Enviroline® 2960

Epoxy Novolac

PRODUCT DESCRIPTION

An ultra high solids, two component lining system utilising advanced epoxy novolac technology, providing excellent impact resistance, abrasion resistance and adhesion properties.

Enviroline 2960 offers excellent chemical and temperature resistance to petrochemical products.

INTENDED USES

Suitable to provide corrosion protection for the internals of steel storage tanks containing a range of products, such as aromatic solvents, naphtha coke, ethanol fuel, alkaline and acid solutions.

Enviroline 2960 has been specially formulated to rapidly develop chemical resistance properties and resists immersion temperatures up to 80°C (176°F).

Coated substrates can be rapidly returned to service in 48 hours at 25°C (77°F).

PRACTICAL INFORMATION FOR ENVIROLINE 2960

Colour	Grey, Green, White
Gloss Level	Not applicable
Volume Solids	96%
Typical Thickness	400-500 microns (16-20 mils) dry equivalent to 417-521 microns (16.7-20.8 mils) wet
Theoretical Coverage	2.10 m²/litre at 450 microns d.f.t and stated volume solids 86 sq.ft/US gallon at 18 mils d.f.t and stated volume solids
Practical Coverage	Allow appropriate loss factors
Method of Application	Airless Spray, Brush, Plural Component Airless Spray, Roller

Drying Time

			Overcoating Interval with recommended topcoats	
Temperature	**Touch Dry**	**Hard Dry**	*Minimum*	*Maximum*
10°C (50°F)	6 hours	18 hours	16 hours	48 hours
15°C (59°F)	4 hours	16 hours	13 hours	36 hours
25°C (77°F)	2 hours	8 hours	7 hours	24 hours
40°C (104°F)	1 hour	6 hours	5 hours	18 hours

REGULATORY DATA

Flash Point (Typical)	Part A >120°C (248°F); Part B 68°C (154°F); Mixed 115°C (239°F)	
Product Weight	1.44 kg/l (12.0 lb/gal)	
VOC	0.22 lb/gal (27 g/lt)	EPA Method 24

See Product Characteristics section for further details

SURFACE PREPARATION

The performance of this product will depend upon the degree of surface preparation. The surface to be coated must be clean and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000.

Accumulated dirt and soluble salts must be removed. Dry bristle brushing will normally be adequate for accumulated dirt. Soluble salts should be removed by fresh water washing.

Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

Abrasive Blast Cleaning

All surfaces must be clean and dry, free of dust, dirt, or other foreign matter. Steel surfaces shall be abrasive blasted to Sa2½ (ISO 8501-1:2007) or SSPC SP10, near-white metal.

Enviroline 2960 must be applied before oxidation of the steel occurs. If oxidation, medium or heavy (flash rust level) occur, the entire oxidised 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.

A sharp angular surface profile of 50-100 microns (2-4 mils) is recommended.

Best performance will always be achieved when Enviroline 2960 is applied to surfaces prepared by abrasive blast cleaning to Sa2½ (ISO 8501-1:2007) SSPC-SP10 especially in high heat and/or aggresive service.

Ultra High Pressure Hydroblasting

May be applied to surfaces prepared to WJ-2 (NACE WJ-2/SSPC SP WJ 2) which have suffered Light Flash Rust (NACE VIS 7/SSPC-VIS 4).

Contact International Protective Coatings for further information.

APPLICATION

Mixing

Material is supplied in two containers as a unit. Always mix a complete unit in the proportions supplied. Once the unit has been mixed it must be used within the working pot life specified.

(1) Agitate Base (Part A) with a power agitator.
(2) Agitate Curing Agent (Part B) with a power agitator.
(3) Combine entire contents of Curing Agent (Part B) with Base (Part A) and mix thoroughly with power agitator.

