

**SECTION 09722**  
**MASTERTOP®**  
*QUARTZITE 2200, SOLVENT-FREE*  
*CERAMIC GRANULAR EPOXY FLOORING*

**NOTE TO SPECIFIER**

The purpose of this suggested specification is to assist the specifier in developing a specification for the use of Master Builders *QUARTZITE 2200, SOLVENT-FREE*. Questions regarding the selection, installation, or intended end use of Master Builders materials should be directed to a Master Builders technical representative. This specification is prepared to be a part of a complete project specification.

**PART 1 - GENERAL**

**1.01 Related Documents**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this section.

**1.02 Summary**

- A. This section specifies a highly decorative, seamless epoxy flooring system utilizing multi-colored ceramic granular aggregate to provide an aesthetic, chemical resistant and durable wearing surface.
- B. *QUARTZITE 2200, SOLVENT-FREE* is a monolithic flooring system that can be installed in a variety of thicknesses, degrees of surface texture and chemical resistance depending upon the agreed to requirements of this project.

**1.03 References**

ASTM C 413-88	Test Method for Absorption of Chemical Resistant Mortars, Grouts and Monolithic Surfaces
ASTM C 531-90	Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical Resistant Mortars, Grouts and Monolithic Surfaces
ASTM C 579-91	Test Method for Compressive Strength of Chemical Resistant Mortars, Grouts and Monolithic Surfaces
ASTM D 580-90	Test Method for Flexural Strength and Modulus of Elasticity of Chemical Resistant Mortars, Grouts and Monolithic Surfaces
ASTM D 638-91	Test Method for Tensile Properties of Plastics
ASTM D 1864-88	Test Method for Moisture in Mineral Aggregates
ASTM D 2240-91	Test Method for Rubber Property - Durometer Hardness
ASTM D 4060-90	Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
ASTM D 4263-88	Test Method for Capillary Moisture in Concrete by Plastic Sheet



**1.04 System Performance Requirements**

A. Provide a ceramic granular flooring that, when cured, produces the following typical properties:

<u>PROPERTY</u>	<u>TEST METHOD</u>	<u>RESULT</u>
Water Absorption	ASTM C 413-88	0.2%
Coefficient of Thermal Expansion	ASTM C 531-90	$1.32 \times 10^{-5}$ in/in/°F
Compressive Strength	ASTM C 579-91	10,400 psi (72 MPa)
Flexural Strength	ASTM C 580-90	3200 psi (22 MPa)
Curing Shrinkage	ASTM D 531-90	$3.75 \times 10^{-4}$ in/in
Tensile Strength	ASTM D 638-91	7250 psi (50 MPa)
Shore D Hardness	ASTM D 2240-91	85
Abrasion Resistance	ASTM D 4060-90	0.105 gram
Moisture Vapor Permeability	ASTM E 96-80	0.06 perms
Impact Resistance	Gardner Impact	>160 in • lb

**1.05 Submittals**

- A. Submit manufacturer's technical data and product literature indicating that the products comply with specified requirements.
- B. Submit two mock-up sample coupons that are representative of the finished floor surface, texture and color.

**1.06 Quality Assurance**

- A. Installer Qualification: Use only an installer that is certified in writing by the flooring preparation of substrate, possible delaminated areas, crack and joint repair and complete flooring installation.
- B. Mock-up: On site, fabricate a panel approximately 100 sq. ft. (10 sq. m) to demonstrate quality of finished floor system, complying with manufacturer's instructions. Install panel where directed by architect/engineer. Maintain panel as a standard of quality for all installations.

**1.07 Delivery, Storage and Handling**

- A. Deliver product in factory packages, clearly marked with manufacturer's identification, printed instructions, lot numbers and shelf life expiration date for each component.
- B. Store materials at 50°F to 90°F (10°C to 32°C) in dry environment away from sunlight, heat or other hazards.

