

CSI SECTION 07 14 16 - Cold Fluid-Applied Waterproofing
CSI SECTION 07 18 13 - Pedestrian Traffic Coatings**SYSTEM OVERVIEW**

The Mer-Ko™ Weather Deck is a multi-layer, cementitious elastomeric decking system that provides seamless, waterproofing membrane, pedestrian walking and roof deck system designed for use on above grade horizontal plywood, concrete or over other approved substrates.

The Weather Deck system is installed using the following components:

- Polyurethane Caulking
- Conbase as a Slip Sheet
- Perimeter and Seam Adhesive
- Cementitious Primer (two component)
- Emulsion (for cementitious materials)
- Cold fluid Waterproofing Membrane
- Reinforcing Fabrics (Waterproofing Membrane Reinforcement)
- Cementitious Bodycoat (two component)
- Cementitious Smoothing Coat (two component)
- Primer
- Acrylic Topcoat Sealer

PART 1 - GENERAL**1.1 SECTION INCLUDES**

- A. Installation of Mer-Ko™ Weather Deck multi-layer waterproof pedestrian walking roof deck system designed for use over plywood, concrete or other approved substrates.
 1. Related Work: Substrate; Plywood or Concrete
- B. Work not Included:
 1. Finishing and corrective work in connection with surfaces to receive the system.
 2. Furnishing and installing metal flashings, drains, vents, ducts, curbs, expansion joints or any other through deck penetration.

1.2 RELATED SECTIONS

- A. Section 06 16 33 - Plywood Sheathing
- B. Section 03 00 00 - Cast In Place Concrete
- C. Section 03 05 00 - Underlayment
- D. Section 07 62 00 - Sheet Metal Flashing and Trim
- E. Section 07 90 00 - Joint Protection

1.3 REFERENCE

- A. ASTM C109 – Standard Test Method for Compressive Strength of Hydraulic Cement Mortars
- B. ASTM C482 – Standard Test Method for Bond Strength of Ceramic Tile to Portland Cement Paste
- C. ASTM D570 – Standard Test Method for Water Absorption of Plastics
- D. ASTM D638 – Standard Test Method for Tensile Properties of Plastics
- E. ASTM C794 – Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants.
- F. ASTM D751 – Standard Test Methods for Coated Fabrics
- G. ASTM D1204 – Standard Test Method for Linear Dimensional Changes of Nonrigid Thermoplastic Sheet or Film at Elevated Temperature Standard
- H. ASTM D2047 – Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine
- I. ASTM D4060 – Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
- J. ASTM E108 – Standard Test Methods for Fire Tests of Roof Coverings
- K. ASTM E119 – Standard Test Methods for Fire Tests of Building Construction and Materials.
- L. ASTM G23 – Practice for Operating Light-Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials

1.4 SYSTEM DESCRIPTION

- A. Description of Mer-Ko™ Weather Deck:

Mer-Ko™ Weather Deck multi-layer waterproof pedestrian walking roof deck system designed for use over horizontal plywood, concrete or other approved substrates, installed at 1/4" to 5/16" (6.35mm to 7.9mm) finishes thickness.

This system consists of: Conbase MB40, Hydro-Shield 380 Seam Adhesive, Weather Deck Membrane Filler-Primer, Weather Deck Waterproofing Membrane, Fabric Type III (10" Burlap), Fabric Type II Glassmat, Weather Deck Emulsion, Weather Deck Bodycoat, Weather Deck Membrane Filler-Smoothing Coat, Prep Seal-Primer and Mer-Ko Seal-Topcoat.

- B. Weather Deck Functional Criteria:

- 1. General:

- a. A minimum finished roof deck slope of 2% (1/4 unit vertical in 12 units horizontal) is required for proper drainage to either a drip edge metal flashing or deck drain having an attachment/receiver flange.
- b. Minimum No. 26 gage bonderized steel or equivalent flashing is installed around the perimeter.
- c. The use of Stainless steel requires scuffing with 100-120 grit sand paper.
- d. The use of copper perimeter flashings is not approved.
- e. Copper drain flashing-devices are required to be isolated through the use of a self adhering-peel and stick fabric-faced elastomeric membrane.
- f. One Hour Fire Retardant Construction :The Weather Deck fire-retardant walking deck covering over 5/8" thick 15.9mm) exterior-grade plywood with 2" x 8" (51mm x 23mm) joists spaced 16 inches (0.41 m) on center, with all plywood joints blocked, may be substituted for the double wood floor described in Footnote 13 of Table 7-C of the IBC. When installed over nominal 2" x 8" joists, the design bending stress assigned to the joists shall be limited to 78 percent of the IBC described designed values.

- g. One Hour Combustible Floor/Ceiling or Roof/Ceiling: Some rated assemblies incorporate proprietary products. When designing and specifying, check the UL Fire Resistance Directory for complete details on a particular assembly. (See UL Design numbers: L501, L502, L503, L512, L514, L515, L519, L521, and L522.) The applicable gypsum board is attached directly to the bottom of the joists. Alternatively, the gypsum board may be fastened to resilient metal furring strips for improved acoustical performance.
- h. Through deck penetrations are required to be flashed and or sealed.
- i. Building code conformance: The construction shall be acceptable for use under the building code in force in the jurisdiction of the project.
- j. Concrete control joints should coincide with stress relief concentration points, with a maximum spacing of 20 ft (6.1 m).

