



INSTALLATION / SPECIFICATION DATA

TUFFLEX SYSTEM “PED-ON-CONCRETE”

HIGH PERFORMANCE, PEDESTRIAN WATERPROOFING SYSTEM

1. GENERAL

1.1 Scope: This specification covers the installation of a durable, abrasion resistant Polyurea-Polyurethane Pedestrian Deck Overlay for Concrete. It is a monolithic system, designed to positively waterproof concrete surfaces by excluding moisture penetration during low temperature freeze-thaw cycling or high temperature, high humidity thermal cycling. This waterproofing system has outstanding adhesion, puncture resistance and abrasion resistance, while exhibiting superior flexibility and weather resistance.

1.2 Work included: Install waterproofing consisting of caulking and flashing reinforcement for joints, TUFF-POXY Epoxy Primer, TUFFLEX “TUFF” Elastomeric Base Membrane, TUFFLEX Texturing Rubber and Texturing Aggregate and TUFFLEX Color-Coat AL-Ester Aliphatic Top Coats. Apply in accordance with these specifications and latest general instructions supplied by Tufflex Polymers.

1.3 Work Not Included: Work under this section shall not include installation, finishing and corrective work in connection with the surfaces to receive the liquid-applied waterproofing system. Nor does it include furnishing and installation of metal flashing, drains, vents, ducts, curbs or any other penetration through the deck.

1.4 Condition of Concrete Surfaces:

1.41 The concrete surfaces shall be of sound structural grade (2,500 psi compressive strength recommended), a minimum thickness of 3 inches and shall have a steel-toweled followed by a fine broom finish, free of fins, ridges, voids or air-entrained holes.

1.42 Concrete shall preferably be cured by the water curing method. If curing agents are used, they shall be of pure sodium silicate base only.

1.43 Concrete shall be cured at least 28 days and until completely dry. Concrete shall be sloped for proper drainage.

1.44 Saw-cut control joints and/or expansion joints shall have been properly installed at strategic points throughout the field of the deck to control cracking caused by deflection and shrinkage.

1.45 Voids, rock pockets and excessively rough surfaces shall be finished with an epoxy grout or sand/cement/acrylic-latex smoothing coat.

1.46 When metal decking is used as the concrete form, it shall be of the ‘ventilating type’.

1.47 All concrete decks poured over precast “T”s, planks or slabs, shall have control joints placed directly over all corresponding joints or openings in the precast units.

1.5 Job Conditions:

1.51 Before any waterproofing work is started the waterproofing applicator shall thoroughly examine all surfaces for any deficiencies. Should any deficiencies exist, the architect, owner, or general contractor shall be notified in writing and corrections made.

1.52 Do not proceed with application of materials when deck temperature is less than 40°F or if precipitation is imminent.

1.53 Warn personnel against breathing of vapors and contact of material with skin or eyes. In confined areas without adequate ventilation, workmen shall wear approved respiratory protective gear and protective clothing.

1.54 All gas flames and electrical apparatus shall be shut down prior to the start of and during coating application and curing.

2. QUALIFICATIONS

2.1 Professional Installer:

2.11 Shall be experienced in successfully applying the same or similar materials and shall be specifically approved as an authorized applicator in writing by Tufflex Polymers.

2.12 Shall be financially responsible and be ready and able to submit payment bonds and project guarantees as required.

2.13 Shall submit to the general contractor and the building owner the required certificates of insurance prior to starting the project.

2.2 Sample Submittals: Submit samples not less than 4” x 3” in size, showing the approximate applied thickness, texture and color and the type and size of texturing aggregate. The submittal shall also include the manufacturer’s application – specification sheet and a list of materials to be used on this project in order to demonstrate compliance with these specifications.

3. MATERIALS

The materials shall be delivered to the job site in the original sealed containers bearing the product name, color, manufacturer’s lot number, directions for use and precautionary labels. All products listed are manufactured or supplied by Tufflex Polymers.

3.1 Caulking Compound: Shall be a TUFFLEX approved one-component, high adhesion, moisture cured, non-staining polyurethane compound.

3.2 Flashing Reinforcement: Shall be Tufflex woven reinforcing fabric, or as recommended by the waterproofing membrane manufacturer.

3.3 Primer: Shall be Tufflex Primer #2 (solvent based) or primer #3 (low VOC) Epoxy-Polyamine, low viscosity, two-component primer/sealer.

3.4 Elastomeric Base Membrane: Shall be TUFFLEX “TUFF” water catalyzed, solvent free, high strength Polyurea-Polyurethane membrane and shall meet or exceed the following typical properties:

TUFFLEX “TUFF”

PROPERTY	VALUE	TEST METHOD
Hardness, Shore A	65 ± 5	ASTM D-2240
Tensile Strength	1100 ± 150psi	ASTM D-412
Ultimate Elongation, %	650 ± 100%	ASTM D-412
Tear Resistance	200 ± 25pli	ASTM D-1004
Pot Life, @77°F	20-25 minutes	
Gel Time, @77°F	45-60 minutes	
Low Temperature Brittleness @-50°F	Passes	ASTM D-746
Flash Points, Mixed Material	Above 200°F	ASTM D-3278
Water Absorption, 1 month @77°F (% weight gained)	1.5% typical	ASTM D-471

3.5 Abrasion-Resistant Top Coat: Shall be TUFFLEX Color-Coat AL-Ester single component, high tensile strength, abrasion resistant and weather-resistant aliphatic polyurethane coating and shall meet or exceed the following typical performance properties:

COLOR-COAT AL-ESTER TOP COAT

PROPERTY	TYPICAL VALUE	TEST METHOD
Composition	Aliphatic, Polyester Polyurethane	
Weight Solids	80 ± 2%	
VOC Content	250 gm/l or 100 g/l	
Hardness, Shore A	90 ± 5	ASTM D-2240
Tensile Strength	3300 ± 300 psi	ASTM D-412
Ultimate Elongation	250 ± 50%	ASTM D-412
Tear Resistance	350 ± 50 lb./in.	ASTM D-1004
Water Permeability	Less than 0.1 Perm	ASTM E-96
Weather Resistance	No Chalking @ 2000 hours	ASTM-D-822
Abrasion Resistance	Negligible Change, CS-17 wheels, 1000 cycles, 1000 gm. load	ASTM C-501

3.6 Texturing Rubber: Texturing Rubber shall be EPDM or equivalent, performing, non-dusting, 20 to 30 mesh rubber granules.