

SECTION 09 67 23-RESINOUS FLOORING

WearCOAT DQB-4 Resinous Broadcast Quartz Flooring System

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This section includes the following:
 - 1. Resinous broadcast flooring system as shown on the drawings and in schedules.

1.3 SYSTEM DESCRIPTION

- A. The work shall include preparation of the substrate and the furnishing and application of a broadcast quartz resinous flooring system comprising a 100% solids epoxy primer/binder with a UV resistant epoxy grout coat and wear resistant aliphatic polyurethane topcoat. Nominal thickness of the system is 1/8". Work shall be done according to drawings, specifications, and manufacturers instructions. Color and texture to be determined by owner.

1.4 SUBMITTALS

- A. Product Data: Manufacturers data on the system.
- B. Manufacturer's Safety Data Sheet (SDS) for each product being used.
- C. Samples: A 3 x 3 inch square sample shall be provided which is representative of the expected finish including texture, color, and thickness.

1.5 QUALITY ASSURANCE

- A. Manufacturers Qualifications: At least 10 years experience in the manufacture and support of materials as specified in this section.
- B. Applicator Qualifications: Application must be performed by a contractor having at least 5 years experience in the application of resinous broadcast flooring systems
- C. No requests for substitutions shall be considered that would change the generic type of the specified System.
- F. A pre-installation conference shall be held between Applicator, General Contractor and the Owner to review and clarification of this specification, application procedure, quality control, inspection and acceptance criteria and production schedule.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Material Condition and Delivery
 - 1. All system materials shall be delivered in manufacturers original packaging in unopened containers. Material labels shall include: product name, manufacturer's name, component designation, health and safety information.

B. Storage and Protection

1. The Applicator shall be provided with a storage area for all components. The area shall be between 60 F and 90 F, dry, out of direct sunlight and in accordance with the Manufacturer's recommendations and relevant health and safety regulations.
2. Copies of Safety Data Sheets (SDS) for all components shall be kept on site for review by the Engineer or other personnel.

C. Waste Disposal

1. The Applicator shall be provided with adequate disposal facilities for non-hazardous waste generated during installation of the system.

1.7 PROJECT CONDITIONS

A. Site Requirements

1. Application may proceed while air, material and substrate temperatures are between 55 F and 90 F providing the substrate temperature is at least 5F above the dew point. Consult the manufacturer if outside of this range.
2. The relative humidity in the specific location of the application shall be less than 85 % and the surface temperature shall be at least 5 F above the dew point.
3. The Applicator shall ensure that adequate ventilation is available for the work area.
4. The Applicator shall be supplied with adequate lighting equal to the final lighting level during the preparation and installation of the system.

B. Conditions of new concrete to be coated with epoxy material.

1. Concrete shall be moisture cured for a minimum of 7 days and have fully cured a minimum of twenty eight days in accordance with ACI-308 prior to the application of the coating system pending moisture tests.
2. Concrete shall have a flat rubbed finish, float or light steel trowel finish (a hard steel trowel finish is neither necessary or desirable).
3. Sealers and curing agents should not to be used.
4. Concrete surfaces on grade shall have been constructed with a vapor barrier to protect against the effects of vapor transmission and possible delamination of the system.

C. Safety Requirements

1. All open flames and spark-producing equipment shall be removed from the work area prior to commencement of application.
2. "No Smoking" signs shall be posted at the entrances to the work area.
3. The Owner shall be responsible for the removal of foodstuffs from the work area.
4. Non-related personnel in the work area shall be kept to a minimum.

1.8 WARRANTY

- A. Coatings For Industry warrants that material shipped to buyers at the time of shipment are substantially free from material defects and will perform substantially to Coatings For Industry's published literature if used in accordance with the latest prescribed procedures and prior to the expiration date.
- B. Coatings Form Industry's liability with respect to this warranty is strictly limited to the value of the material purchase.

