Polyflex PROVEN AND PERFECTED

WASSER

Application Guide for **Polyflex Elastomeric Coatings**

1. GENERAL

1.1 SCOPE

This application procedure covers the installation of a superior performing, flexible, Polyflex coating system which creates an extremely high degree of protection against corrosion and is suitable to protect steel, waterproof concrete and for spraying on pond liners. This system is designed to provide a continuous, seamless membrane over new or existing surfaces like concrete, steel, and geotextile. Polyflex is offered in different formulations for different service applications including but not limited to NSF certification, Chemical Resistance, Waste Water, Hydro Power, and Oil & Gas.

1.2 PRODUCT DESCRIPTION

Polyflex is an exceptionally tough, two-component, elastomeric, high-build waterproofing coating, and manufactured using a unique state-of-the-art Polyurea technology. This technology provides a long lasting, flexible coating which is resistant to attacks by most chemicals, environmental conditions, standing water, and normal weathering. The high tensile strength of the Polyflex membrane combined with its elastomeric properties resists abrasion and impact damage while inhibiting breaks from expansion and contraction. Polyflex is applied with 1:1 ratio heated (150°F), plural component spray equipment with pressures at 2500 psi. The total coating can be applied in one application due to the fast-set characteristics of the membrane. Polyflex is available in many colors and can be applied up to 100 mils D.F.T. in one application. Also available in Brush and Roll Kits for repairs, applications where a special pump is not practical, and for small projects applied by in-house maintenance personnel.

PUMPS CRITERIA

- Drum Mixer
- Blades should be 1/3 of the diameter of the drum; may be air driven or hydraulic
- Plural Component 1:1 Heated Spray Equipment
- Pump: Graco® Reactor or equivalent
- Gun: Graco® Fusion or equivalent
- Fluid Pressure: 2500 psi
- Air Pressure: 100 psi
- Inlet Strainer Screen 30 mesh
- Gun Filter Screen 40 mesh

2. PREPARATION AND APPLICATION

2.1 EARTH

2.1.1 Excavate the area to be coated according to the specifications.

2.1.2 Tightly compact soil to a smooth surface free of objects and holes including vegetation and rocks.

2.1.3 Use the Polyflex sprayed on the overlaps to seams and seal the two pieces of geotextile fabric.

2.1.4 Install geotextile fabric with the heat-treated side up. Cut fabric extra long to fit into corners, overlap seams a minimum of 6-12 in. (15-30 cm).

2.1.5 Work from the center to the outer edges, as there is ½ - 1% shrinkage. Apply in one wet coat to achieve a minimum dry film thickness of 60-100 mils (1.5-2.5 mm) leaving approximately 2 feet of fabric uncoated for a joint if the project cannot be coated in one day. Extend the coating to completely cover all of the fabric.

2.2 CONCRETE

2.2.1 Follow the recommendations of 2.1.3 to 2.1.5 for an application over geotextile.

2.2.2 Wait until the curing of green concrete is finished before applying the Polyflex membrane (normally 28 days). The Polyflex membrane can be applied on green concrete with less than 28 days if the ASTM-D4263 plastic sheet test is acceptable. There should be no water condensation, nor darkening of the concrete after 24 hours exposure of the plastic sheet. The primer MC-CR 100 should be used on concrete with less than 28 days of curing. For application directly over concrete, remove contaminants from the surface with clean dry air, vacuum, mechanical brush, solvent, acid solution or high pressure water wash. Sand blast or shoot blasting can be use to remove the laitance on concrete (top layer).

2.2.3 For immersion, perform chloride testing. The concentration for chlorides, sulphates and nitrates should be less than 5 micrograms per square centimeter.

2.2.4 Fill voids and bug holes with approved fast-set concrete.

2.2.5 Seal cracks and joints, in excess of ¼" with a backer rod and elastomeric polyurethane caulking like the Sikabond® Construction adhesive.

2.2.6 Prime concrete with polyurethane moisture cure MC-CR 100.

2.2.7 Apply Polyflex in one wet coat to achieve a dry film thickness of 60-80 mils (1.5 -2.0 mm).

2.3 METAL

2.3.1 Remove contaminants from the surface with clean dry air, vacuum, mechanical brush, solvent, and perform sandblasting to create a surface profile of 2 to 3 mils. Application of the coating should start within 4 hours after completion of the abrasive blasting.

2.3.2 If it is for encapsulation or when adhesion is not critical apply 30-60 mils (0.75-1.5 mm) for corrosion protection, directly on sand blasted metal with a profile of 3 to 4 mils (75 to 100 microns).

2.3.3 Prime metal with polyurethane moisture cure primer MC-Miozinc 100 or MC-FerroClad™ 100 (3-5 mils or 75-125 microns DFT).

2.3.4 Apply Polyflex in one wet coat when applicable or multiple coats following recoat parameters to achieve a minimum dry film thickness of 40-80 mils (1.0 – 2.0 mm).

3. REPAIRS AND ANCHORING OF TERMINATION POINTS

3.1. Before repairs, all edges should be cut back to well adhered material at a 45 degree angle, scarify surface to provide profile or at a minimum use the WP 50 Activating Solvent Surface Activator to provide intercoat adhesion. For best results termination points need to be anchored. Speak with a Wasser Representative for procedures that best suit the application and substrate.

4. RESTRICTIONS

4.1. Even though Polyflex is not affected by water or humidity, a wet substrate can affect adhesion. Surface needs to be 5°F (3°C) higher than the dew point and rising. For the best adhesion results, ensure the substrate surface is clean, sound and dry.

4.2. For best color retention, Polyflex must be top-coated to protect against U.V. discoloration. Contact Wasser for topcoat recommendations.

4.3. If a second coat of Polyflex is required, it needs to be applied within the recoat time of the first coat (4 hours maximum). After recoat time has lapsed, scarify surface or at a minimum apply WP 50 Activating Solvent Surface Activator to provide intercoat adhesion. Apply the WP 50 by brush or roller, let it sit for 15 minutes and apply the Polyflex membrane.

COVERAGE TABLE FOR 100 % SOLID SPRAYABLE POLYUREA MEMBRANE

Thickness			ft²/U.S. gal.	ft²/imp. gal.	ft²/liter	m2/liter
inches	mils	mm				
0.020	20	0.5	80.2	95.3	21.2	1.95
0.030	30	0.75	53.5	63.5	14.1	1.29
0.040	40	1.00	40.1	47.6	10.6	0.97
0.050	50	1.25	32.1	38.1	8.5	0.78
0.060	60	1.50	26.7	31.7	7.0	0.64
0.070	70	1.75	22.9	27.2	6.0	0.55
0.080	80	2.00	20.0	23.8	5.3	0.49
0.090	90	2.25	17.8	21.1	4.7	0.43
0.100	100	2.50	16.0	19.0	4.2	0.38

USEFUL CONVERSIONS:

1 gal. U.S.	☛ 3.8 liters	inch	☛ 25.4 mm	**1 DRUM KIT OF POLYUREA CONSISTS OF:**	
1 gal. Imp.	☛ 4.5 liters	square meters	☛ 10.763 sq. ft²	205 LITERS OF CATALYST	= ISO = « A »
1 mm	☛ 0.0393 inches	square foot	☛ 0.092 m²	205 LITERS OF RESIN	= POLY = « B »
1 mil	☛ 25 microns	1 micron	☛ 0.04 mil		

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