



## **DIVISION 09 67 26 - QUARTZ FLOORING**

### **1. GENERAL**

#### **1.1 SUMMARY**

This specification covers the installation of a decorative, seamless trowel-applied, multi-colored epoxy surfacing, ideally suited for commercial and industrial use, including food processing, beverage and bottling plants, clean rooms, laboratories, pharmaceutical plants, and manufacturing. DQS-OP offers beauty, durability, and a choice of several easily maintained finishes.

#### **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**

MasterQuartz DQS-OP as manufactured by Polymerica, Inc.

Wide range of colors are available.

**2.2 DESCRIPTION / PROPERTIES**

MasterQuartz DQS-OP shall be installed at a nominal 3/16" - 1/4" thickness consisting of:

(a) MasterShield IEP 100% solids penetrating primer

<b>COMPONENT PERFORMANCE CHARACTERISTICS</b>	
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) MasterQuartz DQS trowel-applied epoxy/quartz surfacer

<b>COMPONENT PERFORMANCE CHARACTERISTICS</b>	
Compressive Strength (ASTM C-579) @ 7 days .....	12,000 psi.
Tensile Strength (ASTM C-307) .....	2,100 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
Abrasion Resistance (ASTM D-4060) .....	19 mg.
CS-17, 1 kg. load, 1,000 rev.	weight loss
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

- (c) 2 applications of MasterShield DEC-OP 100% solids orange peel finish coat (see notes, section 3.3)

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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) .....	80 (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)

**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) 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 and Product Data Sheets for complete details.
- (b) 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) All areas at which the installed surfacing will not abut a vertical surface must 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". Consult Polymerica Bulletin SP-D for details.

**3.3 INSTALLATION**

- (a) **MOISTURE VAPOR PASSIVATOR** - 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. Components shall be squeegee-applied, then back-rolled with a good quality short nap roller according to manufacturer's directions. Application rate shall be 10 mils DFT, or 160 square feet per mixed gallon.
- (d) **SURFACER** - Surfacers shall be MasterQuartz DQS. Components shall be mixed and screeded to a uniform thickness, then finished by hand or power trowel in strict accordance with instructions. For more details, consult Product Data

Sheet. Allow to cure before proceeding.

- (e) **GROUT COAT** - Grout coat shall be MasterShield DEC-OP. Components shall be squeegee-applied, then back-rolled with a good quality short nap roller according to manufacturer's directions. Application rate shall be 160 - 200 square feet per gallon. Allow to cure. For more details, consult Product Data Sheet.
- (f) **FINAL COAT** - Final coat shall be MasterShield DEC-OP. Components shall be squeegee-applied with a notched squeegee, then lightly backrolled with a carpet roller. Application rate shall be 200 - 300 square feet per gallon. For more details, consult Product Data Sheet.

**NOTE TO SPECIFIER: A variety of final coats are available which can provide protection against strong UV rays or sunlight, or function in extreme chemical service. Other final coat choices can provide an orange peel finish, various gloss levels, or varying degrees of slip resistance. Please consult with Polymerica Technical Department for assistance.**

- (g) 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.

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For additional information, visit our web site:

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