Mix Ratio

3 part(s) : 1 part(s) by volume

Working Pot Life

25°C (77°F)	40°C (104°F)
90 minutes	60 minutes

Plural Component Airless Spray	Recommended	Refer to Enviroline Application Guidelines for more details.
Airless Spray	Recommended	Tip Range 0.53-0.68 mm (21-27 thou) Total output fluid pressure at spray tip not less than 211 kg/cm² (3000 p.s.i.) Apply using a minimum airless spray pump of 64:1 ratio, for optimum results a 68:1 ratio is preferred.

Brush	Suitable - small areas only
Roller	Suitable - small areas only
Thinner	Not recommended
Cleaner	International GTA203
Work Stoppages	Do not allow material to remain in hoses or spray equipment. Thoroughly flush all equipment with 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 material.
Clean Up	Do not allow material to remain in hoses or spray equipment. Thoroughly flush all equipment with 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 material.

PRODUCT CHARACTERISTICS

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

This datasheet provides general guidance on the use of Enviroline 2960. Specific project requirements will be dependent upon the service end use and operating conditions. Always consult International Protective Coatings to confirm that Enviroline 2960 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.

When the ambient temperature is below 20°C (68°F), Plural Component Airless Spray application is recommended.

Storage must be between 20-30°C (68-86°F) to ensure suitable application viscosity. Although the product must be heated prior to application, Part A must not exceed a maximum of 50°C (122°F) and Part B a maximum of 35°C (95°F).

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

This product will not cure adequately below 5°C (41°F). For maximum performance ambient curing temperatures should be above 10°C (50°F).

Do not apply at steel temperatures below 10°C (50°F) or in excess of 50°C (122°F).

The relative humidity during application and curing should not exceed 85%.

Maximum resistance is not attainable until the film has completely cured. Cure is a function temperature, humidity and film thickness. Curing times are proportionately shorter at elevated temperatures and longer at lower tempertures.

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.

Continuous immersion resistance is dependent on particular temperature and chemical exposure. Refer to the Enviroline Chemical Immersion Resistance Guide.

Meets Petrobras standard N2912 type II.

Consult International Protective Coatings for further details.
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 colour 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 2960 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.

ADDITIONAL INFORMATION

Further information regarding industry standards, terms and abbreviations used in this data sheet can be found in the following documents available at www.international-pc.com:

- Definitions & Abbreviations
- Surface Preparation
- Paint Application
- Theoretical & Practical Coverage
- Enviroline Application Guidelines

Individual copies of these information sections are available upon request.

SAFETY PRECAUTIONS

This product is intended for use only by professional applicators in industrial situations.
All work involving the application and use of this product should be performed in compliance with all relevant national Health, Safety and Environmental standards, regulations and legislation.

Proper ventilation must be provided during application and afterwards during curing (refer to product datasheets for typical curing times) to ensure safe limits and prevent fires and explosions. Forced extraction will be required in confined spaces. Ventilation and/or respiratory personal protective equipment (airfed hoods or appropriate cartridge masks) must be provided during application and curing. Take precautions to avoid skin and eye contact (overalls, gloves, goggles, masks, barrier cream, etc).

Before use, obtain, read and then follow the advice given on the Material Safety Data Sheets (Parts A and B if two-pack) and the Health and Safety section of the Coatings Applications Procedures for this product.

In the event that welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

The detailed safety measures are dependent on application methods and the work environment. If you do not fully understand these warnings and instructions or if you cannot strictly comply with them, do not use the product and consult International Protective Coatings.

Warning: This product contains liquid epoxies and modified polyamines and may cause skin sensitisation if not used correctly.

PACK SIZE	Unit Size	Part A		Part B	
		Vol	Pack	Vol	Pack
	20 litre	15 litre	20 litre	5 litre	5 litre
	For availability of other pack sizes and those specific to Brazil, contact International Protective Coatings.				
SHIPPING WEIGHT (TYPICAL)	Unit Size	Part A		Part B	
	20 litre	24.48 kg		5.27 kg	
STORAGE	Shelf Life	12 months minimum at 25°C (77°F). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.			

Important Note

www.international-pc.com