2. Performance Requirements

a. Deck Wearing Surface

Test	Method	Results
Abrasion Resistance	ASTM D4060 C-17 Wheel, 1,000 gram load for 1,000 cycles	0.375 gram loss
Adhesion	ASTM C794	>755 psi
Accelerated Aging	ASTM G23	2000 hours, No visual signs of failure
Chemical Resistance	ASTM D2299	Industrial Detergent, Ammonia, Muriatic Acid, Chlorine, Anti-freeze, Salt Solution: Pass
Compressive Strength	ASTM C109	3,500 psi
Elongation	ASTM D638	0.04 ft./ft.
Fire Rating	AC 39/S4.3, UBC 15-2	One-Hour, Class A
Indentation Characteristics	MIL-D-3134, Para. 3.9, 4.7.4	Complies
Membrane Value		No seepage under water-heads to 115 ft
Ozone Resistance		No visual adverse effects after 30 days exposure
Slip Resistance	ASTM D2047	Dry Leather: 0.63 Wet Leather: 0.72 Dry Rubber: 0.80 Wet Rubber: 0.84
Tensile Strength	ASTM D638 (Glassmat reinforced)	>625 psi
Water Absorption	ASTM D570	Average 7.9%

b. Fabric Reinforced Membrane

Elongation	ASTM D638	0.04 ft./ft.
Freeze Thaw	250 Cycles after cure	No Change
Low Temperature Flexibility	ASTM C734 (Burlap reinforced membrane)	Passed
Membrane Value		No seepage under water-heads to 115 ft

1.5 SUBMITTALS

- A. General: Submit Samples, Evaluation Reports and Certificates in accordance with Division 1 General Requirements Submittal Section.
- B. Samples: Submit samples for approval. Samples shall be of materials specified and of suitable size as required to accurately represent each color and texture used on project. Prepare each sample using same tools and techniques for actual project application. Maintain and make approved samples available at job site.
- C. Manufacturer's Warranty: Submit sample copies of Manufacturer's Warranty indicating Single Source Responsibility.

1.6 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Manufacturer: Shall have marketed waterproof pedestrian walking and roof deck systems in the United States for at least ten years.
 - a. Shall have completed projects of same building size and type as this project.
 - 2. Applicator:
 - a. Shall have attended a Mer-Ko Educational Seminar for installation of system.
 - b. Shall be currently listed and possess a certificate of attendance.
 - c. Shall be experienced and competent in installation of plaster-like materials.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver Mer-Ko Weather Deck products in original packaging with manufacturer's identification.
- B. Storage: Store materials supplied by Mer-Ko in a cool, dry location, out of sunlight, protected from weather and other harmful environment, and at a temperature above 40°F (4°C) and below 100°F (38°C) in accordance with manufacturer's instructions.

1.8 PROJECT / SITE CONDITIONS

- A. Installation Ambient Air Temperature: Minimum of 40°F (4°C) and rising, and remain so for a minimum of 24 hours thereafter.
- B. Substrate Temperature: Do not apply Mer-Ko materials to substrates whose temperature are below 40°F (4°C) or contain frost or ice.
- C. Inclement Weather: Do not apply Mer-Ko materials during inclement weather, unless appropriate protection is employed.
- D. Sunlight Exposure: Avoid, when possible, installation of the Mer-Ko materials in direct sunlight during high temperatures. Application of in direct sunlight during hot weather may adversely affect aesthetics.
- E. Mer-Ko materials shall not be applied if ambient temperature exceeds 120°F (49°C) or falls below 40°F (4°C) within 24 hours of application.
- F. Prior to installation, the surface shall be inspected for contamination, or other defects that may adversely affect the performance of the Mer-Ko materials and shall be free of moisture.

1.9 COORDINATION AND SCHEDULING:

- A. Coordination: Coordinate Mer-Ko Weather Deck installation with other construction operations.

1.10 WARRANTY

- A. Warranty: Upon request, at completion of installation, provide Mer-Ko Limited Warranty. See current Application Guide for Warranty schedule.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: ParexLahabra, Inc., 4125 E. LaPalma Ave., Suite 250, Anaheim, CA 92807
- B. Components: Obtain components of Mer-Ko Weather Deck from authorized distributors. No substitutions or additions of other materials are permitted without prior written permission from

