.021 to 0.026 inch Fluid Pressure 2,500 psi minimum
Conventional Spray	:	Not recommended
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	83 to 87%
4.2	Product Weight	(ASTM D1475)	:	1.6 to 1.8 Kg/L
4.3	Viscosity	(ASTM D562)	:	115 to 125 KU
4.4	Flash Point	(ASTM D93 or D56)	:	30°C

Approval Date: April 6, 2002  
Replaces: June 25, 1994



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26**

Type of Coating : Epoxy Mastic Coating (Self Priming)  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interseal 738  
SAMS S/N : 09-612-330/331/332/333/334/335/336

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 6.4 parts of EY series with  
1 part EYA001 by volume

2.3 Thinner : GTA220

SAMS S/N : 09-738-420

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : Nil

2.6 Pot Life : 4 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 313 micrometers

3.3 Typical Dry Film Thickness Per Coat : 250 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 32 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26 – Interseal 738 (Cont'd)**

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3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	3 Days	4 Days	14 Days
30°C	18 Hours	20 Hours	5 Days
50°C	12 Hours	12 Hours	2 Days

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.021 to 0.026 inch Fluid Pressure 2,800 psi minimum
Conventional Spray	:	Not recommended
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	78 to 82%
4.2	Product Weight	(ASTM D1475)	:	1.3 to 1.5 Kg/L depending on color
4.3	Viscosity	(ASTM D562)	:	114 to 124 KU
4.4	Flash Point	(ASTM D93 or D56)	:	23°C

5. Additional Notes, Precautions or Special Instructions

To ensure adequate curing, do not apply when steel temperature falls below 10°C.

When overcoating aged systems, be sure that all loose and flaking coatings are first removed.

Approval Date: April 6, 2002  
Replaces: June 25, 1994

**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-26T Topcoat**

Type of Coating : Polyurethane Topcoat  
Manufacturer : International Paint Saudi Arabia Ltd.  
Product Name : Interthane 990  
SAMS S/N : 09-612-365/366/367/368/371

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(Refer to APCS-26 data sheet for the primer and to polyurethane of APCS-1D/E/F data sheet for the topcoat.)

## 6 Jotun – Approved Materials

APCS-1A	Resist PH 4412 GT Resist 78 Jotacote 5 Penguard HB	Inorganic Zinc-Primer: Solvent-Based Inorganic Zinc-Primer: Solvent-Based Inorganic Zinc Primer: Water-Based Epoxy Topcoat: Red/Gray/Yellow	
APCS-1B	Penguard Special Penguard HB	Epoxy Primer Epoxy Topcoat: Red/Gray/Yellow	
APCS-1C	Barrier Penguard HB	Zinc-Rich Epoxy Primer: Gray Epoxy Topcoat: Red/Gray/Yellow	
APCS-1D	(Use APCS-1A as primer and intermediate coat.) Durathane	Polyurethane Topcoat: Yellow/White Gray/Green/Red	
APCS-1E	(Use APCS-1B as primer and intermediate coat.) Durathane	Polyurethane Topcoat: Yellow/White Gray/Green/Red	
APCS-1F	(Use APCS-1C as primer and intermediate coat.) Durathane	Polyurethane Topcoat: Yellow/White Gray/Green/Rad	
APCS-2D	Tankguard Mil	Epoxy : Yellow/White	
APCS-4	Cromoprimer Bengalac Silver Aluminium	Zinc Chromate Primer Alkyd Topcoat: Aluminum Color	
APCS-6	Cromoprimer Pilot II	Zinc Chromate Primer Alkyd Topcoat: Various Colors	
APCS-11A	Resist PH 4412 GT Resist 78 Jotacote 5 Solvalitt	Inorganic Zinc Primer: Solvent-Based Inorganic Zinc-Primer: Solvent-Based Inorganic Zinc Primer: Water-Based Heat-Resistant Topcoat: Aluminum	
APCS-11B	Hot Temperature Aluminum	Heat Resistant System: (Self-Priming)	
APCS-12	Penguard Special Penguard HB	Epoxy Primer Epoxy Topcoat: Red/Gray/Yellow	
APCS-17A	Resist PH 4412 GT Resist 78	Inorganic Zinc Primer: Solvent-Based Inorganic Zinc-Primer: Solvent-Based	
APCS-17B	Jotacote 5	Inorganic Zinc Primer: Water Based	
APCS-22	Jotamastic 87	Epoxy: Damp-Tolerant; Gray/Yellow/Black	
APCS-26	Jotamastic	Epoxy Mastic: Aluminum/White/Orange/ Yellow/Gray/Black	
APCS-26T	(Use APCS-26 as primer and Durathane in APCS-1D as topcoat.)		

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A**

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Resist PH 4412 GT  
SAMS S/N : 09-611-958

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 9.5 L Liquid : 28.5 Zinc Dust

2.3 Thinner : Thinner No. 10 (Slow)  
Thinner No. 4 (Fast)

SAMS S/N : 09-738-220

2.4 Thinning Requirements : 0 to 5% by volume

2.5 Induction Time : N/A

2.6 Pot Life : 8-12 hours @ 25°C  
4-6 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 125 micrometers

3.3 Typical Dry Film Thickness Per Coat : 75 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 24 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Primer - Resist PH 4412 GT (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	3/4 Hour	1 Day	None
30°C	1/2 Hour	10 Hours	None
50°C	1/2 Hour	6 Hours	None

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.018 to 0.023 inch Fluid Pressure 2,150 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush and Roller	:	For small areas and touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	58 to 62%
4.2	Product Weight	(ASTM D1475)	:	2.6 to 2.7 Kg/L
4.3	Viscosity	(ASTM D562)	:	90 to 100 KU
4.4	Flash Point	(ASTM D93 or D56)	:	14°C

Approval Date: August 14, 1994  
Replaces: May 1, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A**

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Resist 78  
SAMS S/N : 09-611-958

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 10 L Liquid : 18.5 Zinc Dust

2.3 Thinner : Thinner No. 10 (Slow)  
Thinner No. 4 (Fast)

SAMS S/N : 09-738-220

2.4 Thinning Requirements : 0 to 5% by volume

2.5 Induction Time : N/A

2.6 Pot Life : 8 hours @ 23°C  
4-6 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 107 micrometers

3.3 Typical Dry Film Thickness Per Coat : 75 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 28 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Primer - Resist PH 4412 GT (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	3/4 Hour	1 Day	None
30°C	½ Hour	12 Hours	None
50°C	½ Hour	6 Hours	None

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.018 to 0.023 inch Fluid Pressure 1,400 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush and Roller	:	For small areas and touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	68 to 72%
4.2	Product Weight	(ASTM D1475)	:	2.2 to 2.6 Kg/L
4.3	Viscosity	(ASTM D562)	:	72 KU
4.4	Flash Point	(ASTM D93 or D56)	:	16°C

Approval Date: November 14  
Replaces: New



### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-1A

Type of Coating : Inorganic Zinc Primer: Water-Based  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Jotacote 5  
SAMS S/N : 09-611-969

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#### 1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

#### 2. Mixing

2.1 No. of Components : 2  
2.2 Mixing Ratio : 10 L Liquid: 41.7 Kg Zinc Dust  
2.3 Thinner : Sweet Water  
SAMS S/N : N/A  
2.4 Thinning Requirements : 0 to 5% by volume  
2.5 Induction Time : N/A  
2.6 Pot Life : 5 hours @ 25°C  
2 hours @ 40°C

#### 3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C  
3.2 Typical Wet Film Thickness Per Coat : 97 to 149 micrometers  
3.3 Typical Dry Film Thickness Per Coat : 65 to 100 micrometers  
3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 26.8 M<sup>2</sup>/L  
3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Primer - Jotacote 5 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	2/3 Hour	1 Day	None
30°C	1/2 Hour	6 Hours	None
50°C	1/4 Hour	4 Hours	None

3.7 Recommended Equipment

Airless Spray	:	N/A
Conventional Spray	:	Tip Size Atomizing Pressure
Brush and Roller	:	For small areas and touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	60 to 65%
4.2	Product Weight	(ASTM D1475)	:	3.35 to 3.45 Kg/L
4.3	Viscosity	(ASTM D562)	:	85 to 90 KU
4.4	Flash Point	(ASTM D93 or D56)	:	14°C

Approval Date: August 14, 1994  
Replaces: May 1, 1994

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A/B/C Topcoat**

Type of Coating : Epoxy Topcoat  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Penguard HB  
SAMS S/N : 09-612-364/369/375

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 4:1 (base:hardener) by volume
    - 2.3 Thinner : Thinner No. 17  
SAMS S/N : 09-738-260
    - 2.4 Thinning Requirements : 0 to 5% by volume
    - 2.5 Induction Time : 30 minutes @ 25
    - 2.6 Pot Life : 8 hours @ 25°C  
4 hours @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 185 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 100 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 21.6 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 2
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A/B/C Topcoat - Penguard HB (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	16 Hours	16 Hours	28 Days
30°C	6 Hours	6 Hours	14 Days
50°C	4 Hours	4 Hours	7 Days

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.018 to 0.027 inch Fluid Pressure 2,100 psi
Conventional Spray	:	Not recommended
Brush and Roller	:	For small areas and touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	52 to 56%
4.2	Product Weight	(ASTM D1475)	:	1.2 to 1.4 Kg/L
4.3	Viscosity	(ASTM D562)	:	77 to 82 KU
4.4	Flash Point	(ASTM D93 or D56)	:	23°C

Approval Date: August 14, 1994  
Replaces: May 1, 1994

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1B**

Type of Coating : Epoxy Primer  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Penguard Special  
SAMS S/N : 09-612-362

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4:1 (base:hardener) by volume

2.3 Thinner : Thinner No. 17

SAMS S/N : 09-738-280

2.4 Thinning Requirements : 0 to 5% by volume

2.5 Induction Time : 1/2 hour

2.6 Pot Life : 8 hours @ 25°C  
4 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 200 micrometers

3.3 Typical Dry Film Thickness Per Coat : 100 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 20 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1B Primer - Penguard Special (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	14 Hours	16 Hours	28 Days
30°C	5 Hours	6 Hours	14 Days
50°C	3 Hours	3 Hours	7 Days

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.018 to 0.027 inch Fluid Pressure 2,100 psi
Conventional Spray	:	Not recommended
Brush and Roller	:	For small areas and touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	48 to 52%
4.2	Product Weight	(ASTM D1475)	:	1.2 to 1.4 Kg/L
4.3	Viscosity	(ASTM D562)	:	77 to 82 KU
4.4	Flash Point	(ASTM D93 or D56)	:	23°C

Approval Date: August 14, 1994  
Replaces: May 1, 1994

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1C**

Type of Coating : Zinc-Rich Epoxy Primer  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Barrier  
SAMS S/N : 09-612-580/590/595

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 3:1 (base:hardener) by volume
    - 2.3 Thinner : Thinner No. 17  
SAMS S/N : 09-738-240
    - 2.4 Thinning Requirements : 0 to 5% by volume
    - 2.5 Induction Time : ½ hour
    - 2.6 Pot Life : 1-2 days @ 25°C  
More than 12 hours @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 75 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 40 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 21.2 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 1
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1C Primer - Barrier (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	2 Hours	2 Hours	6 Months
30°C	1.5 Hours	1.5 Hours	4 Months
50°C	¾ Hours	¾ Hours	2 Months

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.015 to 0.021 inch Fluid Pressure 2,100 psi
Conventional Spray	:	Not recommended
Brush and Roller	:	For small areas and touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	51 to 55%
4.2	Product Weight	(ASTM D1475)	:	2.5 to 2.6 Kg/L
4.3	Viscosity	(ASTM D562)	:	73 to 77 KU
4.4	Flash Point	(ASTM D93 or D56)	:	25°C

Approval Date: August 14, 1994  
Replaces: May 1, 1994



**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F Topcoat**

Type of Coating : Polyurethane Enamel Topcoat  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Durathane  
SAMS S/N : 09-612-365/366/367/368/371

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2  
2.2 Mixing Ratio : 9:1 (base: hardener), by volume  
2.3 Thinner : Thinner No. 10  
SAMS S/N : 09-738-345  
2.4 Thinning Requirements (Airless Spray) : 0 to 5% by volume  
2.5 Induction Time : NA  
2.6 Pot Life (mixture) : 4 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C  
3.2 Typical Wet Film Thickness Per Coat : 83 micrometers  
3.3 Typical Dry Film Thickness Per Coat : 40 micrometers  
3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 19.2 M<sup>2</sup>/L  
3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F - Durathane (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	2 Days	10 Hours	180 Days
30°C	16 Hours	4 Hours	120 Days
50°C	8 Hours	2 Hours	90 Days

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.013 to 0.018 inch Fluid Pressure 2,100 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush & Roller	:	For touch-up and small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	46 to 50%
4.2	Product Weight	(ASTM D1475)	:	1.2 to 1.3 Kg/L
4.3	Viscosity	(ASTM D562)	:	60 to 65 KU
4.4	Flash Point	(ASTM D93 or D56)	:	24°C

**Note:** For APCS-1D, use APCS-1A as primer and intermediate coat. For APCS-1E, use APCS-1B as primer and intermediate coat. For APCS-1F, use APCS-1C as primer and intermediate coat.

Approval Date: February 8, 1999  
Replaces: August 14, 1994

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### Manufacturer-Approved Saudi Aramco Data Sheet

#### APCS-2D

Type of Coating : Modified Amine Cured Epoxy  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Tankguard Mil  
SAMS S/N : 09-612-316/317

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#### 1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 year

#### 2. Mixing

2.1 No. of Components : 2  
2.2 Mixing Ratio : 4:1 (base: hardener), by volume  
2.3 Thinner : Thinner No. 23  
SAMS S/N : 09-738-290  
2.4 Thinning Requirements (Airless Spray) :  
2.5 Induction Time : 30 minutes  
2.6 Pot Life (mixture) : 8 hours @ 25°C  
4 hours @ 40°C

#### 3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C  
3.2 Typical Wet Film Thickness Per Coat : 145 micrometers  
3.3 Typical Dry Film Thickness Per Coat : 100 micrometers  
3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 28 M<sup>2</sup>/L  
3.5 Minimum Number of Coats : 2

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2D – TANKGUARD MIL (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	1¼ Days	1 Day	12 Days
30°C	8 Hours	1 Day	7 Days
50°C	4 Hours	6 Hours	4 Days

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.018 to 0.027 inch Fluid Pressure 2,100 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush & Roller	:	For touch-up and small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	68 to 72%
4.2	Product Weight	(ASTM D1475)	:	1.3 to 1.4 Kg/L
4.3	Viscosity	(ASTM D562)	:	70 KU
4.4	Flash Point	(ASTM D93 or D56)	:	35°C

Approval Date: November 14, 2001  
Replaces: New

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4**

Type of Coating : Alkyd-Based Primer  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Cromoprimer  
SAMS S/N : 09-078-133/137

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : N/A

2.3 Thinner : Thinner No. 2

SAMS S/N : 09-738-340

2.4 Thinning Requirements : 0 to 5% by volume

2.5 Induction Time : N/A

2.6 Pot Life : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 144 micrometers

3.3 Typical Dry Film Thickness Per Coat : 75 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 20.8 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4 Primer - Cromoprimer (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	8 Hours	8 Days	28 Days
30°C	4 Hours	3 Hours	14 Days
50°C	3 Hours	2 Hours	7 Days

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.015 to 0.021 inch Fluid Pressure 2,100 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush and Roller	:	Suitable

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	50 to 54%
4.2	Product Weight	(ASTM D1475)	:	1.2 to 1.4 Kg/L
4.3	Viscosity	(ASTM D562)	:	90 to 94 KU
4.4	Flash Point	(ASTM D93 or D56)	:	34°C

Approval Date: August 14, 1994  
Replaces: May 1, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4**

Type of Coating : Alkyd-Based Topcoat: Aluminum Color  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Bengalac Silver Aluminium  
SAMS S/N : 09-686-354

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : Thinner No. 2

SAMS S/N : 09-738-340

2.4 Thinning Requirements (Airless Spray) : 0 to 5% by volume

2.5 Induction Time : N/A

2.6 Pot Life : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 83 micrometers

3.3 Typical Dry Film Thickness Per Coat : 25 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 12 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

**Manufacturer - Approved Saudi Aramco Data Sheet**  
**APCS-4 Topcoat Bengalac Silver Aluminium (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	6 Hours	1 Day	28 Days
30°C	2-½ Hours	20 Hours	14 Days
50°C	1 Hour	18 Hours	7 Days

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.013 to 0.018 inch Fluid Pressure 2,100 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush and Roller	:	Suitable

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	28 to 32%
4.2	Product Weight	(ASTM D1475)	:	0.90 to 1.00 Kg/L
4.3	Viscosity	(ASTM D562)	:	50 to 60 KU
4.4	Flash Point	(ASTM D93 or D56)	:	34°C

Approval Date: August 14, 1994  
Replaces: May 1, 1994



**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-6**

Type of Coating : Alkyd-Based Primer  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Cromoprimer  
SAMS S/N : 09-078-133/137

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(See APCS-4 Primer's Data Sheet)

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-6**

Type of Coating : High Gloss Enamel Topcoat  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Pilot II  
SAMS S/N : 09-630-753/758/763/768/769/770/771/773/785/794/796  
09-631-301/322/450/455/462/465/590/645

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : Thinner No. 2

SAMS S/N : 09-738-340

2.4 Thinning Requirements (Airless Spray) : 0 to 5% by volume

2.5 Induction Time : N/A

2.6 Pot Life (mixture) : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 85 micrometers

3.3 Typical Dry Film Thickness Per Coat : 40 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 19.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-6 Topcoat - Pilot II (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	4 Hours	1 Day	28 Days
30°C	1.5 Hours	12 Hours	14 Days
50°C	¾ Hour	6 Hours	7 Days

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.015 to 0.021 inch Fluid Pressure 2,100 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush and Roller	:	Suitable

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	46 to 50%
4.2	Product Weight	(ASTM D1475)	:	0.90 to 1.2 Kg/L
4.3	Viscosity	(ASTM D562)	:	90 to 94 KU
4.4	Flash Point	(ASTM D93 or D56)	:	33°C

Approval Date: August 14, 1994  
Replaces: May 1, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A**

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Resist PH 4412 GT  
SAMS S/N : 09-611-958

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2  
2.2 Mixing Ratio : 0.5 L Liquid:28.5 Kg Zinc Dust  
2.3 Thinner : Thinner No. 10 (Slow)  
Thinner No. 4 (Fast)  
SAMS S/N : 09-738-220  
2.4 Thinning Requirements (Airless Spray) : 0 to 5% by volume  
2.5 Induction Time : N/A  
2.6 Pot Life (mixture) : 8-12 hours @ 25°C  
4-6 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C  
3.2 Typical Wet Film Thickness Per Coat : 100 micrometers  
3.3 Typical Dry Film Thickness Per Coat : 60 micrometers  
3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 24 M<sup>2</sup>/L  
3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Primer - Resist PH4412 GT (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	¾ Hour	1 Day	None *
30°C	½ Hour	10 Hours	None *
50°C	½ Hour	6 Hours	None *

\* Unlimited recoat interval provided zinc salts and other contaminants are removed prior to recoating.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.018 to 0.023 inch Fluid Pressure 2,150 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush and Roller	:	For small areas and touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	58 to 62%
4.2	Product Weight	(ASTM D1475)	:	2.6 to 2.7 Kg/L
4.3	Viscosity	(ASTM D562)	:	90 to 100 KU
4.4	Flash Point	(ASTM D93 or D56)	:	14°C

Approval Date: August 14, 1994

Replaces: May 1, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A**

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Resist 78  
SAMS S/N : 09-611-958

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 10 L Liquid:18.5 Kg Zinc Dust

2.3 Thinner : Thinner No. 10 (Slow)/ 25  
Thinner No. 4 (Fast)

SAMS S/N : 09-738-220

2.4 Thinning Requirements (Airless Spray) : 0 to 5% by volume

2.5 Induction Time : N/A

2.6 Pot Life (mixture) : 8-12 hours @ 25°C  
8 Hours @ 23°C  
4-6 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 107 micrometers

3.3 Typical Dry Film Thickness Per Coat : 75 micrometers

3.4 Theoretical Coverage @ 25 Micrometers : 28 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Primer - Resist 78 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	¾ Hour	1 Day	None *
30°C	½ Hour	10 Hours	None *
50°C	½ Hour	6 Hours	None *

\* Unlimited recoat interval provided zinc salts and other contaminants are removed prior to recoating.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.018 to 0.023 inch Fluid Pressure 1400 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush and Roller	:	For small areas and touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	68 to 72%
4.2	Product Weight	(ASTM D1475)	:	2.2 to 2.6 Kg/L
4.3	Viscosity	(ASTM D562)	:	72KU
4.4	Flash Point	(ASTM D93 or D56)	:	16°C

Approval Date: November 14, 2001  
Replaces: New

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A**

Type of Coating : Inorganic Zinc Primer: Water-Based  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Jotacote 5  
SAMS S/N : 09-611-969

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2  
2.2 Mixing Ratio : 10 L Liquid : 41.7 Kg Zinc Dust  
2.3 Thinner : Sweet Water  
SAMS S/N : N/A  
2.4 Thinning Requirements (Airless Spray) : 0 to 5% by volume  
2.5 Induction Time : N/A  
2.6 Pot Life (mixture) : 5 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C  
3.2 Typical Wet Film Thickness Per Coat : 97 to 149 micrometers  
3.3 Typical Dry Film Thickness Per Coat : 65 to 100 micrometers  
3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26.8 M<sup>2</sup>/L  
3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Primer - Jotacote 5 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	2/3 Hour	1 Day	None *
30°C	1/2 Hour	6 Hours	None *
50°C	1/2 Hour	4 Hours	None *

\* Unlimited recoat interval provided zinc salts and other contaminants are removed prior to recoating.

