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This MANU-SPEC[®] utilizes the Construction Specifications Institute (CSI) *Project Resource Manual* (PRM), including *MasterFormat*[™], *SectionFormat*[™] and *PageFormat*[™]. It has been numbered to meet the recommendation of the *MasterFormat* 2004 classification system. A MANU-SPEC is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets []; delete optional text in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

This MANU-SPEC specifies a foamed-in-place silicone roof membrane assembly. These products are manufactured by West Development Group, LLC. Revise MANU-SPEC section number and title below to suit project requirements, specification practices and section content. Refer to *CSI MasterFormat* for other section numbers and titles.

**SECTION 07 57 00
 COATED FOAMED ROOFING**

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Insulation, coatings, granular surfacing and accessories.

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Section 01 42 19 - Reference Standards may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section. Retain only those reference standards to be used within the text of this Section. Add and delete as required for specific project.

1.02 REFERENCES

- A. ASTM International (ASTM):
 1. ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
 2. ASTM D1621 Standard Test Method for Compressive Properties of Rigid Cellular Plastics.
 3. ASTM D1623 Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics.
 4. ASTM D2126 Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging.
 5. ASTM D2240 Standard Test Method for Rubber Property-Durometer Hardness.
 6. ASTM D2369 Standard Test Method for Volatile Content of Coatings.
 7. ASTM D4799 Standard Practice for Accelerated Weathering Test Conditions and Procedures for Bituminous Materials (Fluorescent, UV, Water Spray, and Condensation Method).
 8. ASTM E108 Standard Test Methods for Fire Tests of Roof Coverings.
 9. ASTM E2178 Standard Test Method for Air Permeance of Building Materials.
- B. Underwriters Laboratories, Inc. (UL):



1. Roofing Materials & Systems Directory (RMSD).**1.03 PERFORMANCE REQUIREMENTS**

- A. Provide a roof system composed of materials that have been evaluated by UL and are listed in the RMSD as acceptable for Class A external fire exposure.

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Section 01 33 00 - Submittal Procedures.

1.04 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Section [01 33 00 - Submittal Procedures] [_____].
- B. Product Data: Submit product data, including manufacturer's SPEC-DATA sheet and installation instructions, for specified products.
- C. Samples: Submit 8 1/2 inches x 11 inches (216 x 279 mm) samples of specified top coating to show color and texture.
- D. Shop Drawings: Submit roof system layout drawings showing roof details, relationships to adjacent construction and flashing details at roof perimeter and roof penetrations.
- E. Certificates: Submit manufacturer's certification that the installer is acceptable.
- F. Closeout Submittals:
 - 1. Warranty: Submit manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.
 - 2. Operation and Maintenance Data: Submit operation and maintenance data for installed products in accordance with Section [01 78 00 - Closeout Submittals] [_____]. Include methods for maintaining installed products.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Acceptable to the manufacturer.
- B. Preinstallation Meetings: Conduct preinstallation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with Section [01 31 19 - Project Meetings] [_____].

1.06 DELIVERY, STORAGE & HANDLING

- A. General: Comply with [01 61 00 - Common Product Requirements] [_____].
- B. Delivery, Storage & Protection:
 - 1. Deliver, store and handle in accordance with Section [01 61 00 - Common Product Requirements] [_____].
 - 2. Deliver, store and handle materials in accordance with manufacturer's written instructions.
 - 3. Deliver in original packaging with labels and identification intact.
 - 4. Inspect items upon delivery to ensure that specified products have been received.
 - 5. Store items in secure dry location, protected from weather until ready for installation.
- C. Waste Management and Disposal:

Specifier Note: Environment: The disposal of packaging waste into landfill site demonstrates an inefficient use of natural resources and consumes valuable landfill space.

- 1. Separate waste materials for [reuse] [and] [recycling] [_____] in accordance with Section [01 74 19 - Construction Waste Management and Disposal] [_____].
- 2. Remove packaging materials from site and dispose of at appropriate recycling facilities.
- 3. Collect and separate for disposal [paper] [plastic] [polystyrene] [corrugated cardboard] [_____] packaging material [in appropriate onsite bins] [_____] for recycling.

