

SECTION 07 18 00

MasterSeal® Traffic 2900 Deck Coating System

NOTES TO SPECIFIERS:

PLEASE UPDATE YOUR MASTER SPECIFICATIONS TO REFLECT THE COMPANY AND PRODUCT NAME CHANGES. THE OLD PRODUCT NAMES ARE PROVIDED IN PARENTHESES FOLLOWING THE NEW NAMES IN THIS SECTION FOR REFERENCE.

THE PURPOSE OF THIS GUIDE SPECIFICATION IS TO ASSIST THE SPECIFIER IN DEVELOPING A PROJECT SPECIFICATION FOR THE USE OF MASTER BUILDERS SOLUTIONS PRODUCTS. THIS GUIDE DOCUMENT HAS BEEN PREPARED TO BE PART OF A COMPLETE PROJECT MANUAL. IT IS NOT INTENDED TO BE A "STAND ALONE" DOCUMENT, AND IT IS NOT INTENDED TO BE COPIED DIRECTLY INTO A PROJECT MANUAL.

THIS GUIDE SPECIFICATION WILL NEED TO BE CAREFULLY REVIEWED FOR APPROPRIATENESS FOR THE GIVEN PROJECT AND EDITED ACCORDINGLY TO COMPLY WITH PROJECT-SPECIFIC REQUIREMENTS.

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Application of high-solids, fluid-applied, polyurethane, waterproofing, traffic-bearing, membrane deck coating system.

EDIT NOTE: DELETE SECTIONS BELOW NOT RELEVANT TO THIS PROJECT; ADD OTHERS AS REQUIRED.

B. Related Sections:

1. Section 03 30 00 - Cast-in-Place Concrete.
2. Section 03 40 00 – Precast Concrete

1.2 SUBMITTALS

A. Comply with Section [01 33 00] [__ __ __].

B. Product Data: Submit manufacturer's technical data sheets.

C. LEED Submittals: Comply with requirements for each product to achieve points indicated in LEED Project Checklist provided by the architect/engineer.

D. Submit list of project references as documented in this Specification under Quality Assurance Article. Include contact name and phone number of the person charged with oversight of each project.

E. Quality Control Submittals:

1. Provide protection plan of surrounding areas and non-work surfaces.

1.3 QUALITY ASSURANCE

A. Comply with Section [01 40 00] [__ __ __].

B. Qualifications:

1. Manufacturer Qualifications: Company with minimum 15 years of experience in manufacturing of specified products and system.
2. Manufacturer Qualifications: Company shall be ISO 9001:2015 Certified.

3. Applicator Qualifications: Company with minimum of 5 years' experience in application of specified products and system on projects of similar size and scope and is acceptable to product manufacturer.
 - a. Successful completion of a minimum of 5 projects of similar size and complexity to specified work.

C. Field Sample:

1. Install field sample at project site or other pre-selected area of building, as directed by architect/engineer.
2. Provide mock-up of at least 100 square feet (9.3 m²) to include surface profile, sealant joint, crack, flashing and juncture details and allow for evaluation of slip resistance and appearance.
3. Apply material in accordance with manufacturer's written application instructions.
4. Manufacturer's representative or designated representative will review technical aspects; surface preparation, application and workmanship.
5. Field sample will be standard for judging workmanship on remainder of project.
6. Maintain field sample during construction for workmanship comparison.
7. Do not alter, move or destroy field sample until work is completed and approved by architect/engineer.
8. Obtain architect/engineer written approval of field sample before start of material application, including approval of aesthetics, color, texture and appearance.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with Section [01 60 00] [__ __ __].
- B. Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
- C. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- D. Store materials in unopened packaging in clean, dry area protected from sunlight.

1.5 PROJECT CONDITIONS

- A. Environmental Requirements:
 1. Minimum Application Temperature: 30 degrees F (-1 degrees C).
 2. Do not apply in rain or when rain is expected within 24 hours.
 3. Do not apply above 90 degrees F (32 degrees C).

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with requirements, provide products from the following manufacturer:

Master Builders Solutions
889 Valley Park Drive
Shakopee, MN 55379 USA
Customer Service: 800-433-9517
Technical Service: 800-243-6739
Direct Phone: 952-496-6000
Website: www.master-builders-solutions.com/en-us
- B. Substitutions: Comply with Section [01 60 00] [__ __ __].

- C. Specifications and drawings are based on manufacturer's proprietary literature from Master Builders Solutions. Other manufacturers shall comply with minimum levels of material, color selection and detailing indicated in specifications or on drawings. Architect/engineer will be sole judge of appropriateness of substitutions.

