

Epoxy Novolac

PRODUCT DESCRIPTION

A solvent free, two component polycyclamine cured lining system utilising advanced epoxy novolac technology with flake and fiber reinforcement.

INTENDED USES

To provide corrosion protection for the internals of steel storage tanks, vessels, spools and pipes for use with a range of products, including (but not limited to); crude oil up to 200°F (93°C), refined oil products (including unleaded gasoline blends and solvents).

Resistant to different renewable/bio feedstocks and refined products (fuels) including animal/vegetable oils and fats, biodiesel, ethanol etc.

Enviroline 376F-60 is also suitable as an external coating for buried pipes.

PRACTICAL INFORMATION FOR ENVIROLINE 376F-60

| | |
|------------------------------|---|
| Color | Limited color range available |
| Gloss Level | Not applicable |
| Volume Solids | 100% |
| Typical Thickness | 20-80 mils (500-2000 microns) dry equivalent to 20-80 mils (500-2000 microns) wet |
| Theoretical Coverage | 24 sq.ft/US gallon at 66 mils d.f.t and stated volume solids 0.61 m ² /liter at 1650 microns d.f.t and stated volume solids |
| Practical Coverage | Allow appropriate loss factors. Refer to Enviroline Application Guidelines for advice on film thickness determination |
| Method of Application | Plural Component Airless Spray, Airless Spray |

Drying Time

| Temperature | Touch Dry | Hard Dry | Overcoating interval with self | |
|-------------|-----------|-----------------------|--------------------------------|----------------------|
| | | | Minimum | Maximum |
| 59°F (15°C) | 7 hours | 12 hours ¹ | 12 hours | 28 days ² |
| 77°F (25°C) | 2 hours | 4 hours ¹ | 2.5 hours | 28 days ² |
| 95°F (35°C) | 1 hour | 2 hours ¹ | 2 hours | 28 days ² |

¹ Sufficient coating film strength has developed to permit the handling and movement of coated steelwork. A Shore D hardness reading of 75-80 is a recommended guideline to indicate suitability for return to service.

² If the maximum overcoating interval is exceeded it will be necessary to thoroughly abrade the surface of the lining with coarse emery paper, followed by solvent wash.

REGULATORY DATA

| | | | |
|------------------------------|---------------------------------|---|--|
| Flash Point (Typical) | Part A 180°F; Part B 145°F | | |
| Product Weight | 13.2 lb/gal (1.58 kg/l) | | |
| VOC | 0.10 lb/gal (13 g/l) 35 g/kg | EPA Method 24 EU Solvent Emissions Directive (Council Directive 1999/13/EC) | |

See Product Characteristics section for further details

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SURFACE PREPARATION

All surfaces to be coated should be clean, dry and free from contamination. Prior to application, all surfaces should be assessed and treated in accordance with ISO 8504:2000

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.

Steel Substrates

Best performance will always be achieved when Enviroline 376F-60 is applied to surfaces prepared by abrasive blast cleaning to Sa3 (ISO 8501-1:2007) or SSPC-SP5. Where Enviroline 376F-60 is not to be used in high heat and/or aggressive service, preparation to Sa2½ (ISO 8501-1:2007) or SSPC-SP10 may be acceptable. A sharp, angular surface profile of 3-5 mils (75-125 microns) is recommended. Contact International Protective Coatings for further information.

Enviroline 376F-60 must be applied before oxidation of the steel occurs. If oxidation does occur the entire oxidized area should be reblasted to the standard specified above. Surface defects revealed by the blast cleaning process should be ground, filled or treated in the appropriate manner.

The preferred method of holding the blast standard is by dehumidification. Alternatively, an approved holding primer may be used.

Concrete Substrates

Concrete should be well cured prior to application of the flooring, lining or coating system. Refer to the Concrete Surface Preparation Guidelines for more information.