3.7 Recommended Equipment

Airless Spray	:	Tip size: N/A Fluid Pressure: N/A
Conventional Spray	:	Tip Size Atomizing Pressure
Brush and Roller	:	For small areas and touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	65 to 69%
4.2	Product Weight	(ASTM D1475)	:	3.35 to 3.45 Kg/L
4.3	Viscosity	(ASTM D562)	:	85 to 90 KU
4.4	Flash Point	(ASTM D93 or D56)	:	14°C

Approval Date: August 14, 1994

Replaces: May 1, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A**

Type of Coating : Silicone Topcoat  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Solvalitt  
SAMS S/N : 09-687-325

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
  2. Mixing
    - 2.1 No. of Components : 1
    - 2.2 Mixing Ratio : N/A
    - 2.3 Thinner : Thinner No. 7  
SAMS S/N : 09-740-416
    - 2.4 Thinning Requirements (Airless Spray) : 0 to 5% by volume
    - 2.5 Induction Time : N/A
    - 2.6 Pot Life (mixture) : N/A
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 70 micrometers (alum.)  
60 micrometers (others)
    - 3.3 Typical Dry Film Thickness Per Coat : 25 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 14 M<sup>2</sup>/L (alum.)  
16.8 M<sup>2</sup>/L (others)
    - 3.5 Minimum Number of Coats : 1
-

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Topcoat - Solvalitt (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	3 Hours	3 Hours	N/A
30°C	2 Hours	2 Hours	N/A
50°C	2 Hours	1 Hour	N/A

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.015 to 0.021 inch Fluid Pressure 2,100 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush and Roller	:	For small areas and touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	33 to 37% (alum.) 40 to 44% (others)
4.2	Product Weight	(ASTM D1475)	:	0.9 to 1.2 Kg/L (alum.) 1.1 to 1.3 Kg/L (others)
4.3	Viscosity	(ASTM D562)	:	100 to 150 cps (alum.) 220 to 300 cps (others)
4.4	Flash Point	(ASTM D93 or D56)	:	23°C

Approval Date: August 14, 1994  
Replaces: May 1, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11B (Self-Priming)**

Type of Coating : High Temperature Aluminum Paint  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Hot Temp Aluminium  
SAMS S/N : 09-687-330

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : Thinner No. 7

SAMS S/N : None

2.4 Thinning Requirements (Airless Spray) : 0 to 5% by volume

2.5 Induction Time : N/A

2.6 Pot Life (mixture) : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 103 micrometers

3.3 Typical Dry Film Thickness Per Coat : 30 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 11.6 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2 (prime coat and top coat)

**Manufacturer - Approved Saudi Aramco Data Sheet**  
**APCS-11B (Self-Priming) - Hot Temp Aluminium (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	2-½ Hours	10 Hours	None
30°C	1.5 Hours	6 Hours	None
50°C	1 Hour	3 Hours	None

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.013 to 0.015 inch Fluid Pressure 2,150 psi
Conventional Spray	:	Not recommended
Brush and Roller	:	For small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	27 to 31%
4.2	Product Weight	(ASTM D1475)	:	1.0 to 1.2 Kg/L
4.3	Viscosity	(ASTM D562)	:	68 to 70 KU
4.4	Flash Point	(ASTM D93 or D56)	:	24°C

Approval Date: August 14, 1994  
Replaces: December 13, 1992

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-12**

Type of Coating : Epoxy Primer  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Penguard Special  
SAMS S/N : 09-612-362

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(Refer to APCS-1B Primer Data Sheet)

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-12**

Type of Coating : Epoxy Topcoat  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Penguard HB  
SAMS S/N : 09-612-364/369/375

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(Refer to APCS-1B Top Coat Data Sheet. Also, refer to APCS-12 of Saudi Aramco Engineering Standard SAES-H-101 for application of aggregate).

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17A**

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Resist PH 4412 GT or Resist 78  
SAMS S/N : 09-611-958

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(See APCS-11A Primer's Data Sheet)



**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17B**

Type of Coating : Inorganic Zinc Primer: Water-Based  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Jotacote 5  
SAMS S/N : 09-611-969

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(See APCS-11A Primer's Data Sheet)

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22**

Type of Coating : Epoxy: Damp-Tolerant  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Jotamastic 87  
SAMS S/N : 09-612-352/357/358/359/459/462/465/467

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 6:1 by volume (colors)  
5:1 by volume (alum.)
    - 2.3 Thinner : Thinner No. 17  
SAMS S/N : 09-738-300
    - 2.4 Thinning Requirements (Airless Spray) : 0 to 10% by volume
    - 2.5 Induction Time : 10 minutes
    - 2.6 Pot Life (mixture) : 2 hours @ 25°C  
1 hour @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 213 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 175 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 32.8 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 1
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22 - Jotamastic 87 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	1 Day	1 Day	60 Days
30°C	7 Hours	7 Hours	45 Days
50°C	3 Hour	3 Hours	28 Days

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.023 to 0.031 inch Fluid Pressure 2,100 psi
Conventional Spray	:	Not recommended
Brush and Roller	:	For small areas and touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	80 to 84%
4.2	Product Weight	(ASTM D1475)	:	1.30 to 1.50 Kg/L
4.3	Viscosity	(ASTM D562)	:	120 to 126 KU
4.4	Flash Point	(ASTM D93 or D56)	:	38°C

Approval Date: August 14, 1994  
Replaces: May 1, 1994

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-26

Type of Coating : Self-Priming Epoxy Mastic  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Jotamastic 87  
SAMS S/N : 09-612-330/331/332/333/334/335/336

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#### 1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

#### 2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 5.5:1 (Aluminum)  
6:1 (Colors)

2.3 Thinner : Thinner No. 17

SAMS S/N : 09-738-420

2.4 Thinning Requirements (Airless Spray) : 10% maximum

2.5 Induction Time : 10 minutes

2.6 Pot Life (mixture) : 3 hours @ 25°C  
1.5 hours @ 40°C

#### 3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 230 micrometers

3.3 Typical Dry Film Thickness Per Coat : 200 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 34.8 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26 - Jotamastic 87 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	1 Day	1 Day	21 Days
30°C	7 Hours	7 Hours	14 Days
50°C	3 Hours	3 Hours	7 Days

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.023 to 0.031 inch Fluid Pressure 2,100 psi
Conventional Spray	:	Tip Size Atomizing Pressure
Brush & Roller	:	For small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	85 to 89% (Aluminum) 80 to 84% (Colors)
4.2	Product Weight	(ASTM D1475)	:	1.4 to 1.5 Kg/L
4.3	Viscosity	(ASTM D562)	:	130 to 140 KU
4.4	Flash Point	(ASTM D93 or D56)	:	38°C

Approval Date: August 14, 1994  
Replaces: December 13, 1992

**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-26T Topcoat**

Type of Coating : Polyurethane Topcoat  
Manufacturer : Jotun Saudia Company Ltd.  
Product Name : Durathane  
SAMS S/N : 09-612-365/366/367/368/371

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(Refer to APCS-26 data sheet for the primer and to polyurethane of APCS-1D/E/F data sheet for the topcoat.)

## 7 Oasis Ameron – Approved Materials

APCS-1A	Dimetcote 6 Amercoat 383 HS	Inorganic Zinc Primer: Solvent-Based Epoxy Topcoat: Red/Gray/Yellow
APCS-1B	Amercoat 71 Amercoat 383 HS	Epoxy Primer: Oxide Red Epoxy Topcoat: Red/Gray/Yellow
APCS-1C	Amercoat 68 SA Amercoat 383 HS	Zinc-Rich Epoxy Primer: Organic Epoxy Topcoat: Red/Gray/Yellow
APCS-1D	(Use APCS-1A as primer and intermediate coat. Amercoat 450 GL	Polyurethane Topcoat: Yellow/White Gray/Green/Red
APCS-1E	(Use APCS-1B as primer and intermediate coat. Amercoat 450 GL	Polyurethane Topcoat: Yellow/White Gray/Green/Red
APCS-1F	(Use APCS-1B as primer and intermediate coat. Amercoat 450 GL	Polyurethane Topcoat: Yellow/White Gray/Green/Red
APCS-2C Priming)	Amercoat 346	Epoxy For Elevated Temperature (Self-
APCS-3	Amercoat 325	Coal Tar Epoxy: Red/Black
APCS-4	Amercoat 2214 Amercoat 2213	Zinch Chromate Primer: Red Aluminum Topcoat
APCS-6	Amercoat 2214 Amercoat 52HS	Zinc Chromate Primer: Red High Gloss Enamel Topcoat: Various Colors
APCS-11A	Dimetcote 6 Amercoat 878	Inorganic Zinc Primer: Solvent-Based Heat Resistant Topcoat: Aluminum
APCS-11B	Amercoat 878	Heat Resistant Aluminum (Self-Priming)
APCS-12	Amercoat 71 Amercoat 383 HS	Epoxy Primer: Oxide Red Epoxy Topcoat: Red/Gray/Yellow
APCS-17A	Dimetcote 6	Inorganic Zinc Primer: Solvent-Based
APCS-19B	Tideguard 171X	Splash Zone Compound: Spray-Applied

**Oasis - Approved Materials (Cont'd)**

APCS-22	Amercoat 3323 Amercoat 385	Epoxy Primer Epoxy Topcoat: Gray/Yellow/Black
APCS-26	Amerlock 400	Epoxy Mastic: Aluminum/White/Orange/Red Yellow/Gray/Black
APCS-26T	(Use APCS-26 as primer and Amercoat 450 GL in APCS-1D as topcoat.)	



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A**

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Dimetcote 6  
SAMS S/N : 09-611-958

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 1.97 Liquid: 1 Zinc  
Dust by weight

2.3 Thinner : Amercoat 65

SAMS S/N : 09-738-220

2.4 Thinning Requirements (Airless Spray) : Up to 10%

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 20 hours @ 25°C  
8 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 70°C

3.2 Typical Wet Film Thickness Per Coat : 100 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Primer - Dimetcote 6 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum *</b>
10°C	1 Hour	2 Days	None
30°C	½ Hour	1 Day	None
50°C	<5 Minutes	16 Hours	None

\* Minimum relative humidity to ensure cure is 50%.  
Recoating (same product) shall be 24 hours maximum.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.021 inch Fluid Pressure 750 psi
Conventional Spray	:	Pressure pot with agitator. Cap tip 704E (Devilbiss)
Brush & Roller	:	For small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	63 to 69%
4.2	Product Weight	(ASTM D1475)	:	2.40 to 2.50 Kg/L
4.3	Viscosity	(ASTM D562)	:	78 to 92 KU
4.4	Flash Point	(ASTM D93 or D56)	:	13°C

Approval Date: October 16, 1994  
Replaces: December 26, 1993

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A/B/C Topcoat**

Type of Coating : Epoxy Topcoat  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 383 HS  
SAMS S/N : 09-612-364/369/375

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4:1 by volume, base: hardener

2.3 Thinner : Amercoat 65

SAMS S/N : 09-738-260

2.4 Thinning Requirements (Airless Spray) : Up to 10%

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 8 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 160 micrometers

3.3 Typical Dry Film Thickness Per Coat : 100 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 24.8 M<sup>2</sup>/L

3.5 Minimum Number of Coats : Three, when overcoating zinc silicate primer (APCS-1A). The first coat shall be mist coat (thinned about 15%). Two, when overcoating zinc-rich epoxy.

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A/B/C Topcoat - Amercoat 383 HS (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	1 Day	16 Hours	None
30°C	16 Hours	8 Hours	None
50°C	6 Hours	6 Hours	None

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.018 to 0.024 inch Fluid Pressure 1,700 psi
Conventional Spray	:	Pressure pot with agitator. Cap tip 78 or 765 (Devilbiss)
Brush & Roller	:	For touch up of small areas

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	60 to 64%
4.2	Product Weight	(ASTM D1475)	:	1.45 to 1.50 Kg/L
4.3	Viscosity	(ASTM D562)	:	More than 140 KU
4.4	Flash Point	(ASTM D93 or D56)	:	25°C

Approval Date: August 16, 1994  
Replaces: December 26, 1993

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1B**

Type of Coating : Polyamide-Cured Epoxy Primer  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 71  
SAMS S/N : 09-612-362

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4 parts resin to 1 part hardener by volume

2.3 Thinner : Amercoat 9HF

SAMS S/N : 09-738-280

2.4 Thinning Requirements (Airless Spray) : Maximum 10% by volume

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 8 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 156 micrometers

3.3 Typical Dry Film Thickness Per Coat : 75 micrometers

3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 19.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1B Primer - Amercoat 71 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	15 Hours	8 Hours	N/A
30°C	5 Hours	5 Hours	N/A
50°C	4 Hours	4 Hours	N/A

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.015 to 0.021 inch Fluid Pressure 1,200 psi
Conventional Spray	:	Pressure pot with agitator. Nozzle/cap (Devilbiss) 78 or 765
Brush & Roller	:	For small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	46 to 50%
4.2	Product Weight	(ASTM D1475)	:	1.36 to 1.42 Kg/L
4.3	Viscosity	(ASTM D562)	:	120 to 140 KU
4.4	Flash Point	(ASTM D93 or D56)	:	24°C

Approval Date: August 16, 1994  
Replaces: December 26, 1993

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1C**

Type of Coating : Polyamide-Cured Zinc-Rich Epoxy Primer (Organic)  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 68 SA  
SAMS S/N : 09-612-580/590/595

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4 parts resin to 1 part hardener by volume

2.3 Thinner : Amercoat 9HF

SAMS S/N : 09-738-240

2.4 Thinning Requirements (Airless Spray) : Maximum 10% by volume

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 1 day @ 25°C  
8 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 130 micrometers

3.3 Typical Dry Film Thickness Per Coat : 75 micrometers

3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 23.6 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1C Primer - Amercoat 68 SA (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	12 Hours	16 Hours	N/A
30°C	3 Hours	2 Hours	N/A
50°C	2 Hours	1 Hour	N/A

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.017 to 0.021 inch Fluid Pressure 1,750 psi
Conventional Spray	:	Pressure pot with agitator. Nozzle/cap (Devilbiss) 78 or 765
Brush & Roller	:	For small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	56 to 62%
4.2	Product Weight	(ASTM D1475)	:	2.50 to 2.60 Kg/L
4.3	Viscosity	(ASTM D562)	:	110 to 140 KU
4.4	Flash Point	(ASTM D93 or D56)	:	35°C

Approval Date: August 16, 1994  
Replaces: December 26, 1993



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F Topcoat**

Type of Coating : Aliphatic Polyurethane  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 450GL  
SAMS S/N : 09-612-365/366/367/368/371

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4:1 by volume  
base:hardener

2.3 Thinner : Amercoat 920

SAMS S/N : 09-738-345

2.4 Thinning Requirements : Up to 10%

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 20 hours @ 25°C  
4 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 105 micrometers

3.3 Typical Dry Film Thickness Per Coat : 50 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 19.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F Topcoat - Amercoat 450GL (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion	
		Minimum	Maximum	Water	Buried
10°C	2 Hours	12 Hours	30 Days	-	-
30°C	¾ Hour	6 Hours	14 Days	-	-
50°C	½ Hour	4 Hours	2 Days	-	-

3.7 Recommended Equipment

- Airless Spray : Tip size: 0.015 to 0.017 inch  
Fluid Pressure: 1,700 to 2,300 psi
- Conventional Spray : Tip Size  
Atomizing Pressure
- Brush : For small areas only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 45 to 51%
- 4.2 Product Weight (ASTM D1475) : 1.21 to 1.27 Kg/L
- 4.3 Viscosity (ASTM D562) : 50 to 100 KU
- 4.4 Flash Point (ASTM D93 or D56) : 29°C

**Note:** Use either APCS-1A, 1B or 1C (see previous data sheets) as primer and intermediate coat, and the dry film thickness should be in accordance with APCS-1D, 1E or 1F of SAES-H-101.

Approval Date: August 16, 1994  
 Replaces: December 26, 1993

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2C**

Type of Coating : Phenolic Epoxy  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 346  
SAMS S/N : 09-612-312/313/314

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4:1 by volume, base:hardener

2.3 Thinner : Amercoat 9 HF

SAMS S/N : 09-738-380

2.4 Thinning Requirements : 10%

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 2 hours @ 25°C  
Less than 1 hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 55°C

3.2 Typical Wet Film Thickness Per Coat : 136 micrometers

3.3 Typical Dry Film Thickness Per Coat : 100 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 29.3 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 3

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2C (Self Priming) - Amercoat 346 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>Dry to Handle and Walk-on</b>	<b>Ovecoat Interval Minimum</b>	<b>Maximum</b>	<b>To Immersion (Minimum)</b>
10°C		NR	NR	NR
15°C		1 Day	12 Days	1 Month
20°C		16 Hours	7 Days	12 Days
25°C		12 Hours	6 Days	8 Days
30°C		8 Hours	3 Days	4 Days
35°C		6 Hours	1.5 Days	1.5 Days
40°C		4 Hours	18 Hours	1 Day
45°C		3 Hours	9 Hours	1 Day
50°C		2-½ Hours	4 Hours	1 Day
55°C		1 Hour	2 Hours	1 Day
60°C		NR	NR	1 Day

NR - Not Recommended  
 (Please see graphs in the Attachment.)