2.2 MATERIALS

- A. Fast-curing polyurethane-methyl methacrylate waterproofing, traffic-bearing membrane system for vehicular areas.
1. Acceptable Product: MasterSeal Traffic 2900 Deck Coating System by Master Builders Solutions.
 - a. Primer: MasterSeal P 280FS: an MMA solvent-free, two-component, 100% reactive, low viscosity primer.
 - b. Base coat: MasterSeal M 290FS: a polyurethane-modified methyl methacrylate (PMMA) waterproofing base coat.
 - c. Intermediate Coat: MasterSeal TC 297FS: an MMA solvent-free, two-component, 100% reactive intermediate coat.
 - d. Top coat: MasterSeal TC 299FS: an MMA solvent-free, two-component, 100% reactive pigmentable top coat.
 - e. Aggregate: MasterSeal 940/940DR/941/941DR
- B. Performance Requirements: Provide materials complying with the following requirements:
1. Crack Bridging, Base Coat, ASTM C957: Passes.
 2. Adhesion (pull-off), ASTM D 4541.
 - a. >500 psi
 3. Tensile Strength, ASTM D412:
 - a. Primer: 3,500 psi (24.1 MPa)
 - b. Base Coat: 1,600 psi (11 MPa)
 - c. Intermediate Coat: 1,350 psi (9.3 MPa).
 - d. Top Coat: 1,050 psi (7.3 MPa).
 4. Elongation, ASTM D412:
 - a. Primer: 1.3 percent.
 - b. Base Coat: 1324 percent.
 - c. Intermediate Coat: 140 percent.
 - d. Top Coat: 34 percent.
 5. Hardness, ASTM D2250, Shore A:
 - a. Base Coat: 70.
 - b. Intermediate Coat: 61.
 - c. Top Coat: 89.
 6. Solids Content:
 - a. Primer: 100 percent
 - b. Base Coat: 100 percent.
 - c. Intermediate Coat: 100 percent.
 - d. Top Coat: 100 percent.
 7. VOC Content:
 - a. Primer: 1.65 lbs per gal (198 g/L), less water and exempt solvents.
 - b. Base Coat: 0.72 lbs per gal (87 g/L), less water and exempt solvents.
 - c. Intermediate Coat: 0.12 lbs per gal (14 g/L), less water and exempt solvents.
 - d. Top Coat: 0.45 lbs per gal (54 g/L), less water and exempt solvents.

- C. Color: See manufacturer's deck coating color portfolio
- D. Accessories:
 - 1. Aggregate: MasterSeal 940/940DR/941/941DR.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Comply with Section [01 70 00] [__ __ __].

3.2 SURFACE PREPARATION

- A. Protection: Protect adjacent work areas and finish surfaces from damage during deck coating system application.
- B. Prepare surface in accordance with manufacturer's instructions.
- C. Concrete:
 - 1. Minimum Compressive Strength: 3,000 psi (21 MPa).
 - 2. Cure concrete for a minimum of 28 days.
 - 3. Ensure concrete is structurally sound, clean, and dry in accordance with ASTM D4263.
 - 4. Repair voids and delaminated areas.
 - 5. Shot blast concrete to remove dirt, dust, grease, oil, coatings, laitance and other surface contamination and to provide profile for proper adhesion.
 - 6. Profile: Minimum of ICRI CSP-3 (approximately 80 to 100-grit sandpaper).
 - 7. Pre-stripe and prepare cracks, joints and detail work in accordance with manufacturer's instructions.

3.3 MIXING

- A. Mix material components in accordance with manufacturer's instructions.
- B. Precondition material components to a temperature of 70 degrees F (21 degrees C) before mixing.

3.4 APPLICATION – GENERAL

- A. Apply deck coating system in accordance with manufacturer's instructions.
- B. Do not apply deck coating system to damp, wet, or contaminated surfaces.

3.5 APPLICATION – HEAVY-DUTY SYSTEM

- A. Primer: Apply 16 wet mils (0.41 mm). Immediately backroll to level material. Allow primer to cure tack-free to an even, satin-like gloss and re-prime any dry spots.
- B. Base Coat: Apply 50 wet mils (1.27 mm). Material may not be completely tack free upon cure. DO NOT backroll.
- C. Intermediate Coat: Apply 20 wet mils (0.51 mm).
- D. Aggregate: Immediately broadcast aggregate at rate of 20 to 30 lbs per 100 sq ft (1.0 to 1.5 kg/m²) into wet top coat per manufacturer's guidelines.
- E. Top Coat: Apply 20 wet mils (0.51 mm) by roller.

EDIT NOTE: SELECT SYSTEM AS REQUIRED, DELETE SYSTEMS NOT REQUIRED.

3.6 APPLICATION – EXTRA HEAVY-DUTY SYSTEM

- A. Primer: Apply 16 wet mils (0.41 mm). Immediately backroll to level material. Allow primer to cure tack-free to an even, satin-like gloss and re=prime any dry spots.
- B. Base Coat: Apply 80 wet mils (2.03 mm). Material may not be completely tack free upon cure. DO NOT backroll.
- C. Intermediate Coat: Apply 40 wet mils (1.02 mm) by roller.
- D. Aggregate: Immediately broadcast aggregate at rate of 20 to 30 lbs per 100 sq ft (1.0 to 1.5 kg/m²) into wet top coat per manufacturer's guidelines.
- E. Top Coat: Apply 20 wet mils (0.51 mm) by roller.
- F. Aggregate: Immediately broadcast aggregate at rate of 20 to 30 lbs per 100 sq ft (1.0 to 1.5 kg/m²) into wet top coat per manufacturer's guidelines.
- G. Top Coat: Apply 20 wet mils (0.51 mm) by roller.

3.7 PROTECTION

- A. Vehicular Traffic: Allow minimum curing time of 1 hours before allowing vehicular traffic onto deck coating system.
- B. Protect completed deck coating system from damage and staining during construction.

END OF SECTION

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