Specifications

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MCR - Multi-Color Rollable Interior Protective Coating

PART 1 GENERAL
1.01 RELATED DOCUMENTS
A. Drawings and general provisions of the contract, including general conditions, Division 01 - General Requirements, and other applicable specification sections in the Project Manual apply to the work specified in this Section.
1.02 SUMMARY
A. Scope: Provide labor, material, equipment, related services, and supervision required, including, but not limited to, manufacturing, fabrication, erection, and application for rolled multicolor wall finishes as required for the complete performance of the work, and as shown on the drawings and as herein specified.
1. Provide a waterbased single component multicolor finish that shall be roller applied. Product shall meet or exceed applicable LEED standards, and shall meet or exceed values indicated in the performance paragraph. Product shall contain anti-microbial product that shall fight mold and mildew build-up on the dried paint film.
B. Related sections: Related sections include, but shall not be limited to, the following:
1. Section 03 30 00 - Cast-in-Place Concrete.
2. Section 03 40 00 - Precast Concrete.
3. Section 04 20 00 - Unit Masonry.
4. Section 09 20 00 - Lath and Plaster.
5. Section 09 29 00 - Gypsum Board.
6. Section 09 90 00 - Painting.
7. Section 09 96 59 - Glazed Wall Coatings.
1.03 REFERENCES
A. General: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only. The edition/revision of the referenced publications shall be the latest date as of the date of the contract documents, unless otherwise specified.
B. ASTM (ASTM)
1. ASTM D 56, "Standard Test Method for Flash Point by Tag Closed Tester."
2. ASTM D 522, "Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings."
3. ASTM D 523, "Standard Test Method for Specular Gloss."
4. ASTM D 1308, "Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes."
5. ASTM D 1653, "Standard Test Methods for Water Vapor Transmission of Organic Coating Films."
6. ASTM D 2486, "Standard Test Method for Scrub Resistance of Interior Latex Flat Wall Paints."
7. ASTM D 2574, "Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms."
8. ASTM D 2794, "Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)."
9. ASTM D 2805, "Stand ard Test Method for Hiding Power of Paints by Reflectometry."
10. ASTM D 3273, "Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber."
11. ASTM D 3359, "Standard Test Method for Measuring Adhesion by Tape Test."
12. ASTM D 3363, "Standard Test Method for Film Hardness by Pencil Test."
13. ASTM D 3456, "Standard Practice for Determining by Exterior Exposure Tests the Susceptibility of Paint Films to Microbiological Attack."
14. ASTM D 3960, "Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings."
15. ASTM D 4060, "Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser."
16. ASTM D 4828, "Standard Test Methods for Practical Washability of Organic Coatings."
17. ASTM E 84, "Standard Test Method for Surface Burning Characteristics of Building Materials."
18. ASTM G 53, "Standard Practice for Operating Light - and Water-Exposure Apparatus (Fluorescent UV-Condensation Type) for Exposure of Non-Metallic Materials."
C. Federal Standards (Fed. Std.):
1. Fed. Std. 141, "Paint, Varnish, Lacquer and related materials: Methods of Inspection, Sampling and Testing."
D. South Coast Air Quality Management District (SCAQMD):
1. SCAQMD Rule #1168, "Adhesive and Sealant Applications," including most recent amendments.
E. SSPC: The Society for Protective Coatings (SSPC):
1. SSPC SP-3, "Surface Preparation Specification No.3, Power Tool Cleaning."
1.04 SYSTEM DESCRIPTION
A. Performance:
1. Abrasion resistance: 50mg loss/1000cycles/1000gram weight, ASTM D 4060.
2. Accelerated weathering: 2000 hours, no chalking or change in film integrity, very good color retention, excellent water resistance, ASTM G 53.
3. Bacterial Resistance: No growth, ASTM D 3456.
4. Continuous Color: Complete integration of color particles within and throughout the paint finish.
5. Coverage: Up to 150 square feet per gallon (3.6 square meters per liter) depending upon pattern size, surface porosity and surface texture.
6. Fire Rating: Coating shall be Class A fire-rated, ASTM E 84 (pending).
7. Flashpoint: D.O.T., not regulated; OSHA, not regulated; ASTM D 56.
8. Flexibility Test: No cracking of film when bent around a 1/8 inch (3mm) mandrel, ASTM D 522.
9. Hardness, Pencil: 2B, ASTM D 3363.
10. Hiding power of paints by reflectometry: Not less than 0.96 contrast ratio, passes LEED requirement of minimum 0.95 contrast ratio, ASTM D 2805.