3.7 Recommended Equipment

- Airless Spray : Tip size 0.017 to 0.023 inch  
Fluid Pressure 3,000 psi
- Conventional Spray : Tip Size  
Atomizing Pressure
- Brush & Roller : For small areas only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 70 to 76%
- 4.2 Product Weight (ASTM D1475) : 1.56 to 1.64 Kg/L
- 4.3 Viscosity (ASTM D562) : > 140 KU
- 4.4 Flash Point (ASTM D93 or D56) : 22°C

Approval Date: January 6, 1998  
 Replaces: August 16, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-3**

Type of Coating : Coal Tar Epoxy: Polyamide-Cured  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 325  
SAMS S/N : 09-612-318/320

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4:1 by volume, base:hardener

2.3 Thinner : Amercoat 65

SAMS S/N : 09-738-180

2.4 Thinning Requirements (Airless Spray) : Up to 10%

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 4 hours @ 25°C  
Less than 1 hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 330 micrometers

3.3 Typical Dry Film Thickness Per Coat : 250 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 30 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-3 - Amercoat 325 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>Dry to Handle and Walk-on</b>	<b>Ovecoat Interval Minimum</b>	<b>Maximum</b>	<b>To Immersion (Minimum)</b>
10°C	4 Days	18 Hours	3 Days	14 Days
15°C		12 Hours	1.5 Days	7 Days
20°C		8 Hours	1 Day	3 Days
25°C		6 Hours	21 Hours	2.8 Days
30°C	1.5 Days	4 Hours	18 Hours	2.5 Days
35°C		3 Hours	16 Hours	2.1 Days
40°C		2 Hours	12 Hours	1.7 Days
45°C		1.8 Hours	8 Hours	1.5 Days
50°C	8 Hours	1.5 Hours	6 Hours	1.3 Days
55°C		1.3 Hours	4 Hours	1.1 Days
60°C		1 Hour	3 Hours	1 Day

(Please see graphs in the Attachment.)

3.7 Recommended Equipment

- Airless Spray : Tip size 0.018 to 0.027 inch  
Fluid Pressure 2,500 psi
- Conventional Spray : Tip Size  
Atomizing Pressure
- Brush & Roller : For small areas only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 73 to 79%
- 4.2 Product Weight (ASTM D1475) : 1.25 to 1.30 Kg/L
- 4.3 Viscosity (ASTM D562) : 100 to > 140 KU
- 4.4 Flash Point (ASTM D93 or D56) : 27°C

Approval Date: January 6, 1998  
 Replaces: August 16, 1994

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-4

Type of Coating : Zinc Chromate Primer  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 2214  
SAMS S/N : 09-708-133/137

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
  2. Mixing
    - 2.1 No. of Components : 1
    - 2.2 Mixing Ratio : N/A
    - 2.3 Thinner : Amercoat 15 (White Spirit)  
SAMS S/N : 09-738-340
    - 2.4 Thinning Requirements (Airless Spray) : Up to 10%
    - 2.5 Induction Time : N/A
    - 2.6 Pot Life (mixture) : N/A
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 100 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 55 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 22 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 2
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4 Primer - Amercoat 2214 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	1 Day	1 Day	None
30°C	16 Hours	16 Hours	None
50°C	8 Hours	8 Hours	None

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.013 to 0.015 inch Fluid Pressure 1,500 psi
Conventional Spray	:	765 Tip/Cap (Devilbiss) Atomizing Pressure
Brush & Roller	:	For small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	53 to 57%
4.2	Product Weight	(ASTM D1475)	:	1.33 to 1.40 Kg/L
4.3	Viscosity	(ASTM D562)	:	86 to 135 KU
4.4	Flash Point	(ASTM D93 or D56)	:	35°C

Approval Date: August 16, 1994  
Replaces: December 26, 1993



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4**

Type of Coating : Aluminum Topcoat  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 2213  
SAMS S/N : 09-686-354

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : Amercoat 15 (White Spirit)

SAMS S/N : 09-738-340

2.4 Thinning Requirements (Airless Spray) : Up to 10%

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 85 micrometers

3.3 Typical Dry Film Thickness Per Coat : 30 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 14 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4 Topcoat - Amercoat 2213 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	1 Day	12 Hours	None
30°C	16 Hours	4 Hours	None
50°C	6 Hours	2 Hours	None

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.013 to 0.015 inch Fluid Pressure 750 psi
Conventional Spray	:	Tip/Cap (Devilbiss) 765 Atomizing Pressure
Brush & Roller	:	For small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	35 to 40%
4.2	Product Weight	(ASTM D1475)	:	0.95 to 1.01 Kg/L
4.3	Viscosity	(ASTM D562)	:	67 to 75 KU
4.4	Flash Point	(ASTM D93 or D56)	:	27°C
4.5	Gloss	(ASTM D523)	:	70%

Approval Date: December 26, 1993  
Replaces: June 15, 1986

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-6**

Type of Coating : Zinc Chromate Primer  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 2214  
SAMS S/N : 09-708-130/137

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(See APCS-4 Primer's Data Sheet)

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-6

Type of Coating : Alkyd Topcoat  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 52 HS  
SAMS S/N : 09-630-753/758/763/768/769/770/771/773/785/794/796  
09-631-301/322/450/455/462/465/590/645

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
  2. Mixing
    - 2.1 No. of Components : 1
    - 2.2 Mixing Ratio : N/A
    - 2.3 Thinner : Amercoat 15 (White Spirit)  
SAMS S/N : 09-738-340
    - 2.4 Thinning Requirements (Airless Spray) : Up to 10%
    - 2.5 Induction Time : N/A
    - 2.6 Pot Life (mixture) : N/A
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 86 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 50 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 23.2 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 2
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-6 Topcoat - Amercoat 52 HS (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	2 Days	2 Days	N/A
30°C	12 Hours	18 Hours	N/A
50°C	3 Hours	12 Hours	N/A

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.011 to 0.015 inch Fluid Pressure 1,500 psi
Conventional Spray	:	Tip/Cap (Devilbiss) 765 Atomizing Pressure
Brush & Roller	:	For small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	54 to 60%
4.2	Product Weight	(ASTM D1475)	:	1.04 to 1.35 Kg/L
4.3	Viscosity	(ASTM D562)	:	67 to 100 KU
4.4	Flash Point	(ASTM D93 or D56)	:	35°C

Approval Date: August 16, 1994  
Replaces: December 26, 1993

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-11A

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Dimetcote 6  
SAMS S/N : 09-611-958

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#### 1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

#### 2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 1.97 Liquid: 1 Zinc Dust  
by weight

2.3 Thinner : Amercoat 65

SAMS S/N : 09-738-220

2.4 Thinning Requirements (Airless Spray) : Up to 10%

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 20 hours @ 25°C  
8 hours @ 40°C

#### 3. Application

3.1 Maximum Allowable Substrate Temperature : 70°C

3.2 Typical Wet Film Thickness Per Coat : 100 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Primer - Dimetcote 6 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Overcoat Interval	
		Minimum	Maximum
10°C	1 Hour	2 Days	None
30°C	20 Minutes	1 Day	None
50°C	< 5 Minutes	16 Hours	None

- Notes:** 1. Minimum relative humidity to ensure cure is 50%.  
2. Maximum overcoat interval (with Dimetcote 6) is one day.

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.021 inch Fluid Pressure 750 psi
Conventional Spray	:	Pressure pot with agitator. Cap/Tip (Devilbiss) 704E. Atomizing Pressure
Brush & Roller	:	For small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	63 to 69%
4.2	Product Weight	(ASTM D1475)	:	2.40 to 2.50 Kg/L
4.3	Viscosity	(ASTM D562)	:	78 to 92 KU
4.4	Flash Point	(ASTM D93 or D56)	:	13°C

Approval Date: August 16, 1994  
Replaces: December 26, 1993

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A**

Type of Coating : Heat Resistant Topcoat  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 878  
SAMS S/N : 09-687-325

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : Amercoat 65 (Xylene)

SAMS S/N : 09-740-416

2.4 Thinning Requirements (Airless Spray) : Up to 10%

2.5 Induction Time : N/A

2.6 Pot Life (mixture) : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 65 micrometers

3.3 Typical Dry Film Thickness Per Coat : 25 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 18.0 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Topcoat - Amercoat 878 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	4 Hours	2 Hours	None
30°C	2 Hours	1 Hour	None
50°C	1 Hour	½ Hour	None

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.011 to 0.017 inch Fluid Pressure 750 psi
Conventional Spray	:	78 or 765 Tip Cap (Devilbiss) Atomizing Pressure
Brush & Roller	:	For small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	43 to 47%	
4.2	Product Weight	(ASTM D1475)	:	1.14 to 1.18 Kg/L	
4.3	Viscosity	(ASTM D562)	:	65 to 75 KU	
4.4	Flash Point	(ASTM D93 or D56)	:	25°C	

Approval Date: November 14, 2001  
Replaces: December 26, 1993

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11B**

Type of Coating : Heat Resistant Silicone Aluminum  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 878  
SAMS S/N : 09-687-330

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : Amercoat 65 (Xylene)

SAMS S/N : 09-740-416

2.4 Thinning Requirements (Airless Spray) : Up to 10%

2.5 Induction Time : N/A

2.6 Pot Life (mixture) : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 65 micrometers

3.3 Typical Dry Film Thickness Per Coat : 25 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 18 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11B (Self Priming) - Amercoat 878 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	4 Hours	2 Hours	None
30°C	2 Hours	1 Hour	None
50°C	1 Hour	½ Hour	None

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.011 to 0.017 inch Fluid Pressure 750 psi
Conventional Spray	:	78 or 765 Tip Cap (Devilbiss) Atomizing Pressure
Brush & Roller	:	For small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	43 to 47%	
4.2	Product Weight	(ASTM D1475)	:	1.14 to 1.18 Kg/L	
4.3	Viscosity	(ASTM D562)	:	65 to 75 KU	
4.4	Flash Point	(ASTM D93 or D56)	:	25°C	

Approval Date: November 14, 2001  
Replaces: December 26, 1993

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-12**

Type of Coating : Epoxy Primer  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 71  
SAMS S/N : 09-612-362

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(Refer to APCS-1B Primer Data Sheet)

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-12**

Type of Coating : Epoxy Topcoat  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 383 HS  
SAMS S/N : 09-612-364/369/375

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(Refer to APCS-1B Top Coat Data Sheet. Also, refer to APCS-12 of Saudi Aramco Engineering Standard SAES-H-101 for Application of Aggregate)

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17A**

Type of Coating : Inorganic Zinc Primer - Solvent-Based  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Dimetcote 6  
SAMS S/N : 09-611-958

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(See APCS-11A Primer's Data Sheet)

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-19B**

Type of Coating : Splash Zone Compound: Spray-Applied  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Tideguard 171X  
SAMS S/N : 09-612-339

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4 Kg Powder to 1 Kg Liquid

2.3 Thinner : N/A

SAMS S/N : N/A

2.4 Thinning Requirements (Airless Spray) : N/A

2.5 Induction Time : None

2.6 Pot Life (mixture) : 2-½ hours @ 25°C  
1 hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 2,540 micrometers

3.3 Typical Dry Film Thickness Per Coat : 2,540 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 40 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-19B - Tideguard 171X (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		Water Immersion	Soil Burial (Backfill)
		Minimum	Maximum		
10°C	18 Hours	N/A	1.5 Days	N/A	18 Hours
30°C	9 Hours	N/A	12 Hours	N/A	9 Hours
50°C	6 Hours	N/A	4 Hours	N/A	2 Hours

3.7 Recommended Equipment

Carouse/Quick Spray	:	Tip size: 1-¼ inch Rubber Tip Fluid Pressure: Free flow with air mix
Conventional Spray	:	N/A
Brush & Roller	:	N/A

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	100%
4.2	Product Weight	(ASTM D1475)	:	1.84 to 1.90 Kg/L
4.3	Viscosity	(ASTM D562)	:	More than 140 KU
4.4	Flash Point	(ASTM D93 or D56)	:	80°C

5. Special Note

Mixed Tideguard 171X has a consistency like that of cement mixture.

Approval Date: August 16, 1994  
Replaces: December 26, 1993



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22**

Type of Coating : Damp Tolerant Epoxy Primer  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 3323 (fast drying grade) ||  
SAMS S/N : 09-612-352/459

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4:1 by volume ||

2.3 Thinner : Amercoat 65

SAMS S/N : 09-738-300

2.4 Thinning Requirements (Airless Spray) : Up to 10%

2.5 Induction Time : 15 minutes ||

2.6 Pot Life (mixture) : 4 hours @ 25°C  
1 hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 190 micrometers

3.3 Typical Dry Film Thickness Per Coat : 125 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 25.5 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22 Primer - Amercoat 3323 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Topcoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	4 Hours	6 Hours	20 Days
30°C	2 Hours	3 Hours	14 Days
50°C	1 Hours	2 Hours	7 Days

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.015 to 0.021 inch Fluid Pressure 3,000 psi
Conventional Spray	:	Pressure pot with agitator. Cap tip 704E (Devilbiss) Atomizing Pressure
Brush	:	For small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	62 to 68%
4.2	Product Weight	(ASTM D1475)	:	1.15 to 1.25 Kg/L
4.3	Viscosity	(ASTM D562)	:	(2K to 8K Brookfield LVT)
4.4	Flash Point	(ASTM D93 or D56)	:	27°C

Approval Date: November 14, 2001  
Replaces: August 16, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22**

Type of Coating : Damp Tolerant Epoxy Topcoat  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 385  
SAMS S/N : 09-612-357/358/359/462/465/467

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 1:1 by volume

2.3 Thinner : Amercoat 65

SAMS S/N : 09-738-300

2.4 Thinning Requirements (Airless Spray) : Up to 10%

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 3 hours @ 25°C  
1 hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 150 micrometers

3.3 Typical Dry Film Thickness Per Coat : 100 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22 Topcoat - Amercoat 385 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	1 Day	10 Hours	42 Days
30°C	10 Hours	6 Hours	14 Days
50°C	6 Hours	4 Hours	7 Days

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.015 to 0.021 inch Fluid Pressure 3,000 psi
Conventional Spray	:	Pressure pot with agitator. Cap tip 78 or 765 (Devilbiss) Atomizing Pressure
Brush	:	For small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	63 to 69%
4.2	Product Weight	(ASTM D1475)	:	1.32 to 1.48 Kg/L
4.3	Viscosity	(ASTM D562)	:	(8K to 15K mixed Brookfield LVT)
4.4	Flash Point	(ASTM D93 or D56)	:	48°C

Approval Date: August 16, 1994

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26**

Type of Coating : Epoxy Mastic  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amerlock 400 Aluminium  
SAMS S/N : 09-612-330

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 1:1 by volume

2.3 Thinner : Amercoat 9 HF

SAMS S/N : 09-738-420

2.4 Thinning Requirements (Airless Spray) : Up to 10%

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 2-½ hours @ 25°C  
1 hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 150 micrometers

3.3 Typical Dry Film Thickness Per Coat : 125 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 34 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26 - Amerlock 400 Aluminium (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	3 Days	1 Day	None
30°C	10 Hours	8 Hours	None
50°C	3 Hours	3 Hours	None

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.019 to 0.023 inch Fluid Pressure 2,000 psi
Conventional Spray	:	Pressure pot MBC or JGA gun (Devilbiss) Atomizing Pressure
Brush	:	For small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	82 to 87%
4.2	Product Weight	(ASTM D1475)	:	1.28 to 1.34 Kg/L
4.3	Viscosity	(ASTM D562)	:	More than 140 KU
4.4	Flash Point	(ASTM D93 or D56)	:	29°C

Approval Date: August 16, 1994  
Replaces: December 26, 1993

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26**

Type of Coating : Epoxy Mastic  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amerlock 400 Color  
SAMS S/N : 09-612-331/332/333/334/335/336/337

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 1:1 by volume

2.3 Thinner : Amercoat 9 HF

SAMS S/N : 09-738-420

2.4 Thinning Requirements (Airless Spray) : Up to 10%

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 1.5 hours @ 25°C  
½ hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 150 micrometers

3.3 Typical Dry Film Thickness Per Coat : 125 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 34 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26 - Amerlock 400 Color (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	3 Days	2 Days	None
30°C	5 Hours	4 Hours	None
50°C	2 Hours	2 Hours	None

3.7 Recommended Equipment

Airless Spray	:	Tip size 0.019 to 0.023 inch Fluid Pressure 2,000 psi
Conventional Spray	:	Pressure pot MBC or JGA gun (Devilbiss) Atomizing Pressure
Brush	:	For small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	82 to 87%
4.2	Product Weight	(ASTM D1475)	:	1.30 to 1.50 Kg/L
4.3	Viscosity	(ASTM D562)	:	More than 140 KU
4.4	Flash Point	(ASTM D93 or D56)	:	55°C

Approval Date: August 16, 1994  
Replaces: December 26, 1993



**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-26T Topcoat**

Type of Coating : Polyurethane Topcoat  
Manufacturer : Oasis Ameron Ltd.  
Product Name : Amercoat 450 GL  
SAMS S/N : 09-612-365/366/367/368/371

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(Refer to APCS-26 data sheet for the primer and to polyurethane of APCS-1D/E/F data sheet for the topcoat.)

## 8 SIPCO-Approved Products

APCS1A	Catha-Coat 304 or 301S Catha-Coat 305 Devran 224	Inorganic Zinc Primer: Solvent-Based Inorganic Zinc Primer: Water-Based Epoxy Topcoat: Red/Gray/Yellow
	Sipzinc 130 Sipzinc 160 Sipoxy-Shield 240	Inorganic Zinc Primer: Solvent-Based Inorganic Zinc Primer: Water-Based Epoxy Topcoat: Red/Gray/Yellow
APCS-1B	Devran 201 Siprime 215	Epoxy Primer - do -
	Devran 224 Sipoxy-Shield 240	Epoxy Topcoat: Red/Gray/Yellow - - do - -
APCS-1C	Catha-Coat 320 Sipzinc 160	Zinc-Rich Epoxy Primer - - do - -
	Devran 224 Sipoxy-Shield 240	Epoxy Topcoat: Red/Gray/Yellow - - do - - -
APCS-1D	(Use APCS-1A as primer and intermediate coat. Siphthane 360 or Devthane 369	Polyurethane Topcoat: Yellow/White Gray/Green/Red
APCS-1E	(Use APCS-1B as primer and intermediate coat. Siphthane 360	Polyurethane Topcoat: Yellow/White Gray/Green/Red
APCS-1F	(Use APCS-1A as primer and intermediate coat. Siphthane 360	Polyurethane Topcoat: Yellow/White Gray/Green/Red
APCS-2A	Devchem 253	Epoxy: Cream/Blue
APCS-2C	Molupon 244	Epoxy: White/Pale Blue
APCS-2D	Devran 744	Primer: Yellow FS 595a 23594 Topcoat: White FS 595a 27780
APCS-3	Redox EP-T 3333	Coal Tar Epoxy: Dark Brown/Black
APCS-4	Redox AK 1106 Molux Aluminum Finish 1151	Zinc Chromate Primer: Green Aluminum Topcoat

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**Sipco-Approved Products (Cont'd)**

APCS-6	Redox AK 1106 Redox AK 1301	Zinc Chromate Primer: Green High Gloss Enamel Topcoat: Various Colors	
APCS-9	Moluchlor MIO Primer 1508 Moluchlor Finish 1552	Chlorinated Rubber Primer: Red Lead Chlorinated Rubber Topcoat: Gray/Green Brown/Blue	
APCS-10	Molux Bituminous HB 1154	Bituminous: Black	
APCS-11A	Catha-Coat 304 Catha-Coat 301S Catha-Coat 305 HT-10	Inorganic Zinc Primer: Solvent-Based Inorganic Zinc Primer: Solvent-Based Inorganic Zinc Primer: Water-Based Heat Resistant Topcoat	
APCS-11B	HT-12	Self-Priming Heat Resistant Coating	
APCS-12	Devran 201 or Siprime 215 Devran 224 or Sipoxy-Shield 240	Epoxy Primer Epoxy Topcoat: Red/Gray/Yellow	
APCS-17A	Catha-Coat 304, 301S or Sipzinc 130	Inorganic Zinc Primer: Solvent-Based	
APCS-17B	Catha-Coat 305 or Sipzinc 160	Inorganic Zinc Primer: Water-Based	
APCS-19A Green	Redox EP 5536	Splash Zone Compound: Hand-Applied,	
APCS-22	Bar-Rust 235 or Sipoxy Shield 275	Epoxy- Gray/Yellow/Black	
APCS-23	Molux Bituminous HB 1154	Bitumiuous: Black	
APCS-26	Bar-Rust 236 or Sipoxy 285	Epoxy Mastic: Aluminum/White/Orange/ Red/Yellow/Gray/Black	
APCS-26T	(Use APCS-26 as primer and Devthane 369 or Siphane 360 in APCS-1D as topcoat.)		

