Valentine

GRUPO CIN

TECHNICAL DATA

7M-570 AMERCOAT 90 S

High Performance Modified Epoxy

Creation Date: May 2007

- **High solids tank lining.**
- **Excellent chemical resistance.**
- **Suitable for cycling and long term continuous immersion service.**
- **Recommended under thermal insulation on carbon steel or stainless steel up to 200ºC.**

Typical Uses

Tank lining;

Lining for ship tanks, railroads cars, road tankers and fixed storage tanks. Amercoat 90 S is suitable for exposure to a wide range of solvents, fuels, petroleum products, non-acidic aqueous products and caustics. Amercoat 90 S provides excellent resistance to the cycling exposure of chemicals such as ships tanks carrying a variety of chemical cargoes. Amercoat 90 S is also resistant to long term exposure to large variety of specific chemicals, such as in storage tanks in the chemical industry and tank farms.

Under thermal insulation

Amercoat 90 S (previously known as Amercoat 253 HT for this service) is suitable to protect carbon and stainless steel under thermal insulation up to 200ºC. For temperatures up to 200ºC Amercoat 90 S is to be applied in one or two coats, not exceeding 200 microns dft. For temperatures up to 150ºC two coats of 150 microns each may be applied as outlined in NACE RP0198-98 Item 21084 system 5.

Nuclear industry

Amercoat 90 S is resistant to cumulative radiation of 7,8 x 10^9 Rads when tested according to ANSI N5, 12-1974, American Standard-Protective Coatings for the Nuclear Industry.

Resistance Guide

See Amercoat 90 S Chemical resistance List.

Physical Data

Finish……..……	Flat
Colour…….....……..	White, grey pearl
Substrate……..…..	Abrasive blasted steel, suitable prepared concrete
Compounds…..…..…	2
Curing mechanism.....	Solvent evaporation and reaction between components
Volume solids……	58% (ASTM D2697 mod.) (*)
Dry film thickness…….	150 µm coat minimum (**)
Number of coats……	2
Volatile Organic Compounds (COV)…	High (25,00 – 50%)
Theoretical coverage…	3,9 m²/l at 150 µm Allow for application losses, surface irregularities, etc.
Application methods.....	Airless or conventional spray
Mixed product life…….	4 hours
Pot-life is dependent on temperature and quantities mixed.	
Drying times (at 20ºC and 150 µm)	
Dry through……..	16 hours
Dry to recoat……...	24 hours minimum 12 days maximum
Dry before immersion service……	7 days
Induction Time (20ºC).....	Not applicable
Mixing Ratio (by volume)	
Resin: 7M-571…..……	2 parts
Cure: 7M-572.9980…..	1 part
Specific gravity……..	1,38 Kg/L (mixed product)
Thinner.....……..	7S-902.0000 (CP-40)
Cleaner.....	7S-902.0000 (CP-40)
Flash Point (Closed Cup)	
Resin…….	26ºC (7M-571)
Cure…….……	26ºC (7M-572.9980)
Thinner……..	4ºC (7S-902.0000)
Cleaner……..……	4ºC (7S-902.0000)
Packaging	
Resin: 7M-571…….	13,3 L in a 20 L can
Cure: 7M-572.9980..	6,7 L in a 10 L can
Shipping Weight	
Resin: 7M-571……....	21 Kgs approx
Cure: 7M-572.9980..	10 kgs approx
Shelf life……	2 years from shipment date when stored indoors in unopened, original containers at 5 to 40ºC.

(*).- Volume solids is measured in accordance with ASTM D2697; modified. Slight variations ±3% may occur due to colour and testing variances.

(**). For use under thermal insulation do not exceed 200 µm dry film thickness.

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Application Instructions

Amercoat 90 S is a high performance epoxy for corrosive chemical and weather environments. To obtain the maximum performance for which Amercoat 90 S is formulated, strict adherence to all application instructions, precautions, conditions and limitations is necessary. If conditions exist that are not within the requirements or limitations described, consult your representative.

Surface Preparation

Steel – Immersion: Blast to Sa 3, ISO 8501-1 or SSPC SP-5. Note: Blast to achieve a minimum 40 µm a maximum 75 µm profile, as determined with Testex Tape or similar device. Remove abrasive residues and dust from surface.

Important – Apply Amercoat 90 S as soon as possible after surface preparation to prevent any contamination. Do not leave blasted steel uncoated overnight. In case of contamination, remove contaminants. Spot blast steel if needed. If required Amercoat 64 may be used as a holding primer.

Concrete – Clean concrete and masonry surfaces from laitance and foreign matter. Abrasive blast (ASTM D4259) or acid etch (ASTM D4260). Fill small holes or voids with Nu-klad 114A before applying Amercoat 90 S. Contact your representative for specific recommendations if concrete surfaces have been coated before or for specific coating repair procedures for disintegrated concrete.

Note: Do not use form release agents, concrete curing compounds or hardeners. If used already, contact your representative.

Application Equipment

The following equipment is listed as a guide and suitable equipment from other manufacturers may be used.