11. Impact Resistance: Pass, 80lbs. in, no visible cracking (over bonderite steel panel), ASTM D 2794.
12. Lifting: Can be re-coated, painted or covered with sheet goods without stripping, Fed. Std.141, Method 6252.
13. Mildew and fungal resistance: No growth, ASTM D 3273.
14. Permeability: 5.2 perms (with 100 percent acrylic primer), ASTM D 1653.
15. Practical washability of organic coatings: Rated 7 or higher for each stain tested, passes LEED requirement of minimum 7 rating, ASTM D 4828.
16. Resistance of emulsion paint in the container to attack by micro-organism: no growth, ASTM D 2574.
17. Resistance to common cleaners and disinfectants: Including, but not limited to, soapy water, liquid cleansers, mild abrasive cleansers, 70 percent isopropyl alcohol solutions, film not affected, ASTM D 1308.
18. Specular gloss: maximum of 10 at 60degrees, ASTM D 523.
19. Stain Resistance: resistant to the following: mustard, catsup, butter, orange juice, soda, vegetable oil, acetic acid, gasoline, motor oil, and betadine, ASTM D 1308.
20. VOC: 50 grams/liter, ASTM D 3960.
21. Washability of Paints: No change in specular gloss, Fed. Std. 141, Method 6141.
1.05 SUBMITTALS
A. General: See Section 01 33 00 - Submittal Procedures.
B. Product Data: Submit product data showing material proposed. Submit sufficient information to determine compliance with the drawings and specifications. Product data shall include, but shall not be limited to, manufacturer's product data and application instructions.
C. Samples: 1. Color samples: Submit two samples of each color (5 inches [127 mm] by 8 inches [203mm]).
2. Control Samples: Submit a rolled sample with each batch of finish coat to demonstrate that batches match approved samples.
D. LEED Submittals: Submittals that are required to comply with requirements for LEED certification include, but shall not be limited to, the following:
1. Regional Materials: Provide product data for regional materials indicating location and distance from the project of material manufacturer and point of extraction, harvest, or recovery for each raw material. Distance shall be within 500 miles (805Km) of the project site. Include statement indicating cost for each regional material and, if applicable, the fraction by weight that is considered regional.
2. Low-Emitting Materials: Submit certification by the manufacturer confirming that products (i.e., adhesives, sealants, paints, coatings, etc.) meet or exceed the volatile organic compound (VOC) limits set by specific agencies or other requirements as outlined in LEED Green Building Rating System. VOC limits shall be clearly stated in the submittal.

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1.06 QUALITY ASSURANCE
A. Qualifications: 1. Manufacturer qualifications: Manufacturer shall be a firm engaged in the manufacture of multi-color wall finish of types and sizes required, and whose products have been in satisfactory use in similar service for a minimum of five years.
a.Manufacturer to certify they make all materials in this section.
b.All materials within special coatings section including, but not limited to, finishes, and primers shall be supplied by one manufacturer.
2. Applicator qualifications: Applicator shall be a firm that shall have a minimum of three years of successful applications experience with projects utilizing wall finish similar in type and scope to that required for this project and shall be approved by the manufacturer.
A. Applicator can receive application training and instruction from the manufacturer or its representative.
B. Regulatory requirements: Comply with applicable requirements of the laws, codes, ordinances, and regulations of federal, state, and local authorities having jurisdiction. Obtain necessary approvals from such authorities.
C. Fire ratings: Provide Class A fire hazard classification, test procedure ASTM E 84.
D. Mock-Ups: Prior to application of the work, fabricate and erect mock-ups for each type of finish and application required to verify selections made under sample submittals and to demonstrate aesthetic effects as well as qualities of materials and execution. Build mock-ups to comply with the following requirements, using materials indicated for final unit of work. Mock-ups are recommended so that full-size field samples can be approved for aesthetic control.
1. Minimum 100 square foot (9.3 square meter) mock-up application of specified coating system on each type of surface. Provide separate mock-up for each color blend.
2. Upon acceptance by the architect, mock-ups shall serve as standard for the work.
3. Mock-up shall remain as part of the completed project.
E. Pre-Application conference: Conduct pre-application conference in accordance with Section 01 31 19 - project meetings. Prior to commencing the application, meet at the Project site to review the material selections, application procedures, and coordination with other trades. Mock-ups shall be reviewed during the pre-application conference. Pre-application conference shall include, but shall not be limited to, the contractor, the applicator, manufacturer's representatives, and any trade that requires coordination with the work. Date and time of the pre-application conference shall be acceptable to the owner and the architect.
