Polibrid® 705E

Polyurethane

PRODUCT DESCRIPTION

A two component solvent free elastomeric urethane.

Polibrid 705E is fast setting and can be applied by heated, twin-feed airless spray at any thickness to offer the ultimate protection in corrosive environments. Geotextile fabrics may be embedded within the coating to produce reinforced, bonded geomembrane linings.

Polibrid 705E repair kits are also available for hand patching relatively small areas of previously applied Polibrid 705E.

INTENDED USES

Polibrid 705E is an ultra high-build, flexible coating designed to protect concrete and steel in chemical, abrasion and high impact environments, ideal for encapsulation of rivets, bolts, edges and other surface imperfections.

The product is odourless with zero VOC thus eliminating the creation of pinholes due to solvent evaporation producing a dense, elastic membrane capable of withstanding shrinkage cracks in concrete.

Polibrid 705E can be applied as a lining for various chemicals, potable water and wastewater services or for secondary containment. These characteristics and ability to provide rapid return to service make it ideal for the rail car, water & waste water, mining & minerals markets and a range of other industrial applications.

PRACTICAL INFORMATION FOR POLIBRID 705E

Colour	Buff
Gloss Level	Not applicable
Volume Solids	100%
Typical Thickness	700-5000 microns (28-200 mils) dry equivalent to 700-5000 microns (28-200 mils) wet
Theoretical Coverage	0.50 m²/litre at 2000 microns d.f.t and stated volume solids 20 sq.ft/US gallon at 80 mils d.f.t and stated volume solids
Practical Coverage	Allow appropriate loss factors
Method of Application	Plural Component Airless Spray

Drying Time

			Overcoating interval with self	
Temperature	**Touch Dry**	**Hard Dry**	*Minimum*	*Maximum*
15°C (59°F)	2 hours	2 days	*	2 hours[1]
25°C (77°F)	1 hour	1 day	*	1 hour[1]
40°C (104°F)	40 minutes	1 day	*	40 minutes[1]

[1] The values quoted are those achieved when exposed to direct sunlight. In shaded or cloudy conditions, maximum recoat values are increased as follows ; 15°C (59°F) – 6 hours ; 25°C (77°F) – 4 hours ; 40°C (104°F) – 1 hour

REGULATORY DATA

Flash Point (Typical)	Part A 260°C (500°F); Part B 110°C (230°F); Mixed 110°C (230°F)	
Product Weight	1.14 kg/l (9.5 lb/gal)	
VOC	0.00 lb/gal (0 g/lt)	EPA Method 24

See Product Characteristics section for further details

SURFACE PREPARATION

Please consult the Polibrid 705E Application Guidelines prior to commencing surface preparation.

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

Oil or grease should be removed in accordance with SSPC-SP1 Solvent Cleaning.

Abrasive Blast Cleaning
Abrasive blast clean to Sa2½ (ISO 8501-1:2007) or SSPC-SP10. If oxidation has occurred between blasting and application of Polibrid 705E, the surface should be reblasted to the specified visual standard. Surface defects revealed by the blast cleaning process should be ground, filled, or treated in the appropriate manner.

A sharp, angular profile of 90 microns (3.6 mils) is recommended as a minimum.

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

Concrete
For applications over concrete substrates, the use of a geotextile fabric should always be considered. Please consult the Polibrid 705E Application Guidelines for further details of surface preparation and application.

APPLICATION

Mixing

This material is supplied in full containers for use with plural component airless spray equipment. Once mixed, Polibrid 705E must be used within the working pot life specified.

Thoroughly mix Part A with air-driven agitator for 30 minutes just prior to use. Part B requires no agitation before using.

Mix Ratio

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

Working Pot Life

15°C (59°F)	25°C (77°F)	40°C (104°F)
5 minutes	3 minutes	1 minute

Airless Spray	Recommended	Tip Range 0.63-0.89 mm (25-35 thou) Total output fluid pressure at spray tip not less than 211 kg/cm² (3000 p.s.i.)
Air Spray (Pressure Pot)	Not recommended	
Brush	Suitable	Small areas and stripe coating only
Roller	Not recommended	
Thinner	Not suitable	**DO NOT THIN**
Cleaner	International GTA203 -	N.B Clean all equipment immediately after use.

Work Stoppages

Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with International GTA203.

Clean Up

Clean all equipment immediately after use with International GTA203.
It is good working practice to periodically flush out spray equipment during the course of the working day.
All surplus materials and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.

Note: After flushing equipment with GTA203 cleaner during clean up and work stoppages, it is recommended that a final purge is carried out with GTA004 to remove any moisture prior to storing the equipment.

PRODUCT CHARACTERISTICS

The detailed Polibrid 705E Application Guidelines should be consulted prior to use.

Only companies in receipt of Qualified Applicator status from International Protective Coatings shall be used for Polibrid 705E application. Companies shall document that they comply with this requirement prior to work commencement.

This datasheet provides general guidance on the use of Polibrid 705E. Specific project requirements will be dependent upon the service end use and operating conditions of the tank or vessel.

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

When applying to concrete substrates, application of Polibrid 705E should always be carried out during the cooling periods of the day.

This product will not cure adequately below -4°C (25°F) or at relative humidity above 95%. For maximum performance, ambient curing temperatures should be between 4°C and 49°C (40-120°F).

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

Polibrid 705E is sensitive to the presence of moisture and must not be applied to wet or damp substrates at any time.

Maximum continuous dry temperature resistance for Polibrid 705E is 82ºC (180°F).

Maximum continuous immersed temperature resistance for Polibrid 705E is 49ºC (120°F) for insulated tanks and vessels.

A minimum Shore D hardness reading of 60 is a recommended guideline to indicate suitability for return to service.

This product is not recommended for exposure to concentrated acids, aromatic hydrocarbons, ketones or chlorinated solvents.

Due to its aromatic composition, Polibrid 705E will tend to yellow or darken in colour after exposure to UV light.

This product has the following specification approvals:
Certified to AS/NZS 4020:2005 for tanks less than 1000 mm^2/litre.

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

Polibrid 705E should always be applied to correctly prepared substrates. Suitable for use over the following primer subject to regional availability:

Polibrid 670S

For alternative primers, consult International Protective Coatings.

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
- Polibrid 705E 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 in accordance with the advice given on this sheet, the Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event 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.

If in doubt regarding the suitability of use of this product, consult International Protective Coatings for further advice.

Warning: Contains isocyanate. Wear air-fed hood for spray application.

PACK SIZE

Unit Size	Part A		Part B	
	Vol	Pack	Vol	Pack
203 litre	200 litre	200 litre	200 litre	200 litre
75 US gal	50 US gal	55 US gal	25 US gal	30 US gal
150 US gal	50 US gal	55 US gal	50 US gal	55 US gal

For availability of other pack sizes, contact International Protective Coatings.

SHIPPING WEIGHT (TYPICAL)

* Consult International Protective Coatings for advice

STORAGE

Shelf Life	24 months (Part A) & 12 months (Part B) minimum at 25°C (77°F) Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.
	For maximum shelf life, it is recommended that Part B is stored at temperatures between 25°C (77°F) and 40°C (104°F). Absolute minimum storage temperature is 15°C (59°F).

Important Note

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