PART 2 – PRODUCTS

2.1 FLOORING

- A. Coatings For Industry, WearCOAT DQB-4 broadcast quartz resinous flooring system
 - 1. System Materials:
 - a. Primer/Base Coat: Coatings For Industry, WearCOAT 1020
 - b. 1st Base Coat: Coatings For Industry, WearCOAT 440 Clear
 - c. Quartz: Broadcast Quartz Medium
 - d. 2nd Base Coat: Coatings For Industry, WearCOAT 440 Clear
 - e. 2nd Quartz Coat: Broadcast Quartz Medium
 - f. Grout coat: Coatings For Industry, WearCOAT 481HP Clear
 - g. Finish Coat: Coatings For Industry, WearCOAT 100 Clear

2.2 MANUFACTURER

- A. Coatings For Industry, 319 Township Line Road, Souderton, PA 18964;
Contact: 215-723-0919; www.cficoatings.com
- B. Manufacturer of Approved System shall be single source and made in the USA.

2.3 PRODUCT REQUIREMENTS

Typical Physical Properties:

System Thickness:	1/8"
Adhesive Strength (ASTM D4541):	350psi (concrete failure)
Compressive Strength (ASTM C-579):	12,000 psi
Impact Resistance (ASTM D2794):	160 in. lbs.
MEK Double Rubs (ASTM D5402):	200 no effect
Pencil Hardness (ASTM D3363):	2H
Taber Abrasion (ASTM D4060):	20mg loss (CS-17, 1000 cycles)
Flammability (ASTM D-635):	Self-extinguishing

A. Primer	WearCOAT 1020
1. Coverage @ 2 mils DFT	325 sq. ft. / gal.
2. Minimum Application Temp.	50°F (10°C)
3. Pot Life (70°F, 50% R.H.)	4 hours
4. Dry Time (70°F, 50% R.H.)	To Touch: 1 hour Recoat: 2-3 hours
5. VOC	115 g/L
6. Flash Point	200°F (93°C)
7. Volume Solids	30%
8. Shelf Life (Part A and Part B)	1 year if unopened
9. Primer	Self-priming
10. Method of Application	Brush and roll
11. Thinner	No thinning required
12. Minimum Dry Film Thickness	2 mils
13. Induction Time	None
14. Cleaner	Warm water

B. Base Coat

1. Coverage @ 10 mils WFT/DFT
2. Minimum Application Temperature
3. Pot Life (70°F, 50% R.H.)
4. Dry Time (70°F, 50% R.H.)
5. VOC
6. Flash Point
7. Volume Solids
8. Shelf Life
9. Cleaner
10. Number of Coats
11. Continuous Service Temperature
12. Mix Ratio
13. Thinner
14. Induction Time
15. Color

WearCOAT 440 Clear

160 sq. ft. / gal.
50°F (10°C) Substrate must be at least 5°F (3°C) above dew point
25-30 minutes
To Touch: 4-6 hours
Recoat: 8-24 hours
Foot Traffic: 12 hours
Heavy Service: 72 hours
Full Cure: 5 days
0 g/L
200°F (93°C)
100%
18 months if unopened stored between 50°F(10°C) & 90°F(33°C)
Acetone
One minimum
-10°F to 180°F (-23°C to 82°C)
Dry heat resistance
2 Parts A to 1 Part B by volume
No thinning required
None
Clear.

C. Quartz

1. Coverage

Broadcast Quartz Medium

0.4 lbs. / sq.ft.

D. 2nd Base Coat

1. Coverage @ 10 mils WFT/DFT
2. Minimum Application Temperature
3. Pot Life (70°F, 50% R.H.)
4. Dry Time (70°F, 50% R.H.)
5. VOC
6. Flash Point
7. Volume Solids
8. Shelf Life
9. Cleaner
10. Number of Coats

WearCOAT 440 Clear

160 sq. ft. / gal.
50°F (10°C) Substrate must be at least 5°F (3°C) above dew point
25-30 minutes
To Touch: 4-6 hours
Recoat: 8-24 hours
Foot Traffic: 12 hours
Heavy Service: 72 hours
Full Cure: 5 days
0 g/L
200°F (93°C)
100%
18 months if unopened stored between 50°F(10°C) & 90°F(33°C)
Acetone
One minimum

11. Continuous Service Temperature	-10°F to 180°F (-23°C to 82°C)
12. Mix Ratio	Dry heat resistance
13. Thinner	2 Parts A to 1 Part B by volume
14. Induction Time	No thinning required
15. Color	None
	Clear

E. 2nd Quartz Coat

Broadcast Quartz Medium

1. Coverage

0.4 lbs. / sq.ft.