1.07 DELIVERY, STORAGE, AND HANDLING
A. Deliver materials in their original, unopened containers bearing manufacturer's labels.
B. Provide fire extinguisher in storage area. Do not leave containers open. Remove empty cans and rags with oil or solvent from building every day.
C. Store between 50˚ F (10˚ C) and 85˚ F (29˚ C). Protect from freezing.
1.08 PROJECT CONDITIONS
A. Apply MCR Base Coat and MCR Top Coat under following conditions:
1. Temperature of air and substrate is between 50˚ F (10˚ C) and 70˚ F (21˚ C) and 50% relative humidity.
2. Temperature of substrate is above dew point.
3. Substrate is dry to touch.
B. Protect surfaces not to be coated.
C. Provide adequate illumination.
D. Provide adequate fresh air and ventilation during application.
1. 10 MAINTENANCE MATERIALS
MCR is long-lasting, durable, and easy to clean. If coating does become damaged, it is easy to re-coat. Touch-up materials and equipment are readily available, on large projects where the owner intends to perform their own maintenance, extra stock and equipment can be specified here.
A. Extra Stock: Provide [1 gallon (3.8l)] [5 gallons (18.9l)] of Base Coat and each Top Coat color used. Provide in sealed, labeled containers.
B. Equipment: Provide manufacturer recommended equipment.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. Basis of Design: Products specified by Tepromark Architectural Products LLC. Items specified are to establish a standard of quality for design, function, materials, and appearance. Equivalent products by listed manufacturers are acceptable. The architect will be the sole judge of the basis of what is equivalent.
2.02 MATERIALS
A. LEED Requirements:
1. Regional materials: Provide a minimum of [10 percent (based on cost)] [and an additional 10 percent beyond Credit MR 5.1 (total of 20 percent, based on cost)], of building materials that are regionally extracted, processed, and manufactured.
2. Low-Emitting Materials: Use adhesives, sealants, paints, coatings, etc., that comply with the specified limits for VOC content when calculated according to SCAQMD Rule#1168. See LEED Green Building Rating System for VOC content limits.
B. Primers, Sealers, and Fillers (If needed before application of MCR Base Coat): Provide primers recommended for substrates. Do not tint primers. Provide white only.
1. Gypsum Board Primer:
a. Acrylic Drywall Primer.
2. Block Filler:
a. High Solids Block Filler.
3. Water Base Primer:
a. Multi-Purpose Waterbase Primer.
4. Stain Blocker:
a. Stain Blocker.
MCR Base Coat: Finish shall be ready mixed; no tinting shall be required.
1. Basis of Design: "MCR Base Coat," Tepromark Architectural Products LLC.
C. MCR Top Coats Finish shall be ready mixed; no tinting shall be required.
1. Basis of Design: "MCR Top Coat," Tepromark Architectural Products LLC.
2.03 EQUIPMENT
Equipment is available from manufacturer
A. Apply with equipment recommended and provided by coating manufacturer. Use ½-inch nap roller for MCR Base Coat and supplied specialty 9-inch roller cover and 4-inch roller cover for application of MCR Top Coat.
PART 3 EXECUTION
3.01 EXAMINATION
A. Verification of conditions: Examine areas and conditions under which the work is to be applied, and notify the contractor in writing, with a copy to the owner and the architect, of any conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.
1. Verify that substrates are ready to receive work of this section and are in accordance with coating manufacturer's requirements. Report any conditions that would adversely affect the appearance or performance of the coating systems.
2. Beginning of the work shall indicate acceptance of the areas and conditions as satisfactory by the applicator.
3.02 SURFACE PREPARATION
Coordinate preparation with other applicable specification sections.
A. General:
1. Protection: Prior to surface preparation and application operations, completely mask, remove, or otherwise protect hardware, accessories, plates, lighting fixtures, floors, and similar items in contact with or in the vicinity of coating surfaces, but not scheduled to receive special coating. Protect and store removed items. Re-install items after completion of coating application.
2. Cleaning: Before applying special coating, thoroughly clean surfaces involved. Surfaces shall be clean, dry, and adequately protected from dampness. Surfaces shall be smooth, even and true to place, and free of any foreign material which will adversely affect adhesion or appearance of applied coating.
3. Moisture levels: Gypsum board, plaster, concrete, and masonry surfaces shall be tested with moisture testing device before coating is applied. No coating shall be applied when moisture content exceeds 12 percent, except as may be required by the manufacturer of the coating materials used.
4. Mildew: Mildew shall be removed and neutralized.
5. pH: pH of surface to be coated shall be under 10.