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A**

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Catha-Coat 304  
SAMS S/N : 09-611-958

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 3.69 kg Liquid:  
9.27 kg Zinc Dust

2.3 Thinner : T-11

SAMS S/N : 09-738-220

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 8 hours @ 25°C  
3 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 105 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 25 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Primer - Catha-Coat 304 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum *
10°C	1 Hour	16 Hours	None
30°C	35 Minutes	16 Hours	None
50°C	35 Minutes	12 Hours	None

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure sweet water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.017 to 0.021 inch Fluid Pressure: 2,100 psi	
Conventional Spray	:	Tip Size: Atomizing Pressure: 80 psi (5.5 bars)	
Brush	:	Touch-up only	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	60 to 62%
4.2	Product Weight	(ASTM D1475)	:	2.55 to 2.65 Kg/L
4.3	Viscosity	(ASTM D562)	:	65 to 75 KU
4.4	Flash Point	(ASTM D93 or D56)	:	16°C

Approval Date: April 1, 2002  
 Replaces: July 19, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A**

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Catha-Coat 301S  
SAMS S/N : 09-611-958

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4.40 kg Liquid:  
7.60 kg Zinc Dust

2.3 Thinner : T-11

SAMS S/N : 09-738-220

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 6 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 105 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 25 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Primer - Catha-Coat 301S (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum *
10°C	1 Hour	16 Hours	None
30°C	35 Minutes	16 Hours	None
50°C	35 Minutes	12 Hours	None

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure sweet water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.017 to 0.021 inch Fluid Pressure: 2,100 psi	
Conventional Spray	:	Tip Size: Atomizing Pressure: 80 psi (5.5 bars)	
Brush	:	Touch-up only	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	60 to 62%
4.2	Product Weight	(ASTM D1475)	:	2.36 to 2.42 Kg/L
4.3	Viscosity	(ASTM D562)	:	80 to 90 KU
4.4	Flash Point	(ASTM D93 or D56)	:	16°C

Approval Date: April 1, 2002  
 Replaces: July 19, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A**

Type of Coating : Inorganic Zinc Primer: Water-Based  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Catha-Coat 305  
SAMS S/N : 09-611-969

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4.17 kg Binder:  
9.95 kg Zinc Dust

2.3 Thinner : Water not used (for cleaning only)

SAMS S/N : N/A

2.4 Thinning Requirements : None

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 1 day @ 25°C  
16 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 107 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 24.4M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Primer - Catha-Coat 305 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	4 Hours	1 Day	None
30°C	4 Hours	1 Day	None
50°C	3 Hours	16 Hours	None

||

3.7 Recommended Equipment

- Airless Spray : Only with specially designed airless spray equipment. Tip size 0.017 to 0.021 inch  
Fluid Pressure: 2,100 psi
- Conventional Spray : Tip Size:  
Atomizing Pressure: 15 to 22 psi (1 to 1.5 bars)
- Brush : Touch-up only

||

||

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 50 to 61%
- 4.2 Product Weight (ASTM D1475) : 2.85 to 2.95 Kg/L
- 4.3 Viscosity (ASTM D562) : 75 to 85 KU
- 4.4 Flash Point (ASTM D93 or D56) : None

Approval Date: April 1, 2002  
 Replaces: July 19, 1994

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**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-1A/B/C TOPCOAT**

Type of Coating : Polyamide Epoxy Topcoat  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Sipoxy-Shield 240  
SAMS S/N : 09-612-364/369/375

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 3:1; Hardener:Base by volume

2.3 Thinner : Thinner 740

SAMS S/N : 09-738-260

2.4 Thinning Requirements : 10% maximum

2.5 Induction Time : 15 min. @ 25°C

2.6 Pot Life : 4 hours @ 25°C  
1.5 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 111 to 167 micrometers

3.3 Typical Dry Film Thickness Per Coat : 100 to 150 micrometers

3.4 Theoretical Coverage @ 25 Micrometers : 36 M<sup>2</sup>/L

3.5 Minimum Number of Coats (Spray Application) : Two

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### Manufacturer-Approved Saudi Aramco Data Sheet

#### APCS-1A/B/C Topcoat Sipoxy-Shield 240

#### 3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion	
		Minimum	Maximum	Water	Buried
10 °C	12 Hours	8 Hours	21 Days		
30 °C	2 Hours	4 Hours	14 Days		
50 °C	1.5 Hours	3 Hours	7 Days		

Maximum recoating time is indefinite if the surface is washed down with 1:1 (Sipclean 615: Water) followed with a thorough rinse with water. ||

#### 3.7 Recommended Equipment

Airless Spray:	Tip Size: 0.019 to 0.023 inch Fluid Pressure: 2,100 psi
Conventional Spray:	Tip Needle: 0.070 to 0.086 inch Atomizing Pressure: 15 to 22 psi
Brush:	For touch up only.

#### 4. Technical Properties

4.1	Volume Solids (ASTM D2697)	:	88 to 92%
4.2	Product Weight (ASTM D1475)	:	1.55 to 1.60 Kg/L
4.3	Viscosity (ASTM D562)	:	110 to 130 KU
4.4	Flash Point (ASTM D93 or D56)	:	27°C

**Note:** This product is also an intermediate coat for APCS-1D, 1E, and 1F. Refer to SAES-H-101 for dry film thickness requirement when used for APCS-1D, 1E, and 1F.

Approval Date: April 1, 2002  
Replaces: February 4, 1999

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**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-1A/11A PRIMER**

Type of Coating : Inorganic Zinc Primer; Solvent-Based  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Sipzinc 130  
SAMS S/N : 09-611-958

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4.44:7.6; Binder:Zinc Powder by weight

2.3 Thinner : Thinner 770

SAMS S/N : 09-738-220

2.4 Thinning Requirements : 5% maximum

2.5 Induction Time : Nil

2.6 Pot Life : 6 hrs. @ 25°C  
2 hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 96 to 147 microns

3.3 Typical Dry Film Thickness Per Coat : 65 to 100 microns

3.4 Theoretical Coverage @ 25 Micrometers : 27.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats (Spray Application) : One

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**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-1A/11A Primer  
Sipzinc 130**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion	
		Minimum	Maximum	Water	Buried
10°C	1 Hour	16 Hours	None		
30°C	35 Minutes	16 Hours	None		
50°C	35 Minutes	12 Hours	None		

3.7 Recommended Equipment

Airless Spray:	Tip Size: 0.017 to 0.021 inch Fluid Pressure: 2,100 psi	
Conventional Spray:	Tip Needle: Atomizing Pressure: 80 psi (5.5 bars)	
Brush:	For touch up only.	

4. Technical Properties

4.1	Volume Solids (ASTM D2697)	:	66 to 70%
4.2	Product Weight (ASTM D1475)	:	2.36 to 2.42 Kg/L
4.3	Viscosity (ASTM D562)	:	80 to 90 KU
4.4	Flash Point (ASTM D93 or D56)	:	16°C

Approval Date: April 1, 2002  
Replaces: February 4, 1999

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**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-1B/1E PRIMER**

Type of Coating : Polyamide Epoxy Primer  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Siprime 215  
SAMS S/N : 09-612-362

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 9:1; Hardener:Base by volume

2.3 Thinner : Thinner 740

SAMS S/N : 09-738-280

2.4 Thinning Requirements : 10% maximum ||

2.5 Induction Time : 15 min. @ 25°C

2.6 Pot Life : 12 hrs. @ 25°C  
6 hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 81 to 161 microns ||

3.3 Typical Dry Film Thickness Per Coat : 50 to 100 microns ||

3.4 Theoretical Coverage @ 25 Micrometers : 24 M<sup>2</sup>/L

3.5 Minimum Number of Coats (Spray Application) : One

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**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-1B/1E Primer  
Siprime 215**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion	
		Minimum	Maximum	Water	Buried
10°C	1.5 Hours	3 Hours			
30°C	45 Minutes	1 Hour			
50°C	45 Minutes	1 Hour			

3.7 Recommended Equipment

Airless Spray:	Tip Size: 0.017 to 0.023 inch Fluid Pressure: 2,100 psi	
Conventional Spray:	Tip Needle: 0.070 to 0.086 inch Atomizing Pressure: 15 to 22 psi	
Brush:	For touch up only.	

4. Technical Properties

4.1	Volume Solids (ASTM D2697)	:	60 to 64%
4.2	Product Weight (ASTM D1475)	:	1.4 to 1.45 Kg/L
4.3	Viscosity (ASTM D562)	:	75 to 85 KU
4.4	Flash Point (ASTM D93 or D56)	:	27°C

Approval Date: April 1, 2002  
Replaces: February 4, 1999

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**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-1C/1F PRIMER**

Type of Coating : Organic Zinc Rich Epoxy Primer  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Sipzinc 160  
SAMS S/N : 09-612-580/590

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4:1; Hardener:Base by volume

2.3 Thinner : Thinner 770

SAMS S/N : 09-738-240

2.4 Thinning Requirements : 10% maximum

2.5 Induction Time : 25 min. @ 10°C  
None @ 20°C or above.

2.6 Pot Life : 8 hours @ 25°C  
4 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 67 to 125 microns

3.3 Typical Dry Film Thickness Per Coat : 40 to 75 microns

3.4 Theoretical Coverage @ 25 Micrometers : 24 M<sup>2</sup>/L

3.5 Minimum Number of Coats (Spray Application) : One



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**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-1C/1F Primer  
Sipzinc 160**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion	
		Minimum	Maximum	Water	Buried
10°C	10 Hours	4 Hours	None		
30°C	4 Hours	2 Hours	None		
50°C	2 Hours	1 Hour	None		

3.7 Recommended Equipment

Airless Spray:	Tip Size: 0.021 to 0.025 inch Fluid Pressure: 2,050 to 2,350 psi
Conventional Spray:	Tip Needle: 1.5 to 2 mm. Atomizing Pressure: 44 to 59 psi
Brush:	For touch up only.

4. Technical Properties

4.1	Volume Solids (ASTM D2697)	:	58 to 62%
4.2	Product Weight (ASTM D1475)	:	2.1 to 2.15 Kg/L
4.3	Viscosity (ASTM D562)	:	100 to 120 KU
4.4	Flash Point (ASTM D93 or D56)	:	27°C

Approval Date: April 1, 2002  
Replaces: February 4, 1999

**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F INTERMEDIATE COAT**

Type of Coating : Polyamide Epoxy  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Sipoxy-Shield 240  
SAMS S/N : 09-612-364/369/375

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(Refer to APCS-1A/B/C Topcoat data sheet for general requirements. Also, refer to APCS-1D/E/F of SAES-H-101 for dry film thickness requirement.)

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**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F TOPCOAT**

Type of Coating : Polyurethane Topcoat  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Siphane 360  
SAMS S/N : 09-612-365/366/367/368/371

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 6:1; Hardener:Base by volume

2.3 Thinner : Thinner 760

SAMS S/N : 09-738-345

2.4 Thinning Requirements : 5% maximum

2.5 Induction Time : 15 min. @ 25°C

2.6 Pot Life : 8 hours @ 25°C  
2.5 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : micrometers

3.3 Typical Dry Film Thickness Per Coat : micrometers

3.4 Theoretical Coverage @ 25 Micrometers : 22.4 M<sup>2</sup>/L

3.5 Minimum Number of Coats (Spray Application) : One

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**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F Topcoat  
Siphane 360**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion	
		Minimum	Maximum	Water	Buried
10°C	12 Hours	10 Hours	42 Days		
30°C	6 Hours	4 Hours	28 Days		
50°C	4 Hours	3 Hours	14 Days		

3.7 Recommended Equipment

Airless Spray:	Tip Size: 0.015 to 0.019 inch Fluid Pressure: 2,100 psi
Conventional Spray:	Not recommended
Brush:	For small areas and stripe coats only.

4. Technical Properties

4.1	Volume Solids (ASTM D2697)	:	54 to 58%
4.2	Product Weight (ASTM D1475)	:	1.1 to 1.35 Kg/L
4.3	Viscosity (ASTM D562)	:	65 to 75 KU
4.4	Flash Point (ASTM D93 or D56)	:	27°C

Approval Date: February 4, 1999  
Replaces: New

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A/B/C Topcoat**

Type of Coating : Polyamide High Build Epoxy Coating  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Devran 224  
SAMS S/N : 09-612-364/369/375

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 1:1 Base:Hardener by volume

2.3 Thinner : T-10

SAMS S/N : 09-738-260

2.4 Thinning Requirements : Up to 10%

2.5 Induction Time : 15 minutes @ 25°C ||

2.6 Pot Life (mixture) : 8 hours @ 25°C  
4 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 167 to 250 micrometers ||

3.3 Typical Dry Film Thickness Per Coat : 100 to 150 micrometers ||

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 24 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A/B/C Topcoat - Devran 224 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum *
10°C	12 Hours	8 Hours	3 Weeks
30°C	2 Hours	4 Hours	2 Weeks
50°C	1.5 Hours	3 Hours	1 Week

\* Maximum recoating time is unlimited with all temperatures as long as the surface is washed down with a 1 to 1 solution of SIPCO's water based cleaner Sipclean 615 followed by a thorough water rinse.

3.7 Recommended Equipment

- Airless Spray : Tip size: 0.017 to 0.023 inch  
Fluid Pressure: 2,100 psi
- Conventional Spray : Tip Size: 0.070 to 0.086 inch  
Atomizing Pressure: 22 psi
- Brush : Touch-up for small areas only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 58 to 62%
- 4.2 Product Weight (ASTM D1475) : 1.35 to 1.40 Kg/L
- 4.3 Viscosity (ASTM D562) : 90 to 115 KU
- 4.4 Flash Point (ASTM D93 or D56) : 27°C

Approval Date: April 1, 2002  
 Replaces: July 19, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1B Primer**

Type of Coating : Polyamide Epoxy Primer  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Devran 201  
SAMS S/N : 09-612-362

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 9:1; Base:Hardener by volume

2.3 Thinner : T-10

SAMS S/N : 09-738-280

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : 15 minutes @ 25°C

2.6 Pot Life (mixture) : 12 hours @ 25°C  
6 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 150 micrometers ||

3.3 Typical Dry Film Thickness Per Coat : 75 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 20 M<sup>2</sup>/L ||

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1B Primer - Devran 201 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	1.5 Hours	3 Hours	None
30°C	45 Minutes	1 Hour	None
50°C	45 Minutes	1 Hour	None

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.017 to 0.023 inch Fluid Pressure: 2,100 psi	
Conventional Spray	:	Tip Size: 0.070 to 0.086 inch Atomizing Pressure: 15 to 22 psi	
Brush	:	Touch-up for small areas only	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	48 to 52%	
4.2	Product Weight	(ASTM D1475)	:	1.30 to 1.35 Kg/L	
4.3	Viscosity	(ASTM D562)	:	75 to 85 KU	
4.4	Flash Point	(ASTM D93 or D56)	:	27°C	

Approval Date: April 1, 2002  
Replaces: July 19, 1994



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1C**

Type of Coating : Zinc Rich Epoxy Primer  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Catha-Coat 320  
SAMS S/N : 09-612-580/590

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4 Base: 1 Hardener by volume

2.3 Thinner : T-10

SAMS S/N : 09-738-240

2.4 Thinning Requirements : Up to 10%

2.5 Induction Time : 20 minutes @ 10°C  
None @ above 20°C

2.6 Pot Life (mixture) : 8 hours @ 25°C  
4 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 71 micrometers

3.3 Typical Dry Film Thickness Per Coat : 40 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 22 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1C Catha-Coat 320 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	10 Hours	4 Hours	None
30°C	4 Hours	2 Hours	None
50°C	2 Hours	1 Hour	None

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.019 to 0.025 inch Fluid Pressure: 2,050 to 2,350 psi	
Conventional Spray	:	Orifice 1.5 to 2 mm Atomizing Pressure: 44 to 59 psi	
Brush	:	For touch-up only	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	54 to 58%
4.2	Product Weight	(ASTM D1475)	:	2.10 to 2.15 Kg/L
4.3	Viscosity	(ASTM D562)	:	100 to 120 KU
4.4	Flash Point	(ASTM D93 or D56)	:	27°C

Approval Date: April 1, 2002  
Replaces: July 19, 1994

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F Intermediate Coat**

Type of Coating : Epoxy  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Devran 224 or Sipoxy-Shield 240  
SAMS S/N : 09-612-364/369/375

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(Refer to data sheet in APCS-1A/B/C topcoat and film thickness requirements in SAES-H-101.)

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F Topcoat**

Type of Coating : Polyurethane Enamel Topcoat  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Devthane 369  
SAMS S/N : 09-612-365/366/367/368/371

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4 parts base:  
1 part hardener by volume

2.3 Thinner : T-9

SAMS S/N : 09-738-345

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : 15 Minutes @ 25°C

2.6 Pot Life (mixture) : 8 hours @ 25°C  
2-½ hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 46 to 111 micrometers

3.3 Typical Dry Film Thickness Per Coat : 25 to 60 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 21.6 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F Topcoat - Devthane 369 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum *
10°C	12 Hours	10 Hours	6 Weeks
30°C	6 Hours	4 Hours	4 Weeks
50°C	4 Hours	3 Hours	2 Weeks

\* Maximum recoating time is unlimited with all temperatures below 60°C, if the surface is washed with 1 to 1 solution of SIPCO's water-based cleaner DEVPREP 88 or Sipclean 615 followed by a thorough rinse with sweet water.

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.015 to 0.019 inch Fluid Pressure: 2,100 psi
Conventional Spray	:	Not recommended
Brush	:	For touch-up and small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	52 to 56%
4.2	Product Weight	(ASTM D1475)	:	1.10 to 1.35 Kg/L
4.3	Viscosity	(ASTM D562)	:	65 to 75 KU
4.4	Flash Point	(ASTM D93 or D56)	:	27°C

Approval Date: April 1, 2002  
Replaces: July 19, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F Topcoat**

Type of Coating : Polyurethane Enamel Topcoat  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Siphane 360  
SAMS S/N : 09-612-365/366/367/368/371

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4 parts base:  
1 part hardener by volume

2.3 Thinner : T-760

SAMS S/N : 09-738-345

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : 15 minutes @ 25°C

2.6 Pot Life (mixture) : 8 hours @ 25°C  
2-½ hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 45 to 116 micrometers

3.3 Typical Dry Film Thickness Per Coat : 25 to 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 22.4 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F Topcoat – Siphane 360 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum *
10°C	12 Hours	10 Hours	6 Weeks
30°C	6 Hours	4 Hours	4 Weeks
50°C	4 Hours	3 Hours	2 Weeks

\* Maximum recoating time is unlimited with all temperatures below 60°C, if the surface is washed with 1 to 1 solution of SIPCO's water-based cleaner DEVPREP 88 or Sipclean 615 followed by a thorough rinse with sweet water.

