

**PRODUCT DESCRIPTION**

**Polyflex 53FM** is a high performance fire protection polyurethane-polyurea thick elastomeric coating that was specially designed in order to provide high waterproofing performance and intumescent features.

**PRODUCT FEATURES**

- High hydro insulation and water proofing
- Good elasticity and flexibility
- High film build in one coat
- Can be used for full coating, repair kit, bonding layer
- Applied by brush, roller or airless spray
- Cold weather cures temperatures down to - 10°C (15°F)
- Fire protection of steel and concrete of 1 to 4 hours depends on the DFT of the application

**TYPICAL USES**

- Water proofing of concrete and wooden surfaces and industrial civilian buildings
- Fire resistance coatings

**TECHNICAL DATA**

<b>Colors available:</b>	Ash Grey
<b>Gloss:</b>	Semi-gloss
<b>Solids by volume:</b>	72 - 76 %
<b>Solids by Weight:</b>	80 - 84 %
<b>Theoretical Coverage of 1 mil:</b>	1187 ft <sup>2</sup> / U.S gallon
<b>D.F.T. at 25 microns:</b>	110 m <sup>2</sup> / 3.78 liters
<b>**Recommended WFT</b>	70 - 110 mils
<b>**Dry film thickness</b>	50 - 80 mils
<b>Kit Specific gravity</b>	1.20 - 1.30 kg/l
<b>Flash Point:</b>	24°C (75.2°F)
<b>V.O.C.:</b>	250 grams/liter 2.08 lbs / US gal.

**\*\* Depends on the application and needed Fire Resistance Rating**

**Drying times (20°C) based on 20 mils (0,5 mm) DFT**

<b>Tack free :</b>	1 ½ - 3 hours
<b>To recoat:</b>	5 hours
<b>Hard:</b>	6 - 7 hours
<b>Pot Life:</b>	1 hour
<b>Reduction solvent (if necessary)</b>	DE-300
<b>Dilution: (if necessary)</b>	10% by volume
<b>Catalyst:</b>	Catalyst 53C
<b>Mixing Ratio:</b>	1:1 by volume
<b>Shelf life:</b>	24 months @ 25° C unopened
<b>Packaging: Base</b>	3.78L (1 US gallons)
<b>Catalyst</b>	3.78L(1 US gallon)

Keep in cool and dry area

**APPLICATION GUIDE**
**SURFACE PREPARATION**

Remove all detrimental foreign matter such as oil, grease, dirt, soil, salts, drawing and cutting compounds and other contaminants from steel surfaces.

General use: If applied by squeegees, the dilution is not required, for application with spray equipment, could be diluted with 10% DE-300. Use one of the following recommendations:

- 1) Prepare surface in accordance with SSPC –SP – 11 (steel)
- 2) Prepare surface in accordance with SSPC –SP – 13 (concrete)

Apply Polyval 53FM directly on metal surface or using Polyflex 57. For application on concrete, apply Polyval's Moisture cure primer (Xyguard or Mono Ferro Pur) or Polyflex 57 with 4 mils DFT (100 microns) before application of Polyflex 53FM. (refer to correspondent TDS for that products)

**MIXING AND THINNING**

First, power mix the base portion Polyflex 53FM until it becomes homogenous. Secondly, add catalyst 53C slowly with continued agitation until both base & catalyst parts are well mixed together. Then product is ready for immediate use.

Dilution when applied by:

- Airless spray: 10% dilution by volume with solvent DE-300 if necessary
- Brush and roller: Dilution is not required

**APPLICATION PROCESS**

			<b>** RECOATING TIME</b>		
Substrate temperature	Dust free	Hard	Minimum	Maximum	Normal
20°C (68°F)	1,5 - 3 hours	6 - 7 hours	5 hours	30 days	12 hours
4°C (39°F)	3 - 5 hours	23 - 26 hours	24 hours	30 days	24 hours
-10°C (14°F)	18 - 20 hours	40 - 48 hours	48 hours	30 days	48 hours

**\*\* After 30 days light sanding is required**

Application by spatula, squeegee or airless spray as recommended below.

Application system depends on fire resistance rating requirements.

Option #1 :

Directly to 5 mm (minimum) steel thickness with 60-80 mils DFT. Surface preparation should be as per SSPC-SP6 with 2-3 mils surface profile.

Option #2:

To prime first 5mm (minimum) steel thickness with 4 mils DFT with Polyflex 57. Then apply PF-53 FM with 50-60 mils DFT. Surface preparation should be as per SSPC-SP11.

Option #3:

For application over concrete, apply 4 mils DFT of Xyguard, Mono Ferro Pur or Polyflex 57. The choice of the primer depends on the humidity in the concrete. Then apply PF-53FM with 50-60 mils DFT. Surface preparation should be as per SSPC-SP13.

**PHYSICAL PROPERTIES****Properties under tension:**

(ASTM D 412-C) Ultimate elongation = 130%

(ASTM D 412-C) Tensile Strength = 4.36 N/mm<sup>2</sup> (631 PSI)

**Adhesion by pull-off strength:**

(ASTM D 4541) Directly to metal (SSPC-SP6) 500 PSI minimum.

**Indication of hardness:**

(ASTM D 2240) 75 Shore A / 25 Shore D

**Taber abrasion resistance:**

(ASTM D 4060) 1000 cycles, 1000g load, CS-17 wheel : 42 mg

**Flexibility:**

**(ASTM D-522)** Conical: Excellent

**Impact resistance:**

(ASTM D 2794) Direct @ 77°F (25°C): 160 in-lb (18.0 joules)

Indirect @ 77°F (25°C): 160 in-lb (18.0 joules)

**Fire tests:**

-Standard practice for intumescent Coatings (ASTM E 2924)

-Fire resistance ratings as per ANSI/UL263/GOST P53295

Polyflex 53FM – DTM on sandblasted metal with 2-3 mils profile

60-80 mils DFT – FR Resistance: 240 minutes +

50-60 mils DFT – FR Resistance: 100 minutes +

**SPECIAL INSTRUCTIONS & PRODUCT LIMITATIONS**

- Thinner can be added depending on local voc and air quality regulations
- Shelf life: 24 months @ 25°C (77°F) unopened
- Surface temperature must be at 3°C (5°F) above the dew point during application

**See the material safety data sheet and product label for complete safety and precaution requirements.**

**DISCLAIMER:**

"The following is made in lieu of all warranties, expressed or implied: Manufacturer's obligation shall be to replace such quantity of the product proven to be defective. The manufacturer shall not be liable for any injury, loss or damage, direct or incidental or consequential, arising out of the use of or the inability to use the product. Before using, the user shall determine the suitability of the product for the intended use and the user assumes all risk and liability whatsoever in connection therewith. All values shown are approximations. Values indicated are for guide purposes only, as actual values can change due to application conditions, application methods, environmental conditions etc. The information contained herein is subject to change without notice. Consult your representative for a current data sheet. The foregoing may not be altered except by an agreement signed by the officers of the manufacturer."