2.2 MATERIALS

- A. Joint Filling
 - 1. Mer-Ko Weather Deck Membrane Filler: Portland cement and sand based material, for use with Weather Deck Emulsion, used to fill plywood board joints.
 - 2. Mer- Ko PUC 1000: One-part, gun-grade, non-sag, non-staining polyurethane sealant, used to fill concrete control joints.
- B. Slip Sheet
 - 1. Asphalt-saturated fiber glass slip sheet shall weighing 35 pounds per 100 square feet (1.2 kg/m²). The slip sheet is manufactured by the Consolidated Fiberglass Products Company, Bakersfield, California, and is identified as Conbase MB40.
- C. Perimeter and Seam Adhesive
 - 1. Mer-Ko Hydro-Shield 380 Seam Adhesive - One-part, gun-grade, bonding adhesive designed for use with the Slip Sheet.
- D. Primer Coat
 - 1. Mer-Ko Weather Deck Membrane Filler - Portland cement and sand based material, for use with Weather Deck Emulsion to create a membrane bonding primer.
- E. Base Flashing – Reinforced Waterproof Membrane
 - 1. Mer-Ko Weather Deck Waterproofing Membrane: Asphalt modified latex elastomeric waterproofing membrane reinforced with fabric.
 - 2. Mer-Ko Type III, 10” woven synthetic burlap fabric: Standard vertical to horizontal transition reinforcement.
- F. Horizontal Surface – Reinforced Waterproof Membrane
 - 1. Mer-Ko Weather Deck Waterproofing Membrane: Asphalt modified latex elastomeric waterproofing membrane reinforced with fabric.
 - 2. Mer-Ko Type II Glassmat Reinforcing Fabric: 36” bonded polyester fibers, standard horizontal waterproofing membrane reinforcement of Mer-Ko Weather Deck System.
- OR -
 - 2. Mer-Ko Type III, 40” woven synthetic burlap fabric: Optional horizontal fabric reinforcement.
- G. Bodycoat
 - 1. Mer-Ko Weather Deck Bodycoat: Portland cement and sand based material, for use with Weather Deck Emulsion to create a durable wearing surface.
- H. Smoothing coat
 - 1. Mer-Ko Weather Deck Membrane Filler: Portland cement and sand based material, for use with Weather Deck Emulsion used to create an aesthetic surface.
- I. Primer
 - 1. Mer-Ko Prep Seal: 100% acrylic based coating to prepare surfaces for Mer-Ko Seal or when more than 72 hours elapses between applications to insure bonding.
- J. Colored Topcoat Sealer
 - 1. Mer-Ko Seal: factor blended, 100% acrylic polymer based integrally colored topcoat.
 - a. Finish type and texture as selected by Designer

2.3 RELATED MATERIALS AND ACCESSORIES

- A. Substrate Materials: Substrate shall be installed in accordance with its industry standards and applicable building code.
 - 1. Plywood
 - a. Shall be a minimum 5/8 inch thick (16mm) exterior grade, PS 1, exposure one, plywood, complying, and installed in accordance with, 2006 or 2009 International Building Code with all edges blocked.
 - b. Face plies must be perpendicular to the supports.
 - c. The plywood must be attached to all blocking and end bearings with countersunk wood screws, screw or ring-shank nails equivalent to 8d common nails, spaced 4 inches (102 mm) on center at sheet perimeters and 8 inches (203.2mm) on center in the field, or as otherwise required by the applicable building code, whichever is more restrictive.
 - d. Plywood boards are spaced a minimum 1/8 inch.
 - 2. Concrete
 - a. Surfaces must be clean, sound and provide a uniform surface free of depressions and ridges.
 - b. Prepare concrete surfaces as required to produce a clean, sound substrate.
 - c. All holes must be cleaned and filled with an appropriate Mer-Ko Underlayment. All high spots must be removed by chipping or grinding.
 - d. Concrete control joints should coincide with stress relief concentration points, with a maximum spacing of 20 ft (6.1 m).
 - 3. Flashing: Refer to Division 07 Flashing Section for flashing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify project site conditions under provisions of Section 01 00 00.
 - B. Substrate Examination: Examine prior to System installation as follows:
 - 1. Substrate shall be free of dust, dirt, laitance, efflorescence, and other harmful contaminants.
 - 2. Substrate construction in accordance with substrate material manufacturer's specifications and applicable building codes.
 - C. Advise Contractor of discrepancies preventing installation of the Mer-Ko Weather Deck System. Do not proceed with the Mer-Ko Weather Deck System work until unsatisfactory conditions are corrected.
- PREPARATION**
- D. Protection: Protect surrounding material surfaces and areas during installation of system.
 - E. Clean surfaces thoroughly prior to installation.
 - F. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.2 MIXING

- A. Mix Mer-Ko proprietary products in accordance with manufacturer's instructions.

3.3 APPLICATION

- A. General: Installation shall conform to this specification and Parex Mer-Ko written instructions and drawing details.

3.5 CLEAN-UP

- A. Removal: Remove and legally dispose of Mer-Ko Weather Deck component debris material from job site.
- B. Clean Coating surfaces and work area of foreign materials resulting from operations.

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END OF SECTION

Disclaimer This guide specification is intended for use by a qualified designer. The guide specification is not intended to be used verbatim as an actual specification without appropriate modifications for the specific use intended. The guide specification must be integrated into and coordinated with the procedures of each design firm, and the requirements of a specific project.



Weather Deck Specifications

CSI SECTIONS 07 14 16
CSI SECTIONS 07 18 13

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