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.015 to 0.019 inch Fluid Pressure: 2,100 psi
Conventional Spray	:	Not recommended
Brush	:	For touch-up and small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	54 to 58%
4.2	Product Weight	(ASTM D1475)	:	1.10 to 1.35 Kg/L
4.3	Viscosity	(ASTM D562)	:	65 to 75 KU
4.4	Flash Point	(ASTM D93 or D56)	:	27°C

Approval Date: April 1, 2002  
Replaces: New

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2A**

Type of Coating : Phenolic Epoxy  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Devchem 253  
SAMS S/N : 09-612-425/453

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 4 parts base: 1 part hardener by volume
    - 2.3 Thinner : T-10  
SAMS S/N : 09-738-140
    - 2.4 Thinning Requirements : Up to 10% ||
    - 2.5 Induction Time : 15 minutes @ 25°C
    - 2.6 Pot Life (mixture) : 4 hours @ 25°C  
1-½ hours @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 139 to 208 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 100 to 150 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 28.8 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 3
-



**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2A Devchem 253 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum*	
5°C	10 Hours	2.2 Days	60 Days	21 Days
10°C		1.9 Days	45 Days	16 Days
15°C		1.7 Days	40 Days	10 Days
20°C		13 Hours	25 Days	8.5 Days
25°C		10 Hours	18 Days	7 Days
30°C	6 Hours	8 Hours	13 Days	5 Days
35°C		6 Hours	10 Days	4.5 Days
40°C		4 Hours	7 Days	4 Days
45°C		4 Hours	4 Days	3.5 Days
50°C	2 Hours	3.5 Hours	3 Days	2.5 Days
55°C		3 Hours	1.5 Days	2 Days
60°C		2 Hours	10 Hours	1 Day

\* If mixed paint and substrate temperatures are both over 32°C (90°F), the maximum recoat interval should be 8 to 10 hours.

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.019 to 0.023 inch Fluid Pressure: 2,100 psi
Conventional Spray	:	Not recommended
Brush	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	68 to 72%
4.2	Product Weight	(ASTM D1475)	:	1.35 to 1.40 Kg/L
4.3	Viscosity	(ASTM D562)	:	85 to 95 KU
4.4	Flash Point	(ASTM D93 or D56)	:	38°C

Approval Date: April 1, 2002  
 Replaces: February 23, 1999

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-2C

Type of Coating : Epoxy: Primer/Top Coat  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Molupon 244 Tank Coating - 1244  
SAMS S/N : 09-612-312/313/314

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#### 1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

#### 2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4:1 by volume  
base:hardener

2.3 Thinner : 909

SAMS S/N : 09-738-380

2.4 Thinning Requirements : Up to 10%

2.5 Induction Time : 1 hour @ 25°C

2.6 Pot Life (mixture) : 4 hours @ 25°C  
1-½ hours @ 40°C

#### 3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 110 to 165 micrometers

3.3 Typical Dry Film Thickness Per Coat : 100 to 150 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 36.4 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 3

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2C - Molupon 244 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum	
5°C	10 Hours	2.2 Days	60 Days	21 Days
10°C		1.6 Days	45 Days	16 Days
15°C		1.3 Days	40 Days	10 Days
20°C		1.1 Days	25 Days	8.5 Days
25°C		20 Hours	18 Days	7 Days
30°C	6 Hours	15 Hours	13 Days	5 Days
35°C		12 Hours	10 Days	4.5 Days
40°C		8 Hours	7 Days	4 Days
45°C		6 Hours	5 Days	3.5 Days
50°C	2 Hours	3 Hours	5 Days	2.5 Days
55°C		2 Hours	4 Days	2 Days
60°C		2 Hours	3 Days	1 Day

3.7 Recommended Equipment

- Airless Spray : Tip size: 0.019 to 0.023 inch  
Fluid Pressure: 2,100 psi
- Conventional Spray : Not recommended.
- Brush : For touch-up and stripe coat only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 89 to 91%
- 4.2 Product Weight (ASTM D1475) : 1.45 to 1.50 Kg/L
- 4.3 Viscosity (ASTM D562) : 110 to 125 KU
- 4.4 Flash Point (ASTM D93 or D56) : 38°C

Approval Date: February 23, 1999  
 Replaces: July 19, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2D**

Type of Coating : Epoxy Primer/Topcoat  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Devran 744  
SAMS S/N : 09-612-316/317

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 4:1 by volume  
base:hardener
    - 2.3 Thinner : Thinner #4  
SAMS S/N : 09-738-290
    - 2.4 Thinning Requirements : Up to 5%
    - 2.5 Induction Time : 1 hour @ 10 to 23°C  
¾ hour @ 24 to 31°C  
½ hour @ 32°C or more
    - 2.6 Pot Life (mixture) : 4 hours @ 25°C  
1 hour @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 60°C
    - 3.2 Typical Wet Film Thickness Per Coat : 125 to 158 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 100 to 125 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 31.6 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 2
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2D Primer/Topcoat - Devran744 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum	
5°C	10 Hours	2.2 Days	60 Days	21 Days
10°C		1.6 Days	45 Days	16 Days
15°C		1.3 Days	40 Days	10 Days
20°C		1.1 Days	25 Days	8.5 Days
25°C		20 Hours	18 Days	7 Days
30°C	6 Hours	15 Hours	13 Days	5 Days
35°C		12 Hours	10 Days	4.5 Days
40°C		8 Hours	7 Days	4 Days
45°C		6 Hours	5 Days	3.5 Days
50°C	2 Hours	3 Hours	5 Days	2.5 Days
55°C		2 Hours	4 Days	2 Days
60°C		2 Hours	3 Days	1 Day

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.019 to 0.023 inch Fluid Pressure: 2,100 psi
Conventional Spray	:	Not recommended
Brush	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	77 to 80%
4.2	Product Weight	(ASTM D1475)	:	1.37 to 1.40 Kg/L
4.3	Viscosity	(ASTM D562)	:	80 to 90 KU
4.4	Flash Point	(ASTM D93 or D56)	:	38°C

Approval Date: February 23, 1999  
 Replaces: May 6, 1995

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-3**

Type of Coating : Coal Tar Epoxy  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Redox EP-T 3333  
SAMS S/N : 09-612-318/320

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2  
2.2 Mixing Ratio : 88:12 Base: hardener by volume  
2.3 Thinner : Redox 0252  
SAMS S/N : 09-738-180  
2.4 Thinning Requirements : Up to 10%  
2.5 Induction Time : 15 minutes @ 25°C  
2.6 Pot Life (mixture) : 4 hours @ 25°C  
3 hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C  
3.2 Typical Wet Film Thickness Per Coat : 294 to 441 micrometers  
3.3 Typical Dry Film Thickness Per Coat : 200 to 300 micrometers  
3.4 Theoretical Coverage @ 25 Micrometers : 27.2 M<sup>2</sup>/L  
Dry Film Thickness  
3.5 Minimum Number of Coats : 2

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-3 - Redox EPT 3333 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum	
5°C	10 Hours	7 Days	40 Days	10 Days
10°C		3 Days	35 Days	10 Days
15°C		2 Days	30 Days	7 Days
20°C		1.5 Days	20 Days	7 Days
25°C	6 Hours	1 Day	10 Days	6 Days
30°C		1 Day	10 Days	6 Days
35°C		18 Hours	7 Days	6 Days
40°C		8 Hours	3 Days	5 Days
45°C	2 Hours	6 Hours	1 Day	4 Days
50°C		3 Hours	1 Day	3 Days
55°C		2 Hours	18 Hours	3 Days
60°C		2 Hours	12 Hours	1 Day

3.7 Recommended Equipment

- Airless Spray : Tip size: 0.017 to 0.023 inch  
Fluid Pressure: 2,100 psi
- Conventional Spray : Not recommended
- Brush : Touch-up for small areas only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 66 to 70%
- 4.2 Product Weight (ASTM D1475) : 1.40 to 1.45 Kg/L
- 4.3 Viscosity (ASTM D562) : 120 to 130 KU
- 4.4 Flash Point (ASTM D93 or D56) : 21°C

Approval Date: April 1, 2002  
 Replaces: February 23, 1999

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4/6**

Type of Coating : Rust Inhibiting Alkyd Primer  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Redox AK 1106  
SAMS S/N : 09-708-133/137

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : T-902 (Redox 0104; Mineral Spirit) ||

SAMS S/N : 09-738-340

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : N/A

2.6 Pot Life (mixture) : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 100 micrometers ||

3.3 Typical Dry Film Thickness Per Coat : 50 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 20 M<sup>2</sup>/L ||

3.5 Minimum Number of Coats : 2



**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4/6 Primer - Redox AK 1106 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	16 Hours	12 Hours	90 Days
30°C	8 Hours	6 Hours	90 Days
50°C	6 Hours	6 Hours	90 Days

Drying time is based on a wet film thickness of 80 micrometers.

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.015 to 0.019 inch Fluid Pressure: 1,740 to 2,030 psi
Conventional Spray	:	Tip Size: Atomizing Pressure
Brush	:	Touch-up for small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	48 to 52%
4.2	Product Weight	(ASTM D1475)	:	1.30 to 1.37 Kg/L
4.3	Viscosity	(ASTM D562)	:	75 to 85 KU
4.4	Flash Point	(ASTM D93 or D56)	:	39°C

Approval Date: April 1, 2002  
Replaces: July 19, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4**

Type of Coating : Aluminum Topcoat  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Molux Aluminium Finish 1151  
SAMS S/N : 09-686-354

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : T-902 (Redox 0104; White Spirit) ||

SAMS S/N : 09-738-340

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : N/A

2.6 Pot Life (mixture) : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 58 micrometers ||

3.3 Typical Dry Film Thickness Per Coat : 25 micrometers

3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 17.2 M<sup>2</sup>/L ||

3.5 Minimum Number of Coats : 1 ||

**Manufacturer - Approved Saudi Aramco Data Sheet**  
**APCS-4 Topcoat - Molux Aluminium Finish 1151 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	1 Day	1 Day	None
30°C	16 Hours	16 Hours	None
50°C	16 Hours	16 Hours	None

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.011 to 0.015 inch Fluid Pressure: 2,030 to 2,320 psi
Conventional Spray	:	Tip Size: Atomizing Pressure
Brush	:	Touch-up for small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	41 to 45%	
4.2	Product Weight	(ASTM D1475)	:	0.95 to 1.0 Kg/L	
4.3	Viscosity	(ASTM D562)	:	50 to 60 KU	
4.4	Flash Point	(ASTM D93 or D56)	:	24°C	

Approval Date: April 1, 2002  
Replaces: July 19, 1994

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-6**

Type of Coating : Rust Inhibiting Alkyd Primer  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Redox AK 1106  
SAMS S/N : 09-708-133/137

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(See APCS-4 Primer Data Sheet)

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-6**

Type of Coating : High Gloss Enamel Topcoat  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Redox AK 1301  
SAMS S/N : 09-630-753/758/763/768/769/770/771/773/785/794/796  
09-631-301/322/450/455/462/465/590/645

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : T-902 (Redox 0104;Mineral Spirit) ||

SAMS S/N : 09-738-340

2.4 Thinning Requirements : Up to 5% ||

2.5 Induction Time : N/A

2.6 Pot Life (mixture) : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 50 to 58 micrometers

3.3 Typical Dry Film Thickness Per Coat : 25 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 17.2 to 20.0 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-6 Topcoat - Redox AK 1301 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	8 Hours	1 Day	None
30°C	8 Hours	18 Hours	None
50°C	6 Hours	16 Hours	None

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.013 to 0.017 inch Fluid Pressure: 1,740 to 2,030 psi	
Conventional Spray	:	Tip Size: Atomizing Pressure	
Brush	:	Touch-up for small areas only	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	43 to 50% depending on color
4.2	Product Weight	(ASTM D1475)	:	0.90 to 1.13 Kg/L
4.3	Viscosity	(ASTM D562)	:	75 to 85 KU
4.4	Flash Point	(ASTM D93 or D56)	:	33°C

Approval Date: April 1, 2002  
Replaces: July 19, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-9**

Type of Coating : Chlorinated Rubber Primer  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Moluchlor MIO Primer 1508  
SAMS S/N : 09-685-442

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : T-995 (Xylene) ||

SAMS S/N : 09-740-416

2.4 Thinning Requirements : Up to 10%

2.5 Induction Time : N/A

2.6 Pot Life (mixture) : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 119 micrometers

3.3 Typical Dry Film Thickness Per Coat : 50 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 16.0 to 16.8 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**  
**APCS-9 Primer - Moluchlor MIO Primer 1508 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	1 Day	1 Day	None
30°C	20 Hours	16 Hours	None
50°C	16 Hours	12 Hours	None

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.017 to 0.021 inch Fluid Pressure: 2,058 to 2,352 psi
Conventional Spray	:	Not recommended
Brush	:	For touch-only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	40 to 44%
4.2	Product Weight	(ASTM D1475)	:	1.40 to 1.44 Kg/L
4.3	Viscosity	(ASTM D562)	:	85 to 95 KU
4.4	Flash Point	(ASTM D93 or D56)	:	21°C

Approval Date: April 1, 2002  
Replaces: July 19, 1994



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-9**

Type of Coating : Chlorinated Rubber Topcoat  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Moluchlor Finish 1552  
SAMS S/N : 09-685-436/438/448/450

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : T-995 (Xylene) ||

SAMS S/N : 09-740-416

2.4 Thinning Requirements : Up to 10%

2.5 Induction Time : N/A

2.6 Pot Life (mixture) : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 100 micrometers ||

3.3 Typical Dry Film Thickness Per Coat : 25 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 10.04 M<sup>2</sup>/L ||

3.5 Minimum Number of Coats : 2

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-9 Topcoat - Moluchlor Finish 1552 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	12 Hours	16 Hours	None
30°C	6 Hours	10 Hours	None
50°C	4 Hours	8 Hours	None

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.015 to 0.021 inch Fluid Pressure: 2,100psi
Conventional Spray	:	Not recommended
Brush	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	24 to 26%
4.2	Product Weight	(ASTM D1475)	:	0.96 to 1.05 Kg/L
4.3	Viscosity	(ASTM D562)	:	75 to 85 KU
4.4	Flash Point	(ASTM D93 or D56)	:	21°C

Approval Date: April 1, 2002  
Replaces: July 19, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-10**

Type of Coating : Bituminous  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Molux Bituminous HB Coating 1154  
SAMS S/N : 09-611-715/720/725

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1. Storage
  - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
2. Mixing
  - 2.1 No. of Components : 1
  - 2.2 Mixing Ratio : N/A
  - 2.3 Thinner : T-902 (0104; Mineral Spirit) ||  
SAMS S/N : 09-737-020
  - 2.4 Thinning Requirements : Up to 10%
  - 2.5 Induction Time : N/A
  - 2.6 Pot Life (mixture) : N/A
3. Application
  - 3.1 Maximum Allowable Substrate Temperature : 60°C
  - 3.2 Typical Wet Film Thickness Per Coat : 476 micrometers
  - 3.3 Typical Dry Film Thickness Per Coat : 250 micrometers
  - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 21.0 M<sup>2</sup>/L
  - 3.5 Minimum Number of Coats : 3

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-10 - Molux Bituminuos HB 1154 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum	
10°C	2 Days	1-Day	None	5 Days
30°C	1 Day	18 Hours	None	5 Days
50°C	1 Day	18 Hours	None	5 Days

3.7 Recommended Equipment

Airless Spray : Tip size: 0.017 to 0.023 inch  
Fluid Pressure: 2,100 psi

Conventional Spray : Not recommended

Brush : Suitable

4. Technical Properties

4.1 Volume Solids (ASTM D2697) : 50 to 54%

4.2 Product Weight (ASTM D1475) : 1.20 to 1.22 Kg/L

4.3 Viscosity (ASTM D562) : 120 to 130 KU

4.4 Flash Point (ASTM D93 or D56) : 21°C

Approval Date: April 1, 2002  
Replaces: July 19, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A**

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Catha-Coat 301S  
SAMS S/N : 09-611-958

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4.40 kgs Liquid Binder  
7.6 kgs Zinc dust

2.3 Thinner : T-11

SAMS S/N : 09-738-220

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 6 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 105 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 25 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Primer - Catha-Coat 301S (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	1 Hour	16 Hours	None
30°C	35 Minutes	16 Hours	None
50°C	35 Minutes	12 Hours	None

Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure sweet water wash then allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.017 to 0.021 inch Fluid Pressure: 2,100psi	
Conventional Spray	:	Tip Size: Atomizing Pressure: 80 psi (5.5 bars)	
Brush	:	Touch-up for small areas only	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	60 to 62%
4.2	Product Weight	(ASTM D1475)	:	2.36 to 2.42 Kg/L
4.3	Viscosity	(ASTM D562)	:	80 to 90 KU
4.4	Flash Point	(ASTM D93 or D56)	:	16°C

Approval Date: April 1, 2002  
Replaces: July 19, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A**

Type of Coating : Heat Resistant Topcoat: (150-400°C)  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : HT-10  
SAMS S/N : 09-687-325

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : T-995 (Xylene) ||

SAMS S/N : 09-740-416

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : N/A

2.6 Pot Life (mixture) : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 109 micrometers ||

3.3 Typical Dry Film Thickness Per Coat : 25 micrometers

3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 9.2 M<sup>2</sup>/L ||

3.5 Minimum Number of Coats : 1

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Topcoat - HT-10 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	12 Hours	16 Hours	None
30°C	2 Hours	12 Hours	None
50°C	1.5 Hours	8 Hours	None

Does not require bake curing.

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.011 to 0.015 inch Fluid Pressure: 2,100 psi	
Conventional Spray	:	Tip Size: Atomizing Pressure	
Brush	:	Touch-up for small areas only	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	21 to 25%
4.2	Product Weight	(ASTM D1475)	:	0.97 to 1.00 Kg/L
4.3	Viscosity	(ASTM D562)	:	Less than 55 KU
4.4	Flash Point	(ASTM D93 or D56)	:	16°C

Approval Date: April 1, 2002  
Replaces: July 19, 1994



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11B**

Type of Coating : Heat Heat Silicone Coating: Self-Priming  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : HT-12  
SAMS S/N : 09-687-330

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : N/A

SAMS S/N : N/A

2.4 Thinning Requirements : Up to 5% ||

2.5 Induction Time : N/A

2.6 Pot Life (mixture) : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 59 micrometers ||

3.3 Typical Dry Film Thickness Per Coat : 20 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 13.6 M<sup>2</sup>/L ||

3.5 Minimum Number of Coats : 2

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11B Topcoat - HT-12 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	6 Hours	1 Day	None
30°C	2.5 Hours	1 Day	None
50°C	1.5 hours	16 Hours	None

Coating will remain soft and sensitive to damage if not baked. Bake cure @ 450°C for one hour or cure during operation @ a temperature above 400°F.

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.011 to 0.015 inch Fluid Pressure: 2,100psi	
Conventional Spray	:		
Brush	:	Touch-up for small areas only	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	30 to 34%
4.2	Product Weight	(ASTM D1475)	:	1.10 to 1.14 Kg/L
4.3	Viscosity	(ASTM D562)	:	50 to 60 KU
4.4	Flash Point	(ASTM D93 or D56)	:	25°C

Approval Date: April 1, 2002  
 Replaces: July 19, 1994

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-12 Primer**

Type of Coating : Epoxy Primer: Polyamide-Cured  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Devran 201 or Siprime 215  
SAMS S/N : 09-612-362

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(Refer to APCS-1B Primer Data Sheet)

**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-12 TOPCOAT**

Type of Coating : Polyamide Epoxy Topcoat  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Devran 224 or Sipoxy-Shield 240  
SAMS S/N : 09-612-364/369/375

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(Refer to APCS-1A thru 1C Topcoat data sheet. Also, refer to APCS-12 of Saudi Aramco Engineering Standard SAES-H-101 for application of aggregate).