Specifier Note: Coordinate article below with Conditions of the Contract and with Section [01 78 36 - Warranties] [_____].

1.07 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract and Section [01 78 36 - Warranties] [_____] for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.
 - 1. Warranty Period: Varies 10 - 30 years commencing on Date of Substantial Completion in accordance with manufacturer's specifications.

PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal", "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

2.01 COATED FOAMED ROOFING

- A. Manufacturer: West Development Group, LLC.
 - 1. Contact: 300 Commerce Dr., P.O. Box 646, LaGrange, OH 44050; Telephone: (866) 924-4585, (440) 355-4682; Fax: (440) 355-4276; E-mail: Info@wdgsilicones.com; website: www.wdgsilicones.com.

Specifier Note: Select a system below that conforms to project requirements. Systems are arranged in ascending order of maximum slope.

- 2. System 14 Silicone Roof System:

Specifier Note: System below has high impact resistance.

- a. Slope of 1/4 inch/foot (6.4 mm/m), maximum:

Specifier Note: Maximum allowable thickness of foam is 3 1/4 inches (83 mm) for all systems.

- 1) Foam: 3009-3, [_____] inches (_____] mm) thick.
- 2) Basecoat: HSS 535, 1 gal/square.
- 3) Top Coat: HSS 535, 3/4 gal/square.
- 4) Granules: 60 lb/square.

Specifier Note: System below has a basecoat with high impact resistance and a reflective top coat that is available in custom colors.

- b. Slope of 1/4 inch/ foot (6.4 mm/m), maximum:

- 1) Foam: 3009-3, [_____] inches (_____] mm) thick.
- 2) Basecoat: HSS 535, 1 gal/square.
- 3) Top Coat: HP 465, 1 gal/square, [white] [dark gray] [light gray] [_____] color.
- 4) Granules: 40 lb/square.

Specifier Note: System below has foam made from renewable resources and a top and basecoat with high impact resistance.

- c. Slope of 1/4 inch/foot (6.4 mm/m), maximum:

- 1) Foam: 3009-3 Soy, [_____] inches (_____] mm) thick.
- 2) Basecoat: HSS 535, 1 gal/square.
- 3) Top Coat: HSS 535, 3/4 gal/square.
- 4) Granules: 60 lb/square.

Specifier Note: System below has foam made from renewable resources, a basecoat with high impact resistance and a reflective top coat that is available in custom colors.

- d. Slope of 1/4 inch per foot (6.4 mm/m), maximum:
 - 1) Foam: 3009-3 Soy, [_____] inches (_____] mm)] thick.
 - 2) Basecoat: HSS 535, 1 gal/square.
 - 3) Top Coat: HP 465, 1 gal/square, [white] [dark gray] [light gray] [_____] color.
 - 4) Granules: 40 lb/square.

Specifier Note: System below has a basecoat with high impact resistance and a reflective top coat that is available in custom colors.

- e. Slope of 1 inch/foot (25.4 mm/m), maximum:
 - 1) Foam: 3009-3, [_____] inches (_____] mm)] thick.
 - 2) Basecoat: HSS 535, 1 gal/square.
 - 3) Intermediate Coat: HP 465, 3/4 gal/square.
 - 4) Top Coat: HP 465, 1 gal/square, [white] [dark gray] [light gray] [_____] color.
 - 5) Granules: 40 lb/square.

Specifier Note: System below has foam made from renewable resources, a basecoat with high impact resistance and a reflective top coat that is available in custom colors.

- f. Slope of 1 inch/foot (25.4 mm/m), maximum:
 - 1) Foam: 3009-3 Soy, [_____] inches (_____] mm)] thick.
 - 2) Basecoat: HSS 535, 1 gal/square.
 - 3) Intermediate Coat: HP 465, 3/4 gal/square.
 - 4) Top Coat: HP 465, 1 gal/square, [white] [dark gray] [light gray] [_____] color.
 - 5) Granules: 40 lb/square.