F. Grout Coat

WearCOAT 481HP Clear

1. Coverage @ 10 mils
2. Minimum Application Temp.
3. Pot Life (70°F, 50% R.H.)
4. Dry Time (70°F, 50% R.H.)
5. VOC
6. Flash Point
7. Volume Solids
8. Shelf Life
9. Mix Ratio
10. Continuous Service Temp.
11. Limitations
12. Number of Coats
13. Cleanup
14. Induction Time
15. Thinners
16. Color

140 sq. ft. / gal.
 55°F (13°C) Substrate must be
 5°F (3°C) above dew point
 30 minutes
 Recoat: 8 hours-72 hours
 Tack-Free: 6-8 hours
 Foot Traffic: 24 hours
 Heavy Service: 72 hours
 0 g/L
 200°F (93°C)
 100%
 18 months unopened stored
 50°F & 90°F (10°C to 32°C)
 Supplied in kit form
 -10°F to 180°F (-23°C to 82°C)
 Dry heat resistance
 125°F (52°C) dry or wet
 One, minimum
 Acetone
 None
 No thinning required
 Clear

G. Topcoat

WearCOAT 100 Clear

1. Coverage @ 4 mils WFT/DFT
2. Minimum Application Temperature
3. Pot Life (70°F, 50% R.H.)
4. Dry Time (70°F, 50% R.H.)
5. Flash Point
6. Volume Solids

250 sq. ft. / gal.
 25°F (-4°C) Substrate must be
 least 10°F (6°C) above dew
 2 hours
 To Touch: 2-4 hours
 To Recoat: 4 hours minimum
 Mar-Free: 12 hours
 Light Traffic: 24 hours
 Maximum Hardness: 7 days
 108°F TCC (42°C)
 65%

7. Shelf Life	Part A: 2 years if unopened Part B: 1 year if unopened
8. Dry Film Thickness	Minimum: 4.0 mils per coat Maximum: 6.0 mils per coat
9. Mix Ratio	2 Parts A to 1 Part B by volume
10. Continuous Service Temperature	-40°F to 250°F (-40°C to 122°C)
11. Method of Application	Brush or roll
12. Cleaner	Acetone
13. VOC	250 g/L

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas and conditions, with Applicator present, for compliance with requirements for maximum moisture content, installation tolerances and other conditions affecting flooring performance.
 - 1. Verify that substrates and conditions are satisfactory for flooring installation and comply with requirements specified.

3.2 PREPARATION

- A. General
 - 1. New and existing concrete surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae growth, laitance, friable matter, dirt, and bituminous products.
 - 2. Moisture Testing: Perform tests recommended by manufacturer.
 - a. If moisture testing exceeds manufacturers recommendation for the system then a moisture mitigation system must be installed prior to resinous flooring installation. Slab-on grade substrates without a vapor barrier may also require the moisture mitigation system.
 - 3. There shall be no visible moisture present on the surface at the time of application of the system. Compressed oil-free air and/or a light passing of a propane torch may be used to dry the substrate.
 - 4. Surface preparation
 - a. Surface shall be prepared by mechanical methods in accordance with the material manufacturers guidelines.
 - b. Cracks and joints (non-moving) greater than 1/8 inch wide are to be chiseled or chipped-out and repaired per manufacturer's recommendations.
 - 5. At spalled or worn areas, mechanically remove loose or delaminated concrete to a sound concrete and patch per manufactures recommendations.

3.3 APPLICATION

- A. General
 - 1. Apply each component in the order specified and in compliance with manufacturers instructions. Strictly adhere to mix ratios and mixing instructions, recoat windows, and cure times.
 - 2. The system shall follow the contour of the substrate unless pitching or other leveling work has been specified by the Architect.
 - 3. A neat finish with well-defined boundaries and straight edges shall be provided by the Applicator.

3.4 FIELD QUALITY CONTROL

A. Tests, Inspection

1. The following tests shall be conducted by the Applicator:
 - a. Temperature
 1. Air, substrate temperatures and, if applicable, dew point.
 - b. Coverage Rates
 1. Rates for all layers shall be monitored by checking quantity of material used against the area covered.

3.5 CLEANING AND PROTECTION

- A. Cure flooring material in compliance with manufacturer's directions, taking care to prevent their contamination during stages of application and prior to completion of the curing process.
- B. Remove masking. Perform detail cleaning at floor termination, to leave cleanable surface for subsequent work of other sections.