Adjustments of pressure and change of tip size may be needed to obtain the proper spray characteristics.

Airless spray – Standard airless spray equipment, such as Graco, DeVilbiss, Nordson-Bede, Spee-Flo or others having a 28:1 or higher pump ratio and a fluid tip with a 0,43 to 0,58 mm (0.017 to 0.023 inch) orifice.

Conventional spray – Industrial equipment such as DeVilbiss MBC or JGA gun with 78 or 765 air cap and “E” fluid tip and heavy mastic spring or Binks nº 18 or 62 with a 66 x 63 PB nozzle setup. Separate air and fluid pressure regulators and a mechanical pot agitator are recommended. A moisture and oil trap in the main air supply line is essential.

Mixer – Use power mixer powered by an air motor or an explosion proof electric motor.

Environmental conditions

(during application and drying)

Air temperature:	10 to 43ºC
Surface temperature	10 to 50ºC
Material temperature	10 to 40ºC

To prevent moisture condensation during application, surface temperature must be at least 3ºC above dew point, Never apply coatings under adverse environmental conditions. Ensure good ventilation when applied in confined areas to assist evaporation and elimination solvents.

Drying Times

	10ºC	20ºC	30ºC
Dry through (hours)	32	16	10
Before full service (days)	14	7	4

Note: Drying times are dependent on air and steel temperature, applied film thickness, ventilation and other environmental conditions. Times are proportionally shorter and higher temperature and longer at lower temperatures. Prior to recoating ensure the surface is clean.

Recoating Times

	10ºC	20ºC	30ºC
Minimum (hours)	48	24	16
Maximum (days)	15	12	10

Repair

Spot blast or power tool clean bare substrate to the requirements shown under surface preparation. Feather edges of intact coating. Remove dust, dirt and contamination before recoating.

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Application Procedure

Amercoat 90 S is packaged in the proper mixing proportions of resin and cure.

Resin: 13,3 L in 20 L can
Cure: 6,7 L in 10 L can
Pot life: 4 hours at 20ºC
2 hours at 30ºC
Thinner CP-40
Cleaner CP-40

1.- Flush equipment with recommended thinner before use.
2.- Stir each of the components prior to mixing to an even consistency with a power mixer.
3.- Add cure to resin and continue stirring for 5 minutes. Note: Since the pot-life is limited and shortened by high temperatures, do not mix more material than will be used within the pot-life period.
4.- For conventional spray, thin only as needed for workability with no more than 10% of CP-40. Thinning is normally not needed for airless spray.
5.- Stir during application to maintain uniformity of material. Apply a wet coat by even, parallel passes. Overlap each pass 50% to avoid bare areas, pinholes or holidays.
6. Double coat all welds, rough spots, sharp edges and corners, rivets, bolts, etc.
7.- Application at 260 µm wet film thickness will normally provide 150 µm dry film. Total dry thickness must not exceed 450 µ and not be less than 250µm in 2 coats.
8.- Check thickness of dry coating with a non-destructive dry film thickness gauge, such as Mikrotest or Elcometer. If less than specified thickness, apply additional material as needed.
9.- Small damaged or bare areas and random pinholes or holidays can be touched up by brush. Repair larger areas by spray.
10.- When a pinhole free coating is required, check continuity of dry but uncured coating with a non destructive holiday detector such as Tinker-Rasor, model M1. Apply additional coats to areas requiring touch up.
11.- In confined areas ventilate with clean air during application and drying until all solvents are removed. Temperature and humidity of ventilating air must be such that moisture condensation will not form on surface.
12.- Clean all equipment with recommended cleaner immediately after use or at least at the end of each working day or shift. When left in spray equipment, Amercoat 90 S will cure and cause clogging

HEALTH, SAFETY AND THE ENVIRONMENT

Protect the eyes and skin from contact; gloves, goggles and appropriate clothing should be worn. Keep out of the reach of children.
Use only in well ventilated areas. Do not empty into drains.
Keep the container properly sealed and stored in the correct place.
Take correct measures when transporting the product so as to avoid any accidents that could rupture the can or cause damage to the packaging.
Ensure that the container is correctly stacked in a safe area.
Do not store or use the product in extreme temperature conditions.
Always take account of the appropriate legislation relating to the environment and Health and Safety at Work.
For more information **it is essential to read the label on the container and the product MATERIAL SAFETY DATA SHEET.**

Caution

This product is flammable. Keep away from heat and open flame. Keep container closed. Use with adequate ventilation. Avoid prolonged and repeated contact with skin. If used in confined areas, observe the following precautions to prevent hazards of fire or explosion or damage to health:
1.- Circulate adequate fresh air continuously during application and drying;
2.- Use fresh air masks and explosion proof equipment;
3.- Prohibit all flames, sparks, welding and smoking.
Do not empty into drains. Take precautionary measures against static discharges. For specific information on hazardous ingredients, required ventilation, possible consequences of contact and safety measures see Safety Data Sheet.

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