Specifier Note: System below has a basecoat made from recycled materials and a reflective top coat that is available in custom colors.

- g. Slope of 1 inch/foot (25.4 mm/m), maximum:
 - 1) Foam: 3009-3, [_____] inches (_____] mm)] thick.
 - 2) Basecoat: HSS 540 R2R, 1 gal/square.
 - 3) Top Coat: HP 465, 1 gal/square, [white] [dark gray] [light gray] [_____] color.

Specifier Note: System below has foam made from renewable resources, a basecoat made from recycled materials and a reflective top coat that is available in custom colors.

- h. Slope of 1 inch/foot (25.4 mm/m), maximum:
 - 1) Foam: 3009-3 Soy, [_____] inches (_____] mm)] thick.
 - 2) Basecoat: HSS 540 R2R, 1 gal/square.
 - 3) Top Coat: HP 465, 1 gal/square, [white] [dark gray] [light gray] [_____] color.

Specifier Note: System below has a reflective top coat that is available in custom colors.

- i. Slope of 1 1/2 inch/foot (38 mm/m), maximum:
 - 1) Foam: 3009-3, [_____] inches (_____] mm)] thick.
 - 2) Basecoat: HP 465, 1 1/4 gal/square.
 - 3) Top Coat: HP 465, 1 1/4 gal/square, [white] [dark gray] [light gray] [_____] color.

- 4) Granules: 40 lb/square.

Specifier Note: System below has foam made from renewable resources and a reflective top coat that is available in custom colors.

- j. Slope of 1 1/2 inches/foot (38 mm/m), maximum:
 - 1) Foam: 3009-3 Soy, [_____] inches (_____] mm) thick.
 - 2) Basecoat: HP 465, 1 1/4 gal/square.
 - 3) Top Coat: HP 465, 1 1/4 gal/square, [white] [dark gray] [light gray] [_____] color.
 - 4) Granules: 40 lb/square.

Specifier Note: System below has a basecoat made from recycled materials and a reflective top coat that is available in custom colors.

- k. Slope of 2 inches/foot (51 mm), maximum:
 - 1) Foam: 3009-3, [_____] inches (_____] mm) thick.
 - 2) Basecoat: HSS 540 R2R, 2 gal/square.
 - 3) Intermediate Coat: HP 465, 1 1/2 gal/square.
 - 4) Top Coat: HP 465, 1 1/2 gal/square, [white] [dark gray] [light gray] [_____] color.
 - 5) Granules: 60 lb/square.

Specifier Note: System below has foam made from renewable resources, a basecoat made from recycled materials and a reflective top coat that is available in custom colors.

- l. Slope of 2 inches/foot (51 mm), maximum:
 - 1) Foam: 3009-3 Soy, [_____] inches (_____] mm) thick.
 - 2) Basecoat: HSS 540 R2R, 2 gal/square.
 - 3) Intermediate Coat: HP 465, 1 1/2 gal/square.
 - 4) Top Coat: HP 465, 1 1/2 gal/square, [white] [dark gray] [light gray] [_____] color.
 - 5) Granules: 60 lb/square.

Specifier Note: System below has a basecoat made from recycled materials and a reflective top coat that is available in custom colors.

- m. Slope of 2 inches/foot (51 mm), maximum:
 - 1) Foam: 3009-3, [_____] inches (_____] mm) thick.
 - 2) Basecoat: HSS 540 R2R, 1 1/2 gal/square.
 - 3) Top Coat: HP 465, 1 - 1 1/2 gal/square, [white] [dark gray] [light gray] [_____] color.
 - 4) Granules: 40 lb/square.

Specifier Note: System below has foam made from renewable resources, a basecoat made from recycled materials and a reflective top coat that is available in custom colors.

- n. Slope of 2 inches/foot (51 mm), maximum:
 - 1) Foam: 3009-3 Soy, [_____] inches thick.
 - 2) Basecoat: HSS 540 R2R, 1 1/2 gal/square.
 - 3) Top Coat: HP 465, 1 1/2 gal/square, [white] [dark gray] [light gray] [_____] color.
 - 4) Granules: 40 lb/square.