APPLICATION

| | | |
|---------------------------------------|---|---|
| Mixing | Material is supplied in two containers as a unit. Complete units should be stored, mixed and applied in accordance with the Enviroline Application Guidelines. | |
| Mix Ratio | 2 part(s) : 1 part(s) by volume | |
| Working Pot Life | 104°F (40°C) 10 minutes | |
| Plural component airless spray | Recommended | Refer to Enviroline Application Guidelines for more details. |
| Airless Spray | Suitable | Refer to Enviroline Application Guidelines for more details. |
| Air Spray (Pressure Pot) | Not suitable | |
| Brush | Suitable | Can be used for the touch-up of small areas or for stripe coating of welds and edges. |
| Thinner | Not normally required | Refer to Enviroline Application Guidelines for specific advice. |
| Cleaner | Enviroline 71C (or International GTA203) | |
| Work Stoppages | Do not allow material to remain in hoses, guns or spray equipment. Thoroughly flush all equipment with Enviroline 71C or International GTA203. Once units of paint have been mixed they should not be resealed and it is advised that after prolonged stoppages work recommences with freshly mixed units | |
| Clean Up | Clean all equipment immediately after use with Enviroline 71C or International GTA203. It is good working practice to periodically flush out spray equipment during the course of the working day. Frequency of cleaning will depend upon amount sprayed, temperature and elapsed time, including any delays. | |

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All surplus materials and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.

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PRODUCT CHARACTERISTICS

The detailed Enviroline Application Guidelines should be consulted prior to use.

This datasheet provides general guidance on the use of Enviroline 376F-60. Specific project requirements will be dependent upon the service end use and operating conditions of the tank or vessel. Always consult International Protective Coatings to confirm that Enviroline 376F-60 is suitable for contact with the product to be stored.

The detailed project coating specification provided by International Protective Coatings must be followed at all times.

Stripe coating is an essential part of good working practice and as such should form part of any lining specification.

For heavily pitted or porous steel, spray apply approximately 50% of the required film thickness and follow immediately with a short nap roller or squeegee to work material into the bottom of pitted areas.

For plural component airless spray application, best results will be achieved when the product is heated prior to application; Part A (Resin) to a maximum of 140°F (60°C) and Part B (Hardener) to a maximum of 105°F (40°C). For airless spray application, best results will be achieved when each component of the product is heated prior to application to 95-100°F (35-37°C).

Surface temperature must always be a minimum of 5°F (3°C) above dew point.

Use the following chart for preferred temperature conditions. These conditions plus adequate ventilation must be maintained throughout the curing cycle.

| | <u>Substrate Temperature</u> | <u>Air Temperature</u> |
|------------------|------------------------------|------------------------|
| Preferred | 70-120°F (21-49°C) | 70-100°F (21-38°C) |
| Minimum | 55°F (13°C) | 55°F (13°C) |

After the coating system has cured hard, the dry film thickness should be measured using a suitable non-destructive magnetic gauge to verify the minimum applied system thickness. The coating system should be free of all pinholes or other holidays. The cured film should be essentially free of runs, sags, drips, inclusions or other defects. All deficiencies and defects should be corrected. The repaired areas shall be retested and allowed to cure as specified before placing the finished lining into service.

Post-curing is not necessary for most applications, but Enviroline 376F-60 may be post-cured to expedite curing or increase chemical resistance for extremely aggressive environments. Post-cure for a minimum of 2 hours at 250°F (121°C) or 6-8 hours at 150°F (66°C) for maximum resistance.

Maximum continuous dry temperature resistance for Enviroline 376F-60 is 350°F (177°C).

Note: VOC values are typical and are provided for guidance purpose only. These may be subject to variation depending on factors such as differences in color and normal manufacturing tolerances.

Low molecular weight reactive additives, which will form part of the film during normal ambient cure conditions, will also affect VOC values determined using EPA Method 24.

SYSTEMS COMPATIBILITY

Enviroline 376F-60 should always be applied to correctly prepared substrates. When a primer is required as part of the coating specification, consult International Protective Coatings for specific advice.

Enviroline 376F-60 is designed as a single coat system. It must only be overcoated with itself should re-coats or touch-up be required.