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### **1.08 Project Conditions**

- A. Maintain minimum concrete surface temperature of 55°F (12°C) for a minimum of 48 hours before, during and after installation, or until cured.
- B. Concrete must be free of hydrostatic, capillary or moisture vapor pressure. Substrates in contact with ground must have a properly installed, effective vapor barrier to help prevent potential problems resulting from hydrostatic, capillary or moisture vapor pressure. Concrete must contain less than 3% moisture when tested per ASTM D 1864.
- C. Concrete to receive a QUARTZITE 2200, SOLVENT-FREE floor should have been designed and installed as approved by architect/engineer to minimize random cracking, curling, slab deflections and shall contain well designed control and isolation joints as approved by architect/engineer.
- D. Do not apply sealers or membrane curing agents to concrete. Moisture curing of concrete is recommended.
- E. Concretes containing lightweight aggregates are not recommended substrates.
- F. Provide ventilation, lighting and clean, drinkable water supply.
- G. Advise other trades of fixtures and fittings not to be installed until floor is cured, such as: radiators, painting, decorating, floor-supported equipment or cabinetwork, caulking, plumbing, fixtures, etc.
- H. Floors shall be kept free of traffic and no trades shall be permitted in rooms during the application and curing of the coating.
- I. Protect adjacent surfaces from damage resulting from work of this trade. If necessary, mask and/or cover adjacent surfaces, fixtures, equipment, etc. by suitable means.

## **PART 2 - PRODUCTS**

### **2.01 Materials**

- A. Ceramic Granular Epoxy Flooring: QUARTZITE 2200, SOLVENT-FREE by Master Builders, Inc.
- B. (OPTIONAL) Elastomeric Membrane: NEO-V by Master Builders, Inc. for waterproofing and to reduce reflective cracking from the substrate.

## **PART 3 - EXECUTION**

### **3.01 Inspection**

- A. Before starting work, ensure that environmental and site conditions are suitable for application and curing.
- B. Inspect surfaces for acceptability of levelness, moisture content, pitch to drains and other critical factors.
- C. Report in writing to architect/engineer, with copy to manufacturer, of deficiencies that could impair work. Surfaces must be approved by the Certified Contractor prior to application of flooring.

### **3.02 Surface Preparation**

- A. Prepare surfaces in accordance with manufacturer's instructions.

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B. Remove concrete laitance by steel shot blasting, grit blasting, or other method approved by manufacturer.

### **3.02 Surface Preparation, continued**

C. Surface must be clean, sound and dry prior to application.

D. Pre-fill surface irregularities, holes and cracks in accordance with manufacturer's recommendations.

### **3.03 Mixing**

A. Comply with manufacturer's instructions for mixing procedures.

B. Pre-mix each component before every batch to ensure uniformity.

C. Carefully measure and mix the components together.

D. Carefully pre-mix #28 quartz aggregate to match desired color pattern.

### **3.04 Installation**

A. Follow manufacturer's written instructions.

B. (OPTIONAL) Apply stretch coat of NEO-V to minimum width of 3 inches (75 mm) wide and 20 mils (0.4 mm) dry thickness over cracks in substrate.

C. (OPTIONAL) Embed Pennflex tape or similar reinforcing fabric in NEO-V over cracks in substrate.

D. (OPTIONAL) Install elastomeric membrane in multiple coats to a dry film thickness of 20 to 30 mils (0.4 to 0.6 mm).

E. (OPTIONAL) Install cove and/or base in accordance with manufacturer's instructions.

F. Prime entire surface with recommended primer.

G. Apply epoxy and aggregate matrix in accordance with manufacturer's instruction to a total thickness of 1/8 inch (3.2 mm). Trowel slurry coat in place. Broadcast pre-mixed grains to saturation.

H. Apply grout coat(s) and top coat(s) at manufacturer's recommended coverage to provide uniform, dense surface.

I. Allow proper cure time for each installation step.

J. Allow the finished epoxy flooring to cure for a minimum of 7 days from completion before putting into service.

K. If necessary, use temporary protection until flooring is fully cured.

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