6. Priming: (Only prime surface with a quality untinted acrylic primer if needed before applying MCR Base Coat.) Provide recommended primers for surfaces to receive special coating. The contractor shall sand and re-prime all abrasions and damage spots in the surface of the primer before proceeding with subsequent MCR Base Coat.
B. Concrete: Remove high spots, fill holes, and clean surfaces as specified in Section 03 30 00 - Cast-In-Place Concrete . Cure 28 days minimum before application of coating.
C. Masonry: Tool joints and clean surfaces as specified in Section 04 20 00 - Unit Masonry. Rinse off cleaning solutions and allow surface to dry. Cure mortar 28 days minimum before application of coating.
D. Ferrous metals: Remove rust and mill scale. Shop-coated, unprimed, or damaged areas shall be cleaned to meet the requirements of the SSPC SP-3 and primed in accordance with these recommendations. Wire brush or sand damaged or rusted areas to bright metal. Remove grease and other foreign materials with mineral spirits. Touch-up damaged areas of shop primer.
E. Non-Ferrous Metals: Clean with lacquer thinner.

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F. Wood: Sand smooth and free of marks. Wash sap spots and knots with mineral spirits. When dry, cover spots and knots with two coats of shellac.
G. Plaster: Cure 28 days minimum before application of coating.
H. Gypsum Board: Apply joint tape and compound to joints, fastener heads, dents, and surface flaws as specified in Section 09 29 00 - Gypsum board. Prepare surface to a minimum Level 3 gypsum board finish. Use acrylic joint compound, lightweight muds may cause joint problems. Sand smooth and flush with adjacent surfaces.
1. Prepare surface of moisture-resistant board to a minimum Level 3 gypsum board finish. Surface shall be completely primed with manufacturer's recommended stain blocker before general priming.
2. Prepare surface of impact-resistant board to a minimum Level 3 gypsum board finish. Surface shall be completely primed with manufacturer's recommended stain blocker before general priming.
I. Ceramic tile: Clean tile and remove mildew. Scuff sand, apply manufacturer's recommended primer before applying MCR Base Coat.
J. Vinyl wall coverings: Verify that seams are laid down and firmly adhered. Prime with manufacturer's recommended primer before applying MCR Base Coat. Check for intercoat adhesion and plastizer migration prior to applying MCR Base Coat.
K. Previously painted surfaces: Thoroughly clean and dry surface to be re-coated. Sand lightly and remove sanding dust. If needed, prime entire wall surface with manufacturer's recommended stain blocker before applying MCR Base Coat. For other substrates, contact Tepromark for preparation recommendations. This product is not recommended for exterior surfaces, floors, and surfaces subject to frequent water contact.
3.03 APPLICATION
A. Follow manufacturer's recommendations and instructions carefully regarding special coating product so as to provide the best quality work.
B. Use supplied equipment when rolling MCR Top Coat and keep in clean and in proper working condition to provide best quality work as intended by this section.
C. Materials shall be applied under adequate illumination, evenly spread, and smoothly applied, free of runs, sags, holidays, lap marks, air bubbles, and pinholes to assure a smooth finish.
D. MCR Base Coat Application: MIXING: After opening, stir by hand with gentle rolling motion to achieve complete uniform consistency. APPLICATION: use a 1/2 nap roller and brush and apply one coat of MCR Base Coat. This adhesion promoting base coat improves rolling properties over smooth or previously painted surfaces. THINNING: Do Not Thin. This will compromise the adhesion of the Top Coat. BASE COAT COVERAGE: Approximately 300 sq. ft./gal depending on surface porosity and texture. BASE COAT DRY TIME: Approximately 30 minutes to touch; 30-45 minutes to re-coat at @ 70°F (21°C) and 50% relative humidity. CLEAN UP: Clean equipment with soap and water. When cleaning up spatters or spills, use water. IMPORTANT: Do not use provided specialty rollers to apply Base Coat. This will affect the finished look.
E. MCR Top Coat Application: MIXING: After opening, stir by hand with gentle rolling motion to achieve complete uniform consistency. APPLICATION: Start by cutting - in and covering difficult areas by using the suppled 4-inch roller. First Coat: Use the supplied 9-inch roller cover, and roll the Top Coat over the surface. Load roller and evenly roll manageable sections floor to ceiling using vertical strokes with even pressure. Avoid rolling too thin. Lay off each section from top to bottom ensuring the finish is laying in same direction. Allow first coat to dry before applying second coat. Approximately 2 hours to touch. Clean Up: In between coats clean roller cover with soapy water and cover any open paint with a clean, damp rag to avoid skinning. Second Coat: Apply second coat using the same method as the first. Second coat is required to match the controlled sample. All imperfections will be covered up with this second coat. Second Coat will require considerably less paint than the first coat. IMPORTANT: Do Not Over Work – This may lift the product already on the surface. DO NOT THIN: This will compromise the adhesion quality of the Top Coat. Coverage: Top Coat is approximately 150 sq. ft. per gallon. Coverage variesdepending on surface texture porosity and film thickness. FINISH COAT DRYTIME: Approximately 2 hours to re-coat @ 70° F (21°C) and 50% relative humidity. CLEAN UP: Clean roller cover, brushes and tray with warm soapy water.