2.02 MATERIALS

Specifier Note: Select type of insulation and coating(s) below to conform to system selected above.

- A. Insulating Foam: [3009-3 Spray Polyurethane Foam] [3009-3 Soy Spray Polyurethane Foam].
 - 1. Thermal Conductivity, ASTM C518: K factor of 0.17, maximum.
 - 2. Compressive Strength, ASTM D1621: Not less than 40 psi (276 kPa).
 - a. Coatings:
 - 1) HSS 535, As Cured:
 - a) Hardness, Shore A points (ASTM D2240): 42, minimum.
 - b) Tensile Strength (ASTM D1623): 325 psi (2239 kPa), minimum.
 - c) Elongation (ASTM D1623): 175%, minimum.
 - d) Permeability (ASTM E2178): 4.6 perms, maximum.
 - e) Tensile Strength at 100% Elongation (ASTM D1623): 50 psi (345 kPa), minimum.
 - f) Temperature Stability (ASTM D2126): -37 - 100 degrees F (-38 - 38 degrees C).
 - g) Weatherometer, QUV 1000 Hours (ASTM D4799): No degradation.
 - h) Volatile Content (ASTM D2369): 10.2 g/L.
 - 2) HP 465, As Cured:
 - a) Hardness, Shore A points (ASTM D2240): 60, minimum.
 - b) Tensile Strength (ASTM D1623): 450 psi (3101 kPa), minimum.
 - c) Elongation (ASTM D1623): 125%, minimum.
 - d) Permeability (ASTM E2178): 2.9 perms, maximum.
 - e) Tensile Strength at 100% Elongation (ASTM D1623): 400 psi (2756 kPa), minimum.
 - f) Temperature Stability (ASTM D2126): -37 - 100 degrees F (-38 - 38 degrees C).
 - g) Weatherometer, QUV 1000 Hours (ASTM D4799): No degradation.
 - h) Volatile Content (ASTM D2369): 331 g/L.
 - 3) HSS 540 R2R, As Cured:
 - a) Hardness, Shore A points (ASTM D2240): 21, minimum.
 - b) Tensile Strength (ASTM D1623): 200 psi (1378 kPa), minimum.
 - c) Elongation (ASTM D1623): 150%, minimum.
 - d) Permeability (ASTM E2178): 4.2 perms, maximum.
 - e) Tensile Strength at 100% Elongation (ASTM D1623): 200 psi (1378 kPa), minimum.
 - f) Temperature Stability (ASTM D2126): -37 - 100 degrees F (-38 - 38 degrees C).
 - g) Weatherometer, QUV 1000 Hours (ASTM D4799): No degradation.
 - h) Volatile Content (ASTM D2369): 10 g/L.
 - b. Granules: 3M ceramic #11 granules.

2.03 ACCESSORIES

- A. Sealants, adhesives, mastics, primers and flashing sheets as recommended by the manufacturer.

Specifier Note: Retain below if walkways are indicated on the drawings.

- B. Walkway Surfacing: Z-Guard Pedestrian Traffic System.

2.04 PRODUCT SUBSTITUTIONS

- A. Substitutions: Substitutions in accordance with Section [01 25 13 - Product Substitution Procedures] [No substitutions permitted] [_____].

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS



Specifier Note: Article below is an addition to the *CSI SectionFormat* and a supplement to MANU-SPEC. Revise article below to suit project requirements and specifier's practice.

- A. Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalog installation instructions, product carton installation instructions and [company name] SPEC-DATA sheets for [product name].

3.02 EXAMINATION

- A. Site Verification of Conditions:

- 1. Verify that substrate conditions are acceptable for product installation in accordance with manufacturer's instructions.

3.03 CLEANUP

- A. Proceed in accordance with Section [01 74 23 - Final Cleaning] [_____].
- B. Upon completion and verification of performance of installation, remove surplus materials, rubbish, tools and equipment.

END OF SECTION