



IronMaster PAS250
Polymer Alloy Surfacing System

DIVISION 09 67 24.10 - EPOXY TROWEL-APPLIED FLOORING

1. GENERAL

1.1 SUMMARY

This specification covers the installation of a trowel-applied surfacer used to restore damaged concrete or protect new concrete in environments subject to extreme mechanical abuse and impact. PAS250 is the ideal choice for applications with very heavy steel-wheeled loads.

1.2 WORK INCLUDED

Furnish all labor and materials to prepare surface and install system in accordance with the following specifications.

1.3 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections apply to this Section.

1.4 DELIVERY, STORAGE, AND HANDLING

The materials shall be delivered to the job site in the original factory sealed containers bearing the product name, color, manufacturer's lot number, and precautionary labels. All products shall be manufactured or supplied by Polymerica, Inc. Materials are to be stored in a dry, enclosed area, protected from exposure to moisture, and maintained at a temperature between 60° F and 85° F.

1.5 INSTALLER QUALIFICATIONS

The installer shall be an established firm regularly engaged in the installation of polymeric flooring systems, with a minimum of five (5) years experience in successfully applying the same or similar systems. The installer shall be financially responsible, and able to supply references of jobs of a similar nature completed within the last five years. Where applicable, applicator shall be approved in writing by the materials manufacturer.

1.6 PROJECT CONDITIONS

- (a) Concrete substrate shall have cured thirty (30) days prior to application. If curing compounds have been used, they must be mechanically removed. Concrete shall be level to 1/8" in 10', have a steel troweled finish, and be free of grease or laitance.
- (b) Concrete subfloors on or below grade shall be adequately waterproofed beneath and at the perimeter of the slab. Substrate interior relative humidity must be below 75%, as measured by a Protimeter, and / or calcium chloride test results must not exceed 5.0 pounds per 1,000 square feet per 24 hours. Reference Polymerica Technical Bulletin SP-C for details on these tests.
- (c) General Contractor shall supply utilities including electric, water, and finished lighting. An air and substrate temperature of between 60° F and 85° F, and a relative humidity of 50% or less shall be maintained during installation

and curing. In some cases, low temperature curing agents can be specified for temperatures between 40°F and 60°F.

(d) Job area shall be free of other trades during installation and curing.

1.7 SUBMITTALS

The installer shall submit a finished sample of the product, color, and texture specified, along with complete product data, and Material Safety Data Sheets. All performance properties and cautions contained therein shall be considered part of this specification.

2. PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS / PRODUCTS

IronMaster PAS250 Surfacing System as manufactured by Polymerica, Inc.

2.2 DESCRIPTION / PROPERTIES

IronMaster PAS250 Surfacing System shall be installed at a nominal 1/4" thickness (for wear) or 1/2" thickness (for impact) consisting of:

(a) MasterShield IEP-HV, a 100% solids epoxy primer, installed at 8 - 10 mils

COMPONENT PERFORMANCE CHARACTERISTICS	
Tensile Strength (ASTM D-638)	8,500 psi.
Elongation (ASTM D-638)	5.5%
Adhesion (ASTM D-4541)	
to metal	2,500 psi.
to concrete	350 psi. (concrete fails)
Hardness (ASTM D-2240)	75 (Shore D)
Abrasion Resistance (ASTM D-4060)	35 - 40 mg.
CS-17, 1 kg. load, 1,000 rev.	weight loss
Service Temperature	160°F (immersion), 185°F (dry heat)

(b) IronMaster PAS, a trowel-applied, metal-alloy epoxy surfacer

COMPONENT PERFORMANCE CHARACTERISTICS	
Compressive Strength (ASTM C-579) @ 7 days	11,000 psi.
Tensile Strength (ASTM C-307)	3,000 psi.
Flexural Strength (ASTM C-580)	4,250 psi.
Bond Strength (ACI 503)	350 psi. concrete fails
Thermal Coefficient of Expansion (ASTM D-696)	0.000025 per inch/degree F
Thermal Shock Resistance (ASTM C-884)	passes
Water Absorption (ASTM C-413)	0.1%
Flammability (ASTM D-635)	Self-extinguishing
Impact Resistance (MIL D-3134F)	16 foot pounds concrete fractures
Indentation (MIL D-3134F)	No indentation
Abrasion Resistance (ASTM D-4060)	0.1 gram
CS-17, 1 kg. load, 1,000 rev.	maximum weight loss

(c) MasterShield CRC-LD, a 100% solids, slip-resistant, industrial epoxy coating, installed at 5 - 8 mils

COMPONENT PERFORMANCE CHARACTERISTICS	
Tensile Strength (ASTM D-638)	7,400 psi.
Elongation (ASTM D-638)	2.5%
Adhesion (ASTM D-4541)	
to metal	2,600 psi.
to concrete	350 psi. (concrete fails)
Hardness (Shore D, ASTM D-2240)	79
Abrasion Resistance (ASTM D-4060)	33 - 38 mg.
CS-17, 1 kg. load, 1,000 rev.	weight loss
Service Temperature	175°F (immersion), 225°F (dry heat)

2.3 PACKAGING

All materials shall be factory weighed and packaged from a single source manufacturer.