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-17A

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Catha-Coat 304  
SAMS S/N : 09-611-958

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#### 1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

#### 2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 3.69 Kgs Liquid:  
9.27 Kgs Zinc dust

2.3 Thinner : T-11

SAMS S/N : 09-738-220

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 8 hours @ 25°C  
3 hours @ 40°C

#### 3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 105 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 25 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17A Primer - Catha-Coat 304 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum *
10°C	1 Hour	16 Hours	None
30°C	35 Minutes	16 Hours	None
50°C	35 Minutes	12 Hours	None

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure sweet water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.017 to 0.021 inch Fluid Pressure: 2,100psi	
Conventional Spray and Pressure Vessel	:	Atomizing Pressure 80 psi (5.5 bars)	
Brush	:	Touch-up only	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	60 to 62%
4.2	Product Weight	(ASTM D1475)	:	2.55 to 2.65 Kg/L
4.3	Viscosity	(ASTM D562)	:	65 to 75 KU
4.4	Flash Point	(ASTM D93 or D56)	:	16°C

Approval Date: April 1, 2002  
Replaces: July 19, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17A**

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Catha-Coat 301S  
SAMS S/N : 09-611-958

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4.40 Kgs Liquid:  
7.60 Kgs Zinc dust

2.3 Thinner : T-11

SAMS S/N : 09-738-220

2.4 Thinning Requirements : Up to 5%

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 6 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 105 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 25 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17A Primer - Catha-Coat 301S (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum *
10°C	1 Hour	16 Hours	None
30°C	35 Minutes	16 Hours	None
50°C	35 Minutes	12 Hours	None

Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure sweet water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray	:	Tip size: 0.017 to 0.021 inch Fluid Pressure: 2,100psi	
Conventional Spray	:	Tip Size Atomizing Pressure 80 psi (5.5 bars)	
Brush	:	Touch-up only	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	60 to 62%
4.2	Product Weight	(ASTM D1475)	:	2.36 to 2.42 Kg/L
4.3	Viscosity	(ASTM D562)	:	80 to 90 KU
4.4	Flash Point	(ASTM D93 or D56)	:	16°C

Approval Date: April 1, 2002  
 Replaces: July 19, 1994



**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-17A**

Type of Coating : Inorganic Zinc Primer; Solvent-Based  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Sipzinc 130  
SAMS S/N : 09-611-958

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(Refer to APCS-1A/11A data sheet. Dry film thickness shall conform with APCS-17A of SAES-H-101.)

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17B**

Type of Coating : Inorganic Zinc Primer: Water-Based  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Catha-Coat 305  
SAMS S/N : 09-611-969

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4.17 Kgs Liquid:  
9.95 Kgs Zinc dust

2.3 Thinner : Sweet Water (for cleaning only)

SAMS S/N : N/A

2.4 Thinning Requirements : N/A

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 1 day @ 25°C  
16 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 107 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 24.4 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17B Primer - Catha-Coat 305 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum *
10°C	4 Hours	1 Day	None
30°C	4 Hours	1 Day	None
50°C	3 Hours	16 Hours	None

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure sweet water hosing and allow to dry.

3.7 Recommended Equipment

Airless Spray : Tip size: 0.017 to 0.021 inch  
Fluid Pressure: 2,100 psi

Conventional Spray and Pressure Vessel : Tip Size:  
Atomizing Pressure 15 to 22 psi ||

Brush : Touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	: 59 to 61%
4.2	Product Weight	(ASTM D1475)	: 2.85 to 2.95 Kg/L
4.3	Viscosity	(ASTM D562)	: 75 to 85 KU
4.4	Flash Point	(ASTM D93 or D56)	: None

Approval Date: April 1, 2002  
Replaces: July 19, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-19A**

Type of Coating : Splash Zone Compound: Hand-Applied  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Redox EP 5536  
SAMS S/N : 09-612-345

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 1:1 by weight

2.3 Thinner : N/A

SAMS S/N : N/A

2.4 Thinning Requirements : None

2.5 Induction Time : N/A

2.6 Pot Life (mixture) : 2 hours @ 25°C  
½ hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 2,540 micrometers

3.3 Typical Dry Film Thickness Per Coat : 2,540 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 40 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-19A - Redox EP 5536 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum	
10°C	1 Day	N/A	N/A	Immediately
30°C	1 Day	N/A	N/A	Immediately
50°C	10 Hours	N/A	N/A	Immediately

3.7 Recommended Equipment

Airless Spray	:	Not recommended
Conventional Spray	:	Not recommended
Tower/Putty Knife	:	Recommended

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	100%
4.2	Product Weight	(ASTM D1475)	:	1.57 to 1.62 Kg/L
4.3	Viscosity	(ASTM D562)	:	Over 140 KU (Thixotropic)
4.3	Flash Point	(ASTM D93 or D56)	:	more than 95°C

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Approval Date: April 1, 2002  
Replaces: July 19, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22**

Type of Coating : Epoxy Coating for Damp Surfaces  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Bar-Rust 235  
SAMS S/N : 09-612-352/357/358/359/462/465/467

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4.1, base: hardener by volume

2.3 Thinner : 708 or T-10

SAMS S/N : 09-738-300

2.4 Thinning Requirements : Up to 10%

2.5 Induction Time : ¼ hour @ 25°C

2.6 Pot Life (mixture) : 5 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 220 micrometers

3.3 Typical Dry Film Thickness Per Coat : 150 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 27.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22 - Bar-Rust 235 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum *
10°C	26 Hours	10 Hours	2 Weeks
30°C	9 Hours	3.5 Hours	2 Weeks
50°C	6 Hours	2 Hours	2 Weeks

Maximum recoating time is unlimited with all temperatures as long as the substrate is washed with SIPCO's Devprep 88 (diluted to 50% with water) followed by sweet water rinse.

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.019 to 0.025 inch Fluid Pressure: 2,100 psi	
Conventional Spray and Pressure Vessel	:	Not recommended	
Brush	:	For small areas and stripe coat only	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	66 to 70%	
4.2	Product Weight	(ASTM D1475)	:	1.32 to 1.37 Kg/L	
4.3	Viscosity	(ASTM D562)	:	105 to 125 KU	
4.4	Flash Point	(ASTM D93 or D56)	:	38°C	

Approval Date: April 1, 2002  
 Replaces: July 19, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22**

Type of Coating : Epoxy Coating for Damp Surfaces  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Sipoxy-Shield 275  
SAMS S/N : 09-612-352/357/358/359/462/465/467

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 3:1, base: hardener by volume

2.3 Thinner : 740

SAMS S/N : 09-738-300

2.4 Thinning Requirements : Up to 10%

2.5 Induction Time : ¼ hour @ 25°C

2.6 Pot Life (mixture) : 5 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 167 micrometers

3.3 Typical Dry Film Thickness Per Coat : 150 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 36 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22 – Sipoxy-Shield 275 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum *
10°C	10 Hours	10 Hours	2 Months
30°C	2 Hours	3.5 Hours	35 Days
50°C	1 Hour	2 Hours	21 Days

Maximum recoating time is unlimited with all temperatures as long as the substrate is washed with SIPCO's Devprep 88 or Sipclean 615 (diluted to 50% with water) followed by sweet water rinse.

3.7 Recommended Equipment

- Airless Spray : Tip Size: 0.019 to 0.025 inch  
Fluid Pressure: 2,100 psi
- Conventional Spray and Pressure Vessel : Not recommended
- Brush : For small areas and stripe coat only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 88 to 92%
- 4.2 Product Weight (ASTM D1475) : 1.53 Kg/L
- 4.3 Viscosity (ASTM D562) : KU
- 4.4 Flash Point (ASTM D93 or D56) : 38°C

Approval Date: April 1, 2002  
 Replaces: New

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-23**

Type of Coating : Bituminous  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Molux Bituminous HB Coating 1154  
SAMS S/N : 09-611-754/757

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
  2. Mixing
    - 2.1 No. of Components : 1
    - 2.2 Mixing Ratio : N/A
    - 2.3 Thinner : T-902 (0104; Mineral Spirit)  
SAMS S/N : 09-738-020
    - 2.4 Thinning Requirements : Up to 10%
    - 2.5 Induction Time : N/A
    - 2.6 Pot Life (mixture) : N/A
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 60°C
    - 3.2 Typical Wet Film Thickness Per Coat : 476 micrometers ||
    - 3.3 Typical Dry Film Thickness Per Coat : 250 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 21.0 M<sup>2</sup>/L ||
    - 3.5 Minimum Number of Coats : 3
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-23 - Molux Bitum HB 1154 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum	
10°C	2 Days	1 Day	None	5 Days
30°C	1 Day	18 Hours	None	5 Days
50°C	1 Day	18 Hours	None	5 Days

3.7 Recommended Equipment

Airless Spray	:	Tip Size 0.017 to 0.023 inch Fluid Pressure: 2,100 psi
Conventional Spray	:	Not recommended
Tower/Putty Knife	:	For small areas only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	50.0 to 54.0%	
4.2	Product Weight	(ASTM D1475)	:	1.20 to 1.22 Kg/L	
4.3	Viscosity	(ASTM D562)	:	120 to 130 KU (Thixotropic)	
4.3	Flash Point	(ASTM D93 or D56)	:	21°C	

Approval Date: April 1, 2002  
Replaces: July 19, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26**

Type of Coating : Epoxy Mastic Coating (Primer/Topcoat)  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Bar-Rust 236  
SAMS S/N : 09-612-330/331/332/333/334/335/336/337

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 3:1; base:hardener by volume

2.3 Thinner : T-10

SAMS S/N : 09-738-420

2.4 Thinning Requirements : Up to 10%

2.5 Induction Time : 15 Minutes @ 25°C

2.6 Pot Life (mixture) : 4 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 152 to 244 micrometers

3.3 Typical Dry Film Thickness Per Coat : 125 to 200 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 36 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1 for mild service  
2 for severe service

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26 - Bar-Rust 236 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	12 Hours	10 Hours	2 Weeks
30°C	8 Hours	3 Hours	2 Weeks
50°C	6 Hours	3 Hours	2 Weeks

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.019 to 0.025 inch Fluid Pressure: 2,100 psi	
Conventional Spray	:	Not recommended	
Brush	:	For small areas and stripe only	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	80 to 84%	
4.2	Product Weight	(ASTM D1475)	:	1.50 to 1.55 Kg/L	
4.3	Viscosity	(ASTM D562)	:	130 to 140 KU KU	
4.4	Flash Point	(ASTM D93 or D56)	:	38°C	

Approval Date: April 1, 2002  
Replaces: July 19, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26**

Type of Coating : Epoxy Mastic Coating (Primer/Topcoat)  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Sipoxy-Shield 285  
SAMS S/N : 09-612-330/331/332/333/334/335/336/337

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 2 years

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 3:1; base:hardener by volume

2.3 Thinner : T-730

SAMS S/N : 09-738-420

2.4 Thinning Requirements : Up to 10%

2.5 Induction Time : 15 Minutes @ 25°C

2.6 Pot Life (mixture) : 4 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 60°C

3.2 Typical Wet Film Thickness Per Coat : 139 to 222 micrometers

3.3 Typical Dry Film Thickness Per Coat : 125 to 200 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 36 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1 for mild service  
2 for severe service

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26 – Sipoxy-Shield 285 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	18 Hours	12 Hours	2 Months
30°C	8 Hours	3 Hours	35 Days
50°C	6 Hours	2 Hours	21 Days

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.017 to 0.025 inch Fluid Pressure: 2,100 psi
Conventional Spray	:	Not recommended
Brush	:	For small areas and stripe only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	88 to 92%
4.2	Product Weight	(ASTM D1475)	:	1.57 Kg/L
4.3	Viscosity	(ASTM D562)	:	130 to 140 KU KU
4.4	Flash Point	(ASTM D93 or D56)	:	38°C

Approval Date: April 1, 2002  
Replaces: New

**Manufacturer-Approved Saudi Aramco Data Sheet**

**APCS-26T TOPCOAT**

Type of Coating : Polyurethane Topcoat  
Manufacturer : Saudi Industrial Paint Co.  
Product Name : Devthane 369 or Siphthane 360  
SAMS S/N : 09-612-365/366/367/368/371

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(Refer to APCS-26 data sheet for the primer and to polyurethane of APCS-1D/E/F data sheet for the topcoat.)



## **9 Shell Chemicals-Approved Products**

APCS-20A

Resin Epikote 816

Epikote Resin Laminate System

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-20A

Type of Coating	:	Fiberglass Reinforced Epoxy Hand-Applied
Manufacturer	:	Global Suhaimi Company
Product Name	:	Epikote Resin Laminate System (Resin Epikote 816 + Curing Agent Epikote 816) - Manufactured by Shell Chemicals
SAMS S/N	:	None

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#### 1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

#### 2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 2 : 1 Resin to Curing Agency by Weight

2.3 Thinner : N/A (clean up only)

SAMS S/N : None

2.4 Thinning Requirements : Nil

2.5 Induction Time : 10 Minutes

2.6 Pot Life (Epikote 816 + Epikure 160) : 45 minutes @ 25°C  
25 minutes @ 40°C

#### 3. Application

##### 3.1 For Corrosion Protection

3.1.1 Apply epoxy resin @ a thickness of 500 to 625 micrometers onto the primed surface.

3.1.2 Apply one layer of 450 g/m<sup>2</sup> fiberglass mat to the wet resin.

3.1.3 Smooth by hand to remove wrinkles, then roll with steel roller to remove trapped air and ensure a bond to the substrate.

3.1.4 Apply 500 micrometers of epoxy resin mat to ensure a resin rich finish.

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-20A - Epikote 816 (Cont'd)

- 3.2 For Strengthening
- 3.2.1 Apply epoxy resin @ a thickness of 500 to 625 micrometers onto the primed surface.
  - 3.2.2 Apply one layer of 450 g/m<sup>2</sup> fiberglass mat to wet resin.
  - 3.2.3 Smooth by hand to remove wrinkles and roll with steel rollers to remove trapped air and ensure a good bond with the resin.
  - 3.2.4 Apply second coat of resin @ a thickness of 625 to 750 micrometers.
  - 3.2.5 Apply one layer of 680 grams woven roving, and repeat smoothing and rolling.
  - 3.2.6 Apply third coat of resin @ a thickness of 750 to 875 micrometers.
  - 3.2.7 Apply one layer of 450 g/m<sup>2</sup> fiberglass mat, and repeat smoothing and rolling.
  - 3.2.8 Apply fourth coat of resin @ a thickness of 250 micrometers, and smooth out to give a resin rich finish.
- 3.3 Maximum Allowable Substrate Temperature : 40°C
- 3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		Full Cure
		Minimum	Maximum	
10°C	20 Hours	N/A	N/A	10 Days
30°C	5 Hours	N/A	N/A	7 Days
50°C	3 Hours	N/A	N/A	5 Days

Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure sweet water hosing and allow to dry.

- 3.7 Recommended Equipment
- Hand application only.

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-20A - Epikote 816 (Cont'd)**

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	100%
4.2	Product Weight	(ASTM D1475)	:	1.12 Kg/L
4.3	Viscosity	(ASTM D562)	:	106 KU
4.4	Flash Point	(ASTM D93 or D56)	:	100°C

Approval Date: October 24, 1992  
Replaces: New

## 10 Sigma-Approved Products

APCS-1A	Silguard MC 7551 Silguard SC 7550 Sigmacover CM 7456	Inorganic Zinc Primer: Solvent-Based Inorganic Zinc Primer: Water-Based Epoxy Topcoat	
APCS-1B	Sigmacover Primer 7413 Sigmacover CM 7456	Epoxy Primer Epoxy Topcoat	
APCS-1C	Sigmarite Zinc Primer 7401 Sigmacover CM 7456	Organic Zinc Rich Primer Epoxy Topcoat	
APCS-1D	(Use APCS-1A as primer and intermediate coat. Sigmadur Gloss 7528	Polyurethane Topcoat: Yellow/White Gray/Green/Red	
APCS-1E	(Use APCS-1B as primer and intermediate coat. Sigmadur Gloss 7528	Polyurethane Topcoat: Yellow/White Gray/Green/Red	
APCS-1F	(Use APCS-1C as primer and intermediate coat. Sigmadur Gloss 7528	Polyurethane Topcoat: Yellow/White Gray/Green/Red	
APCS-2A	Sigma Colturiet Phenguard Primer 7409 Sigma Colturiet Phenguard Finish 7436	Epoxy Primer: Off White Epoxy Topcoat: Gray	
APCS-2B	Sigma Colturiet Phenguard Primer 7409 Sigma Colturiet Phenguard Finish 7436	Epoxy Primer: Off-White Epoxy Topcoat: Gray	
APCS-2C	Sigma Phenguard Primer 7409 Sigma Phenguard Coating 7435 Sigma Phenguard Finish 7436	Epoxy Primer: Off White Epoxy Intermediate Coat: Pink Epoxy Topcoat: Gray	
APCS-3	Sigma C-200a Coal Tar	Coal Tar Epoxy: Black/Reddish Brown	
APCS-4	Sigma Zinc Chromate SA40 Sigma Aluminium Paint SA35	Primer: Red Brown Aluminum Topcoat	
APCS-6	Sigma Zinc Chromate SA40 Sigma Enamel SA21	Primer: Red Brown Alkyd Topcoat: Various Colors	
APCS-11A	Silguard MC 7551 Silguard SC 7550 Sigmatherm Siloxane 7563	Inorganic Zinc Primer: Solvent-Based Inorganic Zinc Primer: Water-Based High Temp. Silicone Coating: Aluminum Topcoat	

**Sigma-Approved Products (Cont'd)**

APCS-11B	Sigmatherm Siloxane 7563	High Temp. Silicone Coating; Aluminum, Self-Priming	
APCS-12	Sigmacover Primer 7413 Sigmacover CM 7456	Epoxy Primer Epoxy Topcoat: Red/Gray/Yellow	
APCS-17A	Sigma Silguard MC 7551	Inorganic Zinc Silicate: Solvent-Based	
APCS-17B	Sigma Silguard SC 7550	Inorganic Zinc Silicate: Water-Based	
APCS-19B	Sigmaguard Armour Compound 7491	Splash Zone Compound: Spray-Applied; Green	
APCS-22	Sigmacover Primer 7413 Sigmacover CM 7456	Epoxy Primer: Redbrown/Green Epoxy Topcoat: Gray/Yellow/Black	
APCS-26	Sigmacover STA	Epoxy Mastic: Aluminum, White, Orange, Red, Yellow, Gray, Black	
APCS-26T	Sigmacover STA Sigmacap Finish PU 7690	Epoxy Primer Polyurethane Topcoat	

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-1A

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigma Silguard MC 7551  
SAMS S/N : 09-611-958

---

1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 9 months
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 74:26 (base:hardener)  
by volume
    - 2.3 Thinner : Sigma 90-53  
SAMS S/N : 09-738-220
    - 2.4 Thinning Requirements : Up to 10% by volume
    - 2.5 Induction Time : Nil
    - 2.6 Pot Life (mixture) : 8 hours @ 25°C  
3 hours @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 100 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 65 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 1
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Primer - Sigma Silguard MC 7551 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Ovecoat Interval *	
		Minimum	Maximum
10°C	1 Hour	18 Hours	None
30°C	½ Hour	6 Hours	None
50°C	½ Hour	4 Hours	None

||

**Note:** Relative humidity should be 50% or more for coating to cure.

\* Overcoat with Sigmacover CM coating.

