POLYFLEX 55

ULTRA-CHEM *plus*

DESCRIPTION

Polyflex 55 is a highs performance polyurethane – polyurea highly crosslinking elastomeric coating specially designed to provide a superior chemical and abrasion resistant performance by regular methods of application. Polyflex 55 has a resistance performance to a broad range of chemicals, acids and alkalis.

FEATURES

- Excellent chemical resistance
- High film build in one coat
- Can be used for full coating or as a repair kit
- Applied by brush, roller, squeegee and spray by conventional or special plural component spraying equipment **XM XTREEM**
- Exceptional hardness and toughness
- Excellent hydrophobic & water proofing performance
- Cold weather cure for temperatures down to -25°C (-4°F)
- Excellent wear/abrasion resistance

RECOMMENDED USES

- Protection on steel and concrete surfaces from occasional splashing of chemicals
- Interior lining of tanks and pipes
- Acid retaining walls
- Pumps bases and casings
- Chemical resistant to drains, channels and flooring
- Protection of mining equipment from abrasion wear and chemicals
- Chemical transfer and holding areas
- Tank pads

TECHNICAL DATA

Colors available:	Dark colors according to RAL color chart
Gloss:	Semi-gloss to satin
*** Solids by volume:**	76 – 80 %
*** Solids by Weight:**	82 - 86 %
Theoretical Coverage of 1 mil:	1237 ft² / U.S. gallon
D.F.T. at 25 microns:	115 m² / 3.78 liters
Recommended WFT	17 – 35 mils *** depends on the application**
Dry film thickness	13 -28 mils *** depends on the application**
***Kit Viscosity:**	80-100 ku
***Kit Specific gravity:**	1.2-1.45 kg/l
Flash Point:	24°C (75.2°F)
V.O.C.:	250 grams/liter 2.08 lbs. / U.S. gal.

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

Tack free:	1 hour
To recoat:	1-2 hours
Hard:	5-6 hours
Pot Life:	15-20 minutes without dilution 30-40 minutes with 20% dilution
Reduction solvent (if necessary)	X-34, X-60, DE-300
Dilution: **(If necessary)**	20 % by volume
Catalyst:	Catalyst 595C
Mixing Ratio:	1:1 by volume
Shelf life:	24 months @ 25° C (77°F)unopened
Packaging: Base	3.78L (1 U.S. gallon) in 11.34L
Catalyst	3.78 L (1 U.S. gallon)

* Data may vary for different colors

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Disponible en Français

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 a spray equipment, could be diluted with 10-20% of X-34, X-60, DE-300

Use one of the following recommendations:

1. Prepare surface in accordance with SSPC –SP – 1 (solvent cleaning)
2. Prepare surface in accordance with SSPC –SP – 5 (white metal blast cleaning) for immersion
3. Prepare surface in accordance with SSPC –SP – 6 (commercial blast cleaning) for better chemical resistance

Apply Polyval's Moistures Cure primer (Xyguard or Mono Ferro Pur) or Epoxy primer Polys Rock Epoxy primer (448 [448102] or 100 Series) with 4 mils DFT (100 microns) before application of Polyflex 55. (Refer to correspondent Technical Data Sheet for product information)

MIXING AND THINING: First, power mix the base portion Polyflex 55 until it becomes homogenous. Secondly, add catalyst 55C slowly with contained agitation until both base and catalyst parts are well mixed together. Product is then ready for immediate use.
Dilution when applied by:

- Air spray: **20% dilution (by volume) with solvent X-34, X-60, DE-300 if necessary**
  Brush and roller or squeegee or special plural spraying equipment XM XTREEM: **No dilution is necessary**

APPLICATION PROCESS

			RECOATING TIME	
Substrate temperature	Dust free	Hard	Minimum	Maximum
29 - 35°C (84 - 95°F)	1 hour	5 – 6 hours	1 hour	4 hours
16 - 28°C (61 - 83°F)	2 – 2.5 hours	10 -12 hours	2 hours	6 hours
5 - 15°C (41 - 60°F)	18 – 20 hours	40 - 48 hours	4 hours	8 hours

**Abrade slightly after recoat has lapsed, or Polyflex solvent surface activator 101645 should be used.

CONVENTIONAL SPRAY		AIRLESS SPRAY	
Manual Spray gun:	DeVilbiss JGA-510, MBC-510 or equivalent	Pump Ratio:	30:1
Fluid Nozzle:	E Fluid Tip	Pressure:	1500 - 3000 Psi
Air Cap:	704 or 765	Hose:	⅜ inch, 50 ft length maximum
Atomizing Air:	45 – 75 lbs.	Tip Size:	0.015 - 0.021
Fluid Pressure:	15 – 20 lbs.	Filter Size:	50 Mesh (300 um)
Hose:	½ inch, 50 ft. length maximum		

Application by spray, brush, roller (synthetic roller with ¼ s ½ inch nap) or squeegee. **Always smooth applied surface with roller 5 minutes after application by squeegee**

Recommended coating systems:

Concrete Substrate

1st coat / Xyguard : 4-6 mils DFT (102-152 microns DFT) / Mono Ferro PUR : 3-4 mils DFT (76-102 microns DFT) / epoxy Polyrock 448 : 10-15 mils DFT (254-381 microns DFT) / Polyflex 111: 8-10 mils DFT (203-254 microns DFT)
2nd coat / Polyflex 55: 6.5-14 mils DFT (165-356 microns DFT)
3rd coat / Polyflex 55: 6.5-14 mils DFT (165-356 microns DFT)

Steel Substrate

1st coat (optional) / Xyguard : 4-6 mils DFT (102-152 microns DFT) / Mono Ferro PUR : 3-4 mils DFT (76-102 microns DFT) / epoxy Polyrock 448 : 10-15 mils DFT (254-381 microns DFT)
2nd coat / Polyflex 55: 6.5-14 mils DFT (165-356 microns DFT)
3rd coat / Polyflex 55: 6.5-14 mils DFT (165-356 microns DFT)

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PHYSICAL PROPERTIES

Properties under tension:

(ASTM D 412-C) Ultimate elongation = 25%

(ASTM D 412-C) Tensile Strength = 35.7 N/mm² (5177 PSI)

Adhesion by pull-off strength:

(ASTM D 4541) Xyguard, Mono Ferro Pur, epoxy Polyrock 448 or Polyflex 111 = 5.5 N/mm² (800 PSI)

Indication of hardness:

(ASTM D 2240) 65 Shore D

Taber abrasion resistance:

(ASTM D 4060) 1000 cycles, 1000g load, CS-17 wheel : 38 mg

(ASTM D 4060) 1000 cycles, 1000g load, H-18 wheel : 550 mg

Impact resistance:

(ASTM D 2794) Direct @ 77°F (25°C): 52 in-lb (5.9 joules)

SPECIAL INSTRUCTIONS:

- 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
- When applied as a repairing coating, the repairing damaged area should be removed completely with the careful sanding, dusting off and solvent cleaning of underneath primer or substrate (depends where the delaminating and peeling off have been examined) to provide the highest intercoat adhesion value

Keep in cool and dry area. See the material safety data sheet and product label for complete safety and precaution requirements.
Chemical resistance information is currently being updated according to ASTM standards. Please contact your local representative for an update.

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