2.4 SUBSTITUTIONS

No substitutions shall be allowed.

3. EXECUTION

3.1 EXAMINATION

With installer present, the substrate shall be examined for compliance with requirements for installation tolerances and other conditions affecting performance. (Reference Section 1.6) Proceed with installation only after unsatisfactory conditions including levelness tolerances have been corrected.

3.2 PREPARATION

- (a) **CONCRETE** - The concrete shall be prepared by mechanical means such as shot blasting or scarification with an integral dust collection system. Any spalled or deteriorated concrete shall be removed and filled back to the original surface with TrowelMaster MCG or TrowelMaster IES. Consult Polymerica Bulletin SP-C for complete details.
- (b) **CRACKS** - All cracks shall be routed out to 1/4" minimum in width and depth and filled with an elastomeric joint compound. Consult Polymerica Bulletin SP-D for details.
- (c) **CHASING** - All areas in which the installed overlayment does not abut against a vertical surface shall be chased. The chase shall be 3/4" wide with the outside edge chiseled to a straight saw cut with a minimum depth of 1/2". Reference Polymerica Technical Bulletin SP-D for details.

3.3 INSTALLATION

- (a) **MOISTURE VAPOR PASSIVATOR (IF REQUIRED)**- Should MVT or slab internal relative humidity exceed limits outlined in section 1.6, the slab shall be treated with MasterShield MVP, applied at a minimum of 30 mils DFT in compliance with manufacturer's directions. High MVT or RH readings may require an application of this product greater than the 30 mil minimum. Consult Polymerica Technical Department.
- (b) **WATERPROOFING (OPTIONAL)** - Should waterproofing the substrate be desirable, areas shall be treated with MasterProof EWM (substitute MasterProof PEM for service temperatures below 32°F) waterproofing system, applied at a minimum of 25 mils DFT in compliance with manufacturer's directions.
- (c) **PRIMER** - Primer shall be MasterShield IEP-HV Industrial Epoxy Primer. Components shall be mixed according to manufacturer's directions, squeegee-applied, and backrolled with a short nap roller. Application rate shall be 160 - 200 square feet per gallon. Next step shall be performed while primer is still wet.
- (d) **SURFACER** - Surfacers shall be IronMaster PAS. Components shall be mixed, screeded to desired height, and steel trowel-applied in strict accordance with instructions. For details, consult Product Data Sheet.

- (e) **SEAL COAT** - Seal coat shall be MasterShield CRC-LD. Components shall be notch-squeegee-applied, then lightly back-rolled with a 3/16" Pro-Doo-Z roller according to manufacturer's directions, first east to west, then north to south. Application rate shall be 5 - 8 mils, or 200 - 320 square feet per mixed gallon. Second application shall be applied if necessary, exactly as the first.

NOTE TO SPECIFIER: A variety of final coats are available which can provide protection against strong UV rays or sunlight offer increased chemical resistance, provide various gloss levels, or varying degrees of slip resistance. Please consult with Polymerica Technical Department for assistance.

- (f) All trash and debris shall be properly disposed of and arrangements shall be made to remove all unused material from the job site.

3.4 DETAILS

- (a) **INTEGRAL COVE BASE** - Where specified, a cove base shall be installed integral with the floor in 2", 4", or 6" heights.
- (b) **EXPANSION AND ISOLATION JOINTS** - Where the flooring system covers an expansion or isolation joint in the substrate, installer shall sawcut a joint into the finished cured floor and fill with JointMaster EJC (substitute JointMaster PJC for service temperatures below 32°F) in accordance with manufacturer's directions. Where the flooring system covers non-working control joints, the above procedure shall be followed, and the joint filled with JointMaster CJC.

3.5 PROTECTION

The General Contractor shall be responsible for protection of the finished floor from damage by subsequent trades.

The preceding specifications have been prepared as a guideline for most applications. Product specification is of vital importance to the successful completion of a project. Should you have any questions, please call our Technical Department.

For additional information, visit our web site:

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