3.7 Recommended Equipment

- Airless Spray : Tip Size: 0.019 to 0.025 inch  
Fluid Pressure: 2,100 psi
- Conventional Spray : Nozzle Size \_\_\_\_\_ inch  
Nozzle Pressure: \_\_\_\_ psi
- Brush and Roller : For touch-up only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 63 to 67%
- 4.2 Product Weight (ASTM D1475) : 2.6 to 2.8 Kg/L
- 4.3 Viscosity (ASTM D562) : (17 to 20 seconds)
- 4.4 Flash Point (ASTM D93 or D56) : 15°C

Approval Date: October 7, 2001  
 Replaces: October 22, 1996



### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-1A

Type of Coating : Inorganic Zinc Primer: Water-Based  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigma Silguard SC 7550  
SAMS S/N : 09-611-969

---

1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 63:37 (base:hardener)  
by volume
    - 2.3 Thinner : Nil  
SAMS S/N : N/A
    - 2.4 Thinning Requirements : N/A
    - 2.5 Induction Time : Nil
    - 2.6 Pot Life (mixture) : 8 hours @ 25°C  
6 hours @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 115 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 75 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 1
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A Primer - Sigma Silguard SC 7550 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Overcoat Interval *	
		Minimum	Maximum
10°C	6 Hours	1 Day	None
30°C	3 Hours	10 Hours	None
50°C	1 Hour	4 Hours	None

**Note:** Before overcoating, remove zinc salts if any.

\* Overcoat with Sigmacover CM coating.

3.7 Recommended Equipment

Airless Spray	:	N/A
Conventional Spray	:	Nozzle Size: 2 mm Nozzle Pressure: 50 to 75 psi
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	64 to 68%
4.2	Product Weight	(ASTM D1475)	:	3.05 to 3.15 Kg/L
4.3	Viscosity	(ASTM D562)	:	(18 to 22 seconds)
4.4	Flash Point	(ASTM D93 or D56)	:	65°C

Approval Date: October 22, 1996  
Replaces: New

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1A/B/C Topcoat**

Type of Coating : Epoxy Topcoat: Polyamide-Cured  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigmacover CM 7456  
SAMS S/N : 09-612-364/369/375

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 82:18 (base:hardener)  
by volume

2.3 Thinner : 91-92

SAMS S/N : 09-738-260

2.4 Thinning Requirements : Up to 10% by volume

2.5 Induction Time : Nil

2.6 Pot Life : 8 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 154 micrometers

3.3 Typical Dry Film Thickness Per Coat : 100 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

---

**Manufacturer - Approved Saudi Aramco Data Sheet**  
**APCS-1A/B/C Topcoat - Sigmacover CM 7456 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Overcoat Interval *	
		Minimum	Maximum
10°C	12 Hours	3 Days	None
30°C	4 Hours	10 Hours	None
50°C	3 Hours	5 Hours	None

\* Overcoat with Sigmacover CM coating.

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.019 inch Fluid Pressure: 2,100 psi	
Conventional Spray	:	Nozzle Size: 1.5 - 3 mm Nozzle Pressure: 43 - 57 psi	
Brushr and Roller	:	For touch-up only	

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	63 to 67%	
4.2	Product Weight	(ASTM D1475)	:	1.38 to 1.42 Kg/L	
4.3	Viscosity	(ASTM D562)	:	(20 to 34 seconds DIN cup #4)	
4.4	Flash Point	(ASTM D93 or D56)	:	24°C	

Approval Date: October 7, 2001  
 Replaces: October 22, 1996

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1B**

Type of Coating : Epoxy Topcoat: Polyamide-Cured  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigmacover Primer 7413  
SAMS S/N : 09-612-362

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4:1 (base:hardener)  
by volume

2.3 Thinner : 91-92

SAMS S/N : 09-738-280

2.4 Thinning Requirements : 5 to 10% by volume ||

2.5 Induction Time : Nil

2.6 Pot Life : 8 hours @ 25°C  
3 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 131 micrometers

3.3 Typical Dry Film Thickness Per Coat : 75 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 22.8 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

---

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1B Primer - Sigmacover Primer 7413 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Overcoat Interval *	
		Minimum	Maximum
10°C	4 Hours	16 Hours	3 Months
30°C	1 Hour	6 Hours	2 Months
50°C	1 Hour	4 Hours	2 Months

\* Overcoat with Sigmacover CM coating.

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.018 inch Fluid Pressure: 2,100 psi
Conventional Spray	:	Nozzle Size: 1.5 - 2 mm Nozzle Pressure: 43 - 57 psi
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	55 to 59%
4.2	Product Weight	(ASTM D1475)	:	1.38 to 1.42 Kg/L
4.3	Viscosity	(ASTM D562)	:	71 to 101 KU
4.4	Flash Point	(ASTM D93 or D56)	:	26°C

Approval Date: October 7, 2001  
Replaces: October 22, 1996

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-1C

Type of Coating : Zinc-Rich Primer  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigmarite Zinc Primer 7401  
SAMS S/N : 09-612-580/590/595

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 75.8:24.2 (base:hardener)  
by volume
    - 2.3 Thinner : 91-92  
SAMS S/N : 09-738-240
    - 2.4 Thinning Requirements : Up to 10% by volume
    - 2.5 Induction Time : Nil
    - 2.6 Pot Life : 24 hours @ 25°C  
4 hours @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 87 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 40 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 18 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 1
-

**Manufacturer - Approved Saudi Aramco Data Sheet**  
**APCS-1C Primer - Sigmarite Zinc Primer 7401 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Overcoat Interval *</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	4 Hours	8 Hours	Indefinite
30°C	3 Hours	4 Hours	Indefinite
50°C	2 Hours	2 Hours	Indefinite

\* Overcoat with Sigmacover CM coating. Primer should be free from Zinc salts and contamination.

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.017 to 0.019 inch Fluid Pressure: 2,100 psi
Conventional Spray	:	Nozzle Size: Nozzle Pressure:
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	43 to 47%
4.2	Product Weight	(ASTM D1475)	:	2.6 to 2.8 Kg/L
4.3	Viscosity	(ASTM D562)	:	(35 to 50 poises)
4.4	Flash Point	(ASTM D93 or D56)	:	27°C

Approval Date: October 22, 1996  
Replaces: New



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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F Topcoat**

Type of Coating : Polyurethane Enamel Topcoat  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigmadur Gloss 7528  
SAMS S/N : 09-612-355/366/367/368/371/373

---

1. Storage

1.1 Shelf life, sheltered storage @ 35° C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 88:12 (base:hardener) ||  
by volume

2.3 Thinner : 91-88 ||  
SAMS S/N : 09-738-345

2.4 Thinning Requirements : Up to 12%

2.5 Induction Time : None

2.6 Pot Life : 4 hours @ 25°C ||  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 72 micrometers

3.3 Typical Dry Film Thickness Per Coat : 40 micrometers

3.4 Theoretical Coverage @ 25 Micrometers : 22.4 M<sup>2</sup>/L  
Dry Film Thickness

3.5 Minimum Number of Coats : 1

---

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-1D/E/F Topcoat - Sigmadur Gloss 7528 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum *
10°C	12 Hours	1 Day	None
30°C	5 Hours	6 Hours	None
50°C	3 Hours	4 Hours	None

||  
||

\* Before overcoating after exposure in a contaminated environment, clean thoroughly by high pressure fresh water hosing and allow to dry.

3.7 Recommended Equipment

- Airless Spray : Tip Size: 0.013 inch  
Fluid Pressure: 2,100 psi
- Conventional Spray : Tip Size:  
Atomizing Pressure:
- Brush and Roller : For small areas only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 55 to 57%
- 4.2 Product Weight (ASTM D1475) : 1.38 to 1.42 Kg/L
- 4.3 Viscosity (ASTM D562) : 102 to 106 KU
- 4.4 Flash Point (ASTM D93 or D56) : 27°C

**Note:** Use either APCS-1A, 1B or 1C (see previous data sheets) as primer and intermediate coat, and the dry film thickness should be in accordance with APCS-1D, 1E or 1F of SAES-H-101.

Approval Date: October 7, 2001  
 Replaces: July 18, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2A**

Type of Coating : Epoxy: Phenolic  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigma Colturiet Phenguard 7409/ Sigma Colturiet Phenguard 7436 ||  
SAMS S/N : 09-612-425/453

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 93.2:6.8 by weight,  
base:hardener  
88:12 by volume  
base:hardener

2.3 Thinner : 91-92

SAMS S/N : 09-738-140

2.4 Thinning Requirements : Up to 10% by volume

2.5 Induction Time : 20 minutes @ 15°C  
10 minutes @ 25°C

2.6 Pot Life : 3 hours @ 25°C  
1.5 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 150 micrometers

3.3 Typical Dry Film Thickness Per Coat : 100 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26.4 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 3

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2A - 7409/7436 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>Dry to Handle and Walk-on</b>	<b>Ovecoat Interval</b>		<b>To Immersion (Minimum)</b>
		<b>Minimum</b>	<b>Maximum</b>	
10°C	1.5 Days	1.5 Days	28 Days	14 Days
15°C	1.5 Days	1.5 Days	25 Days	11 Days
20°C	1 Day	1 Day	21 Days	9 Days
25°C	20 Hours	20 Hours	18 Days	8 Days
30°C	16 Hours	16 Hours	14 Days	7 Days
35°C	14 Hours	14 Hours	10 Days	6 Days
40°C	10 Hours	12 Hours	7 Days	6 Days
45°C	8 Hours	10 Hours	4 Days	4 Days
50°C	5 Hours	8 Hours	3 Days	4 Days
55°C		8 Hours	2 Days	2 Days
60°C		8 Hours	1 Day	1 Day

(Please see graphs in the Attachment.)

3.7 Recommended Equipment

- Airless Spray : Tip Size: 0.018 to 0.021 inch  
Fluid Pressure: 2,100 psi
- Conventional Spray : Nozzle Size: 2 mm  
Nozzle Pressure: 43 psi
- Brush and Roller : For touch-up only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 65 to 66%
- 4.2 Product Weight (ASTM D1475) : 1.68 to 1.72 Kg/L
- 4.3 Viscosity (ASTM D562) : 102 to 123 KU
- 4.4 Flash Point (ASTM D93 or D56) : 26°C

Approval Date: October 7, 2001  
 Replaces: January 6, 1998

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2B**

Type of Coating : Epoxy: Phenolic  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigma Colturiet Phenguard 7409/Sigma Colturiet Phenguard 7436 ||  
SAMS S/N : 09-612-518/546

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(See APCS-2A data sheet.)

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-2C

Type of Coating : Phenolic Epoxy Primer  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigma Phenguard Primer 7409  
SAMS S/N : 09-612-312

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 88:12 (base:hardener)  
by volume
    - 2.3 Thinner : 91-92  
SAMS S/N : 09-738-380
    - 2.4 Thinning Requirements : Up to 10% by volume
    - 2.5 Induction Time : 10 minutes @ 25°C
    - 2.6 Pot Life : 8 hours @ 25°C  
2 hours @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 150 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 100 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 1
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2C Primer - Sigma Phenguard Primer 7409 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>Dry to Handle and Walk-on</b>	<b>Overcoat Interval</b>		<b>To Immersion (Minimum)</b>
		<b>Minimum</b>	<b>Maximum</b>	
10°C	1.5 Days	1.5 Days	28 Days	14 Days
15°C	1.5 Days	1.5 Days	25 Days	11 Days
20°C	1 Day	1 Day	21 Days	9 Days
25°C	20 Hours	20 Hours	18 Days	8 Days
30°C	16 Hours	16 Hours	14 Days	7 Days
35°C	14 Hours	14 Hours	10 Days	6 Days
40°C	10 Hours	12 Hours	7 Days	6 Days
45°C	8 Hours	10 Hours	4 Days	4 Days
50°C	5 Hours	8 Hours	3 Days	4 Days
55°C		8 Hours	2 Days	2 Days
60°C		8 Hours	1 Day	1 Day

\* Overcoat with Sigma Phenguard 7435.  
 (Please see graphs in the Attachment.)

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.018 to 0.021 inch Fluid Pressure: 2,100 psi
Conventional Spray	:	Nozzle Size: Nozzle Pressure:
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	64 to 68%
4.2	Product Weight	(ASTM D1475)	:	1.68 to 1.72 Kg/L
4.3	Viscosity	(ASTM D562)	:	102 to 123 KU
4.4	Flash Point	(ASTM D93 or D56)	:	26°C

Approval Date: January 6, 1998  
 Replaces: October 22, 1996

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2C**

Type of Coating : Phenolic Epoxy: Intermediate Coat  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigma Phenguard 7435  
SAMS S/N : 09-612-313

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 88:12 (base:hardener)  
by volume

2.3 Thinner : 91-92

SAMS S/N : 09-738-380

2.4 Thinning Requirements : Up to 10% by volume

2.5 Induction Time : 10 minutes @ 25°C

2.6 Pot Life : 8 hours @ 25°C  
2 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 150 micrometers

3.3 Typical Dry Film Thickness Per Coat : 100 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2C Intermediate Coat - Sigma Phenguard 7435 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>Dry to Handle and Walk-on</b>	<b>Overcoat Interval</b>		<b>To Immersion (Minimum)</b>
		<b>Minimum</b>	<b>Maximum</b>	
10°C	1.5 Days	1.5 Days	28 Days	14 Days
15°C	1.5 Days	1.5 Days	25 Days	11 Days
20°C	1 Day	1 Day	21 Days	9 Days
25°C	20 Hours	20 Hours	18 Days	8 Days
30°C	16 Hours	16 Hours	14 Days	7 Days
35°C	14 Hours	14 Hours	10 Days	6 Days
40°C	10 Hours	12 Hours	7 Days	6 Days
45°C	8 Hours	10 Hours	4 Days	4 Days
50°C	5 Hours	8 Hours	3 Days	4 Days
55°C		8 Hours	2 Days	2 Days
60°C		8 Hours	1 Day	1 Day

\* Overcoat with Sigma Phenguard 7436.  
 (Please see graphs in the Attachment.)

3.7 Recommended Equipment

- Airless Spray : Tip Size: 0.018 to 0.021 inch  
Fluid Pressure: 2,100 psi
- Conventional Spray : Nozzle Size:  
Nozzle Pressure:
- Brush and Roller : For touch-up only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 64 to 68%
- 4.2 Product Weight (ASTM D1475) : 1.68 to 1.72 Kg/L
- 4.3 Viscosity (ASTM D562) : 102 to 123 KU
- 4.4 Flash Point (ASTM D93 or D56) : 26°C

Approval Date: January 6, 1998  
 Replaces: October 22, 1996

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-2C

Type of Coating : Phenolic Epoxy: Finish Coat  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigma Phenguard Finish 7436  
SAMS S/N : 09-612-314

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 88:12 (base:hardener)  
by volume
    - 2.3 Thinner : 91-92  
SAMS S/N : 09-738-380
    - 2.4 Thinning Requirements : Up to 5% by volume
    - 2.5 Induction Time : 10 minutes @ 25°C
    - 2.6 Pot Life : 8 hours @ 25°C  
2 hours @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 150 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 100 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 1
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-2C Finish Coat - Sigma Phenguard 7436 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>Dry to Handle and Walk-on</b>	<b>Ovecoat Interval</b>		<b>To Immersion (Minimum)</b>
		<b>Minimum</b>	<b>Maximum</b>	
10°C	1.5 Days	1.5 Days	28 Days	14 Days
15°C	1.5 Days	1.5 Days	25 Days	11 Days
20°C	1 Day	1 Day	21 Days	9 Days
25°C	20 Hours	20 Hours	18 Days	8 Days
30°C	16 Hours	16 Hours	14 Days	7 Days
35°C	14 Hours	14 Hours	10 Days	6 Days
40°C	10 Hours	12 Hours	7 Days	6 Days
45°C	8 Hours	10 Hours	4 Days	4 Days
50°C	5 Hours	8 Hours	3 Days	4 Days
55°C		8 Hours	2 Days	2 Days
60°C		8 Hours	1 Day	1 Day

(Please see graphs in the Attachment.)

3.7 Recommended Equipment

- Airless Spray : Tip Size: 0.018 to 0.021 inch  
Fluid Pressure: 2,100 psi
- Conventional Spray : Tip Size:  
Atomizing Pressure:
- Brush and Roller : For touch-up only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 64 to 68%
- 4.2 Product Weight (ASTM D1475) : 1.68 to 1.72 Kg/L
- 4.3 Viscosity (ASTM D562) : 102 to 123 KU
- 4.4 Flash Point (ASTM D93 or D56) : 26°C

Approval Date: January 6, 1998  
 Replaces: October 22, 1996

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-3**

Type of Coating : Coal Tar Epoxy  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigma C-200a Coal Tar  
SAMS S/N : 09-612-318/320

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 86:14 (base:hardener) ||  
by volume

2.3 Thinner : Sigma 21-06 (Xylene)  
SAMS S/N : 09-738-180

2.4 Thinning Requirements : Up to 15% by volume

2.5 Induction Time : 15 minutes @ 20°C ||

2.6 Pot Life : 5 hours @ 25°C  
1.5 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 256 micrometers

3.3 Typical Dry Film Thickness Per Coat : 200 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 31.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-3 - Sigma C-200a Coal Tar (Cont'd)**

3.6 Drying Time

Substrate Temperature	Dry to Handle and Walk-on	Ovecoat Interval Minimum	Ovecoat Interval Maximum	To Immersion (Minimum)
5°C		2 Days	40 Days	30 Days
10°C	1 Day	1 Day	20 Days	24 Days
15°C		16 Hours	14 Days	14 Days
20°C		8 Hours	7 Days	10 Days
25°C		7 Hours	5 Days	8 Days
30°C	6 Hours	6 Hours	4 Days	5 Days
35°C		4 Hours	1.5 Days	4 Days
40°C		3 Hours	1 Day	4 Days
45°C		2 Hours	18 Hours	3 Days
50°C	4 Hours	1 Hour	12 Hours	3 Days
55°C		0.75 Hour	8 Hours	2 Days
60°C		0.50 Hour	6 Hours	2 Day

(Please see graphs in the Attachment.)