3.04 INSPECTION
A. Request acceptance of each coat before applying succeeding coats.
3.05 CLEANING
A. Remove paint spatters from adjoining surfaces.
B. Repair any damage to coatings or surfaces caused by cleaning operations.
C. Remove debris from job site and leave storage area clean.
3.06 PROTECTION
A. Provide final protection and maintain conditions in a manner acceptable to the Applicator, that shall ensure that the MCR Rolled Multicolor Finishes shall be without damage at time of substantial completion.
3.07 REPAIR/MAINTENANCE
A. Maintenance:
1. When necessary, the surface can be washed down with a mild solution of detergent and water (this shall be done when film of dust, dirt, or smoke appears on surface).
2. Stubborn stains can be removed with mild (bleach-free) abrasive cleanser or 70 percent isopropyl alcohol solutions with intermittent rinsing.
B. Necessary equipment:
1. An option to the contractor specification shall be to provide single gallons of each color for future repair coats.
C. Surface Preparation:
1. Make sure area to be repaired is spackled. Use acrylic spackle, lightweight muds may cause porosity differences on the wall. Sand smooth and level.
2. If needed, spot prime with recommended white primer before applying MCR Base Coat.
3.08 PAINTING SCHEDULE
A. Interior: As indicated on schedules.
1. Miscellaneous and Ferrous Metals:
a. Primer: Ferrous metal primer.
b. MCR Base Coat: "MCR Base Coat," Tepromark Architectural Products LLC.
c. MCR Coat: "MCR Finish Coat," Tepromark Architectural Products LLC.
2. Wood:
a. Primer: Stain Blocker
b. MCR Base Coat: "MCR Base Coat," Tepromark Architectural Products LLC.
c. MCR Coat: "MCR Finish Coat," Tepromark Architectural Products LLC.
3. Gypsum Board and Plaster:
a. Primer (If needed): Acrylic Drywall Primer.
b. MCR Base Coat: "MCR Base Coat," Tepromark Architectural Products LLC.
c. MCR Coat: "MCR Finish Coat," Tepromark Architectural Products LLC.
4. Moisture-Resistant Gypsum Board:
a. Primer (If Needed): Stain Blocker.
b. MCR Base Coat: "MCR Base Coat," Tepromark Architectural Products LLC.
c. MCR Coat: "MCR Finish Coat," Tepromark Architectural Products LLC.
5. Concrete and Masonry (Unfilled):
a. Primer (If Needed): Acrylic Drywall Primer.
b. MCR Base Coat: "MCR Base Coat," Tepromark Architectural Products LLC.
c. MCR Coat: "MCR Finish Coat," Tepromark Architectural Products LLC.
6. Concrete and Masonry (Filled):
a. Primer (If Needed): High Solids Block Filler. Then apply Acrylic Drywall Primer.
b. MCR Base Coat: "MCR Base Coat," Tepromark Architectural Products LLC.
c. MCR Coat: "MCR Finish Coat," Tepromark Architectural Products LLC.
7. Glazed Block, Ceramic Tile, Masonite, MDF, Fiberglass, Glass, Galvanized Metals, Aluminum, Laminate, Epoxys and Urethanes:
a. Primer: Multi-Purpose Waterbase Primer.
b. MCR Base Coat: "MCR Base Coat," Tepromark Architectural Products LLC.
c. MCR Coat: "MCR Finish Coat," Tepromark Architectural Products LLC.
8. Vinyl Wall Coverings:
a. Primer: Multi-Purpose Waterbase Primer or Acrylic Drywall Primer.
b. MCR Base Coat: "MCR Base Coat," Tepromark Architectural Products LLC.
c. MCR Coat: "MCR Finish Coat," Tepromark Architectural Products LLC.
9. Previously Painted Surfaces:
a. Primer (If Needed): Stain Blocker.
b. MCR Base Coat: "MCR Base Coat," Tepromark Architectural Products LLC.
c. MCR Coat: "MCR Finish Coat," Tepromark Architectural Products LLC.