



## TECHNICAL DATA SHEET - PROTEC II

Revised: 07/2018

### PRODUCT DESCRIPTION

A direct to metal two component 100% solids hot spray applied coating system designed to produce a tough, impact resistant surface specifically onto steel or ductile iron substrates.

### RECOMMENDED APPLICATIONS

Internal and external protection of steel or ductile iron, tanks and pipelines.

### FEATURES

- Excellent adhesion direct to metal.
- Fast cure for increased productivity.
- Zero VOC's

### PACKAGE SIZE

**Volume** 110 US Gallons  
416.4 Litres

**Weight** 500 Kg

### PRODUCT DATA

#### PHYSICAL PROPERTIES

COLOUR	A Component is Amber B Component is Grey or Black Mixed product is Grey or Black
MIX RATIO BY VOLUME A : B	1 : 1
MIX RATIO BY WEIGHT A : B	1 : 1.08
% SOLIDS BY VOLUME	100
FLASH POINT, °C	168
GEL TIME AT 60°C/ SECONDS	5-20
WET FILM BUILD, MM	~0.4-1.50 mm in one multi pass coat

#### PERFORMANCE PROPERTIES

TENSILE STRENGTH, MPA (ASTM D 412)	8
ELONGATION, % (ASTM D 412)	<10
ADHESION, ELCOMETER PULL OFF TEST MPA	17
THEORETICAL COVERAGE	1.0 L/m <sup>2</sup> /mm dft
HARDNESS, SHORE D (ASTM D 2240)	70
IMPACT RESISTANCE, CM/KG (ASTM G14 15MM BALL)	1200-1400
ABRASION RESISTANCE, MG LOSS (ASTM 4060 CS 17, 1000G, 1000 CYCLES)	45
(ASTM 4060 H 10, 1000G, 1000 CYCLES)	48

Performance Properties Continued on next page >>

PERFORMANCE PROPERTIES		
DIELECTRIC STRENGTH, VOLTS / MM (ASTM G62)	16000	
FLEXIBILITY 180° BEND OVER 4" MANDREL	0.75mm @ 25°C Pass	
90° BEND OVER 4" MANDREL	0.75mm @ -40°C Pass	
PERMEABILITY / METRIC PERMS (ASTM E 96)	0.0113	
ACCELERATED WEATHERING ASTM G 23 Q UV 2500H	No loss of flexibility some slight chalking	
CATHODIC DISBONDMENT / ASTM G 95 AVERAGE RADIUS	30 days @ 25°C	7 mm
	14 days @ 65°C	8 mm

## APPLICATION INFORMATION

### SURFACE PREPARATION

Proper surface preparation is essential to achieve the full potential of the system. Consult the relevant specification guideline for the application / substrate in question.

Product should only be applied in conditions where the Temperature is 3°C above the dew point and Relative Humidity is <85%

### MIXING

The product is hot spray applied and mixing is an essential part of the operation occurring within the gun. (See Application section for further info)

### APPLICATION

Prior to commencing use of the product ensure that the two components are stored at temperature no lower than 20°C, a temperature of around 25°C is preferable and can be achieved by storage in a heated room or the use of electrical jacket heaters. The B component should be thoroughly power mixed prior to use.

Suitable dispensing equipment is required in order to apply this product. Equipment must be capable of, delivering product to the gun at ~ 120-170 bar, with each component accurately metered in a 1 : 1 ratio by volume. The output of the machine should be capable of matching the highest output of the gun being used. Accurate temperature control of the two components should be possible, typically up to 70°C, with trace heating being incorporated into the hose up to or as close as possible to the gun. The spray gun must use high pressure impingement to achieve satisfactory mixing of the components immediately on triggering. Some static mixer modified guns are also suitable, consult Irathane Futura to discuss suitable systems.

To achieve an even finish during application the gun should be held at right angles to the substrate at a distance of 30-70cm, this can depend on the output volume and pressure. Review the appropriate Specification Guideline for detailed application instruction.

### CURE

Cure times are quoted in the physical properties table above, they relate to average RH conditions, 30-50%, cooler temperatures or greater humidity levels will require longer cure times.

SUBSTRATE TEMPERATURE	10°C	20°C	30°C
SURFACE DRY @ 1.0MM / MINUTES	20	10	5
CURE 100% @ 1.0MM / DAYS	3	2	1
RECOAT TIME MINIMUM / MINUTES	10	4	2
MAXIMUM WITHOUT REACTIVATION / HOURS	4	2	0.5
ABRADE, DEDUST / HOURS	>60	>50	>30

### CLEAN UP

All equipment should be thoroughly cleaned directly after use using Mesamoll or suitable alternative. Spray guns should be cleaned using a proprietary cleaner as recommended by the manufacturer.

### SHELF LIFE & STORAGE

12 months from date of shipment when stored at room temperature (~22°C) in original unopened containers in a dry environment.

### PRECAUTIONS

For complete safety and handling information, please refer to Material Safety Data Sheets prior to using this product.

### WARRANTY

ITW Performance Polymers will replace any material found to be defective. Because the storage, handling and application of this material is beyond our control we can accept no liability for the results obtained.

### DISCLAIMER

All information on this data sheet is based on laboratory testing and is not intended for design purposes. ITW Performance Polymers makes no representations or warranties of any kind concerning this data.

For further product information or technical assistance please call +353 (0) 6171500 or mail enquiries@irathane Futura.com