3.7 Recommended Equipment

- Airless Spray : Tip Size: 0.019 to 0.023 inch  
Fluid Pressure: 2,500 psi to 2,700 psi
- Conventional Spray : Nozzle Size: 0.059 to 0.118 inch  
Nozzle Pressure: 28 to 57 psi
- Brush and Roller : For touch-up only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 77 to 79%
- 4.2 Product Weight (ASTM D1475) : 1.28 to 1.32 Kg/L
- 4.3 Viscosity (ASTM D562) : 130 to 160 poises
- 4.4 Flash Point (ASTM D93 or D56) : 27°C

Approval Date: October 7, 2001  
 Replaces: January 6, 1998

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4/6**

Type of Coating : Zinc Chromate Primer  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigma Zinc Chromate SA40  
SAMS S/N : 09-708-133/137

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : 20-05 (mineral spirit)

SAMS S/N : 09-738-340

2.4 Thinning Requirements : Up to 5% by volume

2.5 Induction Time : N/A

2.6 Pot Life : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 78 micrometers

3.3 Typical Dry Film Thickness Per Coat : 35 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 18.0 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4/6 - Sigma Zinc Chromate SA40 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	12 Hours	1.5 Days	None
30°C	2 Hours	16 Hours	None
50°C	1 Hour	8 Hours	None

3.7 Recommended Equipment

Airless Spray : Tip Size: 0.017 to 0.019 inch  
Fluid Pressure: 1,700 to 2,100 psi

Conventional Spray : Nozzle Size: 1.8 mm  
Nozzle Pressure: 28 to 42 psi

Brush and Roller : For touch-up only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 43 to 47%
- 4.2 Product Weight (ASTM D1475) : 1.38 to 1.40 Kg/L
- 4.3 Viscosity (ASTM D562) : 83 to 96 KU
- 4.4 Flash Point (ASTM D93 or D56) : 38°C

Approval Date: October 7, 2001  
Replaces: January 18, 1995

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4**

Type of Coating : Aluminum-Pigmented Topcoat  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigma Aluminium Paint SA35  
SAMS S/N : 09-686-354

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : N/A

2.3 Thinner : 20-05 (mineral spirit)

SAMS S/N : 09-738-340

2.4 Thinning Requirements : Nil (Airless Spray)

2.5 Induction Time : N/A

2.6 Pot Life : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 131 micrometers

3.3 Typical Dry Film Thickness Per Coat : 50 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 15.2 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1



**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-4 - Sigma Aluminium Paint SA35 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	3 Hours	1.5 Days	None
30°C	1 Hour	14 Hours	None
50°C	½ Hour	10 Hours	None

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.017 to 0.019 inch Fluid Pressure: 1,700 to 2,100 psi
Conventional Spray	:	Nozzle Size: 1.8 mm Nozzle Pressure: 43 to 57 psi
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	35 to 39%
4.2	Product Weight	(ASTM D1475)	:	0.98 to 1.05 Kg/L
4.3	Viscosity	(ASTM D562)	:	35 to 45 seconds DIN 4
4.4	Flash Point	(ASTM D93 or D56)	:	38°C

Approval Date: January 18, 1995

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-6**

Type of Coating : High Gloss Enamel Topcoat  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigma Enamel SA21  
SAMS S/N : 09-630-753/758/763/768/769/770/771/773/785/794/796  
09-631-301/322/450/455/462/465/590/645

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
  2. Mixing
    - 2.1 No. of Components : 1
    - 2.2 Mixing Ratio : N/A
    - 2.3 Thinner : 20-05 (mineral spirit)  
SAMS S/N : 09-738-340
    - 2.4 Thinning Requirements : Up to 12% by volume
    - 2.5 Induction Time : N/A
    - 2.6 Pot Life : N/A
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 100 micrometers (for white)
    - 3.3 Typical Dry Film Thickness Per Coat : 50 micrometers (for white)
    - 3.4 Theoretical Coverage @ 25 Micrometers Dry Film Thickness : 20 M<sup>2</sup>/L (for white)
    - 3.5 Minimum Number of Coats : 1
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-6 - Sigma Enamel SA21 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	8 Hours	1 Day	None
30°C	2 Hours	16 Hours	None
50°C	1 Hour	10 Hours	None

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.013 inch Fluid Pressure: 1,700 psi
Conventional Spray	:	Nozzle Size: 1.8 to 2.0 mm Nozzle Pressure: 43 to 57 psi
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	47 to 50%
4.2	Product Weight	(ASTM D1475)	:	1.0 to 1.2 Kg/L
4.3	Viscosity	(ASTM D562)	:	85 to 103 KU
4.4	Flash Point	(ASTM D93 or D56)	:	38°C

Approval Date: December 10, 1995  
Replaces: January 18, 1995

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-11A

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigma Silguard MC 7551  
SAMS S/N : 09-611-958

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#### 1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 9 months

#### 2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 74:26 (base:hardener)  
by volume

2.3 Thinner : Sigma 90-53

SAMS S/N : 09-738-220

2.4 Thinning Requirements : Up to 10% by volume

2.5 Induction Time : Nil

2.6 Pot Life : 8 hours @ 25°C  
3 hours @ 40°C

#### 3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 100 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Primer - Sigma Silguard MC 7551 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval *	
		Minimum	Maximum
10°C	1 Hour	18 Hours	None
30°C	½ Hour	6 Hours	None
50°C	½ Hour	4 Hours	None

||

**Note:** Relative humidity should be 50% or more for coating to cure.

\* Overcoat with Sigmatherm coating.

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.019 to 0.025 inch Fluid Pressure: 2,100 psi
Conventional Spray	:	Nozzle Size: _____ inch Nozzle Pressure: _____ psi
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	63 to 67%
4.2	Product Weight	(ASTM D1475)	:	2.6 to 2.8 Kg/L
4.3	Viscosity	(ASTM D562)	:	(17 to 20 seconds DIN cup #4)
4.4	Flash Point	(ASTM D93 or D56)	:	15°C

Approval Date: October 7, 2001  
Replaces: November 3, 1996

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-11A

Type of Coating : Inorganic Zinc Primer: Water-Based  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigma Silguard SC 7550  
SAMS S/N : 09-611-969

---

#### 1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

#### 2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 63:37 (base:hardener)  
by volume

2.3 Thinner : Nil

SAMS S/N : N/A

2.4 Thinning Requirements : N/A

2.5 Induction Time : Nil

2.6 Pot Life : 8 hours @ 25°C  
6 hours @ 40°C

#### 3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 100 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Primer - Sigma Silguard SC 7550 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval *	
		Minimum	Maximum *
10°C	6 Hours	1 Day	None
30°C	3 Hours	10 Hours	None
50°C	1 Hour	4 Hours	None

**Note:** Before overcoating, remove zinc salts if any.

\* Overcoat with Sigmatherm coating.

3.7 Recommended Equipment

Airless Spray	:	N/A
Conventional Spray	:	Nozzle Size: 2 mm Nozzle Pressure: 50 to 75 psi
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	64 to 68%
4.2	Product Weight	(ASTM D1475)	:	3.05 to 3.15 Kg/L
4.3	Viscosity	(ASTM D562)	:	(18 to 22 seconds DIN cup #4)
4.4	Flash Point	(ASTM D93 or D56)	:	65°C

Approval Date: November 3, 1996  
Replaces: New

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-11A

Type of Coating : Silicone Topcoat  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigmatherm Siloxane 7563  
SAMS S/N : 09-687-325

---

#### 1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 6 months

#### 2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : None

SAMS S/N : N/A

2.4 Thinning Requirements : None

2.5 Induction Time : N/A

2.6 Pot Life : N/A

#### 3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 104 micrometers

3.3 Typical Dry Film Thickness Per Coat : 25 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 9.6 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11A Topcoat - Sigmatherm Siloxane 7563 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	4 Hours	1.5 Days	None
30°C	1 Hour	16 Hours	None
50°C	½ Hour	10 Hours	None

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.015 to 0.019 inch Fluid Pressure: 1,700 to 2,100 psi
Conventional Spray	:	Nozzle Size: Nozzle Pressure:
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	22 to 26%
4.2	Product Weight	(ASTM D1475)	:	1.05 to 1.15 Kg/L
4.3	Viscosity	(ASTM D562)	:	(18 to 20 seconds DIN cup #4)
4.4	Flash Point	(ASTM D93 or D56)	:	26°C

5. Special Instruction: A minimum temperature of 200°C is needed to obtain sufficient cure.

Approval Date: November 5, 1996  
Replaces: New

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11B**

Type of Coating : Silicone  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigmatherm Siloxane 7563  
SAMS S/N : 09-687-330

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 6 months

2. Mixing

2.1 No. of Components : 1

2.2 Mixing Ratio : N/A

2.3 Thinner : N/A

SAMS S/N : N/A

2.4 Thinning Requirements : N/A

2.5 Induction Time : N/A

2.6 Pot Life : N/A

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 104 micrometers

3.3 Typical Dry Film Thickness Per Coat : 25 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 9.6 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 2

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-11B - Sigmatherm Siloxane 7563 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval	
		Minimum	Maximum
10°C	4 Hours	1.5 Days	None
30°C	1 Hour	16 Hours	None
50°C	½ Hour	10 Hours	None

||

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.015 to 0.019 inch Fluid Pressure: 1,700 to 2,100 psi
Conventional Spray	:	Nozzle Size: Nozzle Pressure:
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	22 to 26%
4.2	Product Weight	(ASTM D1475)	:	1.05 to 1.15 Kg/L
4.3	Viscosity	(ASTM D562)	:	(18 to 20 seconds DIN cup #4)
4.4	Flash Point	(ASTM D93 or D56)	:	26°C

5. Special Instruction: A minimum temperature of 200°C is needed to obtain sufficient cure.

Approval Date: December 12, 1995  
Replaces: New

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-12**

Type of Coating : Epoxy Primer  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigmacover Primer 7413  
SAMS S/N : 09-612-362

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(Refer to APCS-1B Primer Data Sheet)

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-12**

Type of Coating : Epoxy Topcoat  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigmacover CM 7456  
SAMS S/N : 09-612-364/369/375

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(Refer to APCS-1B Topcoat Data Sheet. Also, refer to APCS-12 of Saudi Aramco Engineering Standard SAES-H-101 for application of aggregate).

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-17A

Type of Coating : Inorganic Zinc Primer: Solvent-Based  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigma Silguard MC 7551  
SAMS S/N : 09-611-958

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#### 1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 9 months

#### 2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 74:26 (base:hardener)  
by volume

2.3 Thinner : Sigma 90-53

SAMS S/N : 09-738-220

2.4 Thinning Requirements : Up to 10% by volume

2.5 Induction Time : Nil

2.6 Pot Life : 8 hours @ 25°C  
3 hours @ 40°C

#### 3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 100 micrometers

3.3 Typical Dry Film Thickness Per Coat : 65 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17A - Sigma Silguard MC 7551 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval *	
		Minimum	Maximum
10°C	1 Hour	18 Hours	None
30°C	½ Hour	6 Hours	None
50°C	½ Hour	4 Hours	None

||

**Note:** Relative humidity should be 50% or more for coating to cure.

3.7 Recommended Equipment

- Airless Spray : Tip Size: 0.019 to 0.025 inch  
Fluid Pressure: 2,100 psi
- Conventional Spray : Nozzle Size: \_\_\_\_\_ inch  
Nozzle Pressure: \_\_\_\_\_ psi
- Brush and Roller : For touch-up only

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 63 to 67%
- 4.2 Product Weight (ASTM D1475) : 2.6 to 2.8 Kg/L
- 4.3 Viscosity (ASTM D562) : (17 to 20 seconds DIN cup #4)
- 4.4 Flash Point (ASTM D93 or D56) : 15°C

Approval Date: October 7, 2001  
 Replaces: October 22, 1996

### Manufacturer - Approved Saudi Aramco Data Sheet

#### APCS-17B

Type of Coating : Inorganic Zinc Primer: Water-Based  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigma Silguard SC 7550  
SAMS S/N : 09-611-969

---

#### 1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

#### 2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 63:37 (base:hardener)  
by volume

2.3 Thinner : Nil

SAMS S/N : N/A

2.4 Thinning Requirements : N/A

2.5 Induction Time : Nil

2.6 Pot Life : 8 hours @ 25°C  
6 hours @ 40°C

#### 3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 115 micrometers

3.3 Typical Dry Film Thickness Per Coat : 75 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-17B - Sigma Silguard SC 7550 (Cont'd)**

3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval *	
		Minimum	Maximum *
10°C	6 Hours	1 Day	None
30°C	3 Hours	10 Hours	None
50°C	1 Hour	4 Hours	None

**Note:** Before overcoating, remove zinc salts if any.

\* Overcoat with Sigmatherm coating.

3.7 Recommended Equipment

Airless Spray	:	N/A
Conventional Spray	:	Nozzle Size: 2 mm Nozzle Pressure: 50 to 75 psi
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	64 to 68%
4.2	Product Weight	(ASTM D1475)	:	3.05 to 3.15 Kg/L
4.3	Viscosity	(ASTM D562)	:	(18 to 22 seconds DIN cup #4)
4.4	Flash Point	(ASTM D93 or D56)	:	65°C

Approval Date: October 22, 1996  
Replaces: New

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-19B**

Type of Coating : Splash Zone Compound - Spray-Applied  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigmaguard Armour Compound 7491  
SAMS S/N : 09-612-339

---

1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 6 months

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 85:15 (base:hardener)  
by volume

2.3 Thinner : N/A (90-53 for cleaning)

SAMS S/N : N/A

2.4 Thinning Requirements : N/A

2.5 Induction Time : N/A

2.6 Pot Life : 2 hours @ 25°C  
1 hour @ 30°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 3,000 micrometers

3.3 Typical Dry Film Thickness Per Coat : 3,000 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 40 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-19B - Sigmaguard Armour Compound 7491 (Cont'd)**

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3.6 Drying Time

Substrate Temperature	To Handle	Recoat Interval		To Immersion
		Minimum	Maximum	
10°C	2 Days	N/A	30 Days	7 Days
30°C	16 Hours	N/A	30 Days	7 Days
50°C	9 Hours	N/A	30 Days	7 Days

3.7 Recommended Equipment

- Airless Spray : N/A
- Conventional Spray : Displacement pump like carousel or "Bredel" pumps. Nozzle orifice @ 4 to 5 mm, and nozzle pressure @ 57 to 85 psi  
  
Pressure vessel with bottom outlet and pressure lid. Nozzle orifice @ 4 to 5 mm and nozzle pressure @ 57 to 85 psi
- Trowel : Acceptable

4. Technical Properties

- 4.1 Volume Solids (ASTM D2697) : 100%
- 4.2 Product Weight (ASTM D1475) : 1.95 to 2.05 Kg/L
- 4.3 Viscosity (ASTM D562) : N/A
- 4.4 Flash Point (ASTM D93 or D56) : 65°C

Approval Date: October 7, 2001  
 Replaces: July 18, 1994

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22**

Type of Coating : Polyamide Cured Epoxy Primer  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigmacover Primer 7413  
SAMS S/N : 09-612-352/459

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 4:1 (base:hardener) by volume

2.3 Thinner : 91-92

SAMS S/N : 09-738-300

2.4 Thinning Requirements : Up to 25%

2.5 Induction Time : N/A

2.6 Pot Life : 8 hours @ 25°C  
3 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 220 micrometers

3.3 Typical Dry Film Thickness Per Coat : 125 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 22.8 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22 - Sigmacover 7413 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	4 Hours	16 Hours	3 Months
30°C	1 Hour	6 Hours	2 Months
50°C	1 Hour	4 Hours	2 Months

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.018 inch Fluid Pressure: 2,100 psi
Conventional Spray	:	Tip Size: Atomizing Pressure:
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	56 to 59%
4.2	Product Weight	(ASTM D1475)	:	1.38 to 1.42 Kg/L
4.3	Viscosity	(ASTM D562)	:	71 to 101 KU
4.4	Flash Point	(ASTM D93 or D56)	:	26°C

Approval Date: December 2, 1995  
Replaces: New

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22**

Type of Coating : Polyamide Cured Epoxy Topcoat  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : Sigmacover CM 7456  
SAMS S/N : 09-612-357/358/359/462/465/467

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1. Storage
    - 1.1 Shelf life, sheltered storage @ 35°C maximum : 1 year
  2. Mixing
    - 2.1 No. of Components : 2
    - 2.2 Mixing Ratio : 82:18 (base:hardener)  
by volume
    - 2.3 Thinner : 91-92  
SAMS S/N : 09-738-300
    - 2.4 Thinning Requirements : Up to 10%
    - 2.5 Induction Time : 1/3 hour if below 10°C  
None if above 10°C
    - 2.6 Pot Life : 8 hours @ 25°C  
2 hours @ 40°C
  3. Application
    - 3.1 Maximum Allowable Substrate Temperature : 50°C
    - 3.2 Typical Wet Film Thickness Per Coat : 154 micrometers
    - 3.3 Typical Dry Film Thickness Per Coat : 100 micrometers
    - 3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 26.0 M<sup>2</sup>/L
    - 3.5 Minimum Number of Coats : 2
-

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-22 Topcoat - Sigmacover CM 7456 (Cont'd)**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Recoat Interval</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	12 Hours	3 Days	Indefinite
30°C	4 Hours	10 Hours	Indefinite
50°C	3 Hours	5 Hours	Indefinite

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.019 inch Fluid Pressure: 2,100 psi
Conventional Spray	:	Tip Size: Atomizing Pressure:
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	63 to 67%
4.2	Product Weight	(ASTM D1475)	:	1.38 to 1.42 Kg/L
4.3	Viscosity	(ASTM D562)	:	103 to 127 KU
4.4	Flash Point	(ASTM D93 or D56)	:	24°C

Approval Date: December 2, 1995  
Replaces: New

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26**

Type of Coating : Epoxy Coating (self priming): Solvent-Based  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : 0668 Sigmacover STA  
SAMS S/N : 09-612-331/332/333/334/335/336/337

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 12 months

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 83:12 (base:hardener)  
by volume

2.3 Thinner : Sigma 91-92

SAMS S/N : 09-738-420

2.4 Thinning Requirements : Up to 10% by volume

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 1 hour @ 25°C  
½ hour @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 175 micrometers

3.3 Typical Dry Film Thickness Per Coat : 150 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 34 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26 Epoxy coating – 0668 Sigmacover STA**

3.6 Drying Time

<b>Substrate Temperature</b>	<b>To Handle</b>	<b>Overcoat Interval *</b>	
		<b>Minimum</b>	<b>Maximum</b>
10°C	12 Hours	16 Hours	2 months
30°C	2 Hours	6 Hours	2 months
50°C	1Hour	4 Hours	1 month

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.019 to 0.025 inch Fluid Pressure: 2,100 psi
Conventional Spray	:	Nozzle Size Nozzle Pressure:
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	84 to 86%
4.2	Product Weight	(ASTM D1475)	:	1.38 to 1.42 Kg/L
4.3	Viscosity	(ASTM D562)	:	30 to 45 poise
4.4	Flash Point	(ASTM D93 or D56)	:	26°C

Approval Date: October 7, 2001  
Replaces: New

**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26T**

Type of Coating : Epoxy Primer: Solvent-Based  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : 0668 Sigmacover STA  
SAMS S/N : 09-612-331/332/333/334/335/336/337

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Refer to APCS-26 Epoxy Coating Data Sheet 0668 Sigmacover STA

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26T**

Type of Coating : Polyurethane Topcoat: Solvent-Based  
Manufacturer : Sigma Paints S.A. Ltd.  
Product Name : 7690 Sigmacap Finish PU  
SAMS S/N : 09-612-365/366/367/368/371

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1. Storage

1.1 Shelf life, sheltered storage @ 35°C maximum : 12 months

2. Mixing

2.1 No. of Components : 2

2.2 Mixing Ratio : 75:22 (base:hardener)  
by volume

2.3 Thinner : Sigma 91-88

SAMS S/N :

2.4 Thinning Requirements : Up to 15% by volume

2.5 Induction Time : Nil

2.6 Pot Life (mixture) : 7 hours @ 25°C  
4 hours @ 40°C

3. Application

3.1 Maximum Allowable Substrate Temperature : 50°C

3.2 Typical Wet Film Thickness Per Coat : 110 micrometers

3.3 Typical Dry Film Thickness Per Coat : 50 micrometers

3.4 Theoretical Coverage @ 25 Micrometers  
Dry Film Thickness : 18 M<sup>2</sup>/L

3.5 Minimum Number of Coats : 1

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**Manufacturer - Approved Saudi Aramco Data Sheet**

**APCS-26T Polyurethane Topcoat – 7690 Sigmacap PU**

3.6 Drying Time

Substrate Temperature	To Handle	Overcoat Interval *	
		Minimum	Maximum
10°C	3 Hours	20 Hours	No limit
30°C	1 Hours	12 Hours	No limit
50°C	35 minutes	4 Hours	No limit

3.7 Recommended Equipment

Airless Spray	:	Tip Size: 0.015 Fluid Pressure: 2,100 psi
Conventional Spray	:	Nozzle Size Nozzle Pressure:
Brush and Roller	:	For touch-up only

4. Technical Properties

4.1	Volume Solids	(ASTM D2697)	:	46 to 48%
4.2	Product Weight	(ASTM D1475)	:	1.18 to 1.24 Kg/L
4.3	Viscosity	(ASTM D562)	:	14 to 18 poise
4.4	Flash Point	(ASTM D93 or D56)	:	27°C

Approval Date: 16<sup>th</sup> August, 2000  
Replaces: New

30 April, 2002

**Revision Summary**  
Minor revisions.  
Revised the "Next Planned Update."

## Attachment – Drying Time Graphs

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