

SECTION 07130

SHEET WATERPROOFING – SubSeal™

This section is based on the products of MFM Building Products Corp., which is located at:

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MFM Building Products was founded in 1961 and has been a leader in manufacturing waterproofing barriers and sealing systems for the construction industry. MFM offers customers a complete “envelope” of waterproofing solutions from the rooftop to the foundation.

MFM product advantages include: self-adhering or “self-stick” properties; self-sealing around fasteners; unique adhesive systems that will not crack or dry out; membranes that are compatible with most building materials; fast and easy installation to save time and money; competitively priced; rugged and reliable performance; and all products are made in the USA.

Whether your project is new construction, an addition or repair, you can rely on MFM Building Products for the best waterproofing and sealing solutions available. Contact 800-882-7663 or email customerservice@mfmbsp.com for more information or pricing.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Self-adhering sheet waterproofing membranes.

1.2 RELATED SECTIONS

**** NOTE TO SPECIFIER **** Delete any sections below not relevant to this project; add others as required.

- A. Section 03300 - Cast-In-Place Concrete.
- B. Section 04800 - Masonry Assemblies.
- C. Section 06100 - Rough carpentry.
- D. Section 06112 - Framing and Sheathing.
- E. Section 07210 - Building Insulation.

1.3 REFERENCES

**** NOTE TO SPECIFIER **** Delete references from the list below that are not actually required by the text of the edited section.

- A. ASTM International:
 - 1. ASTM D 412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension.
 - 2. ASTM D 779 - Standard Test Method for Water Resistance of Paper, Paperboard, and Other Sheet Materials by the Dry Indicator Method.
 - 3. ASTM D 882 - Standard Test Method for Tensile Properties of Thin Plastic Sheeting.
 - 4. ASTM D 1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
 - 5. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials.
- B. International Code Council - Evaluation Service (ICC-ES):
 - 1. ICC-ES AC 38 - Acceptance Criteria for Water-Resistive Barriers.
 - 2. ICC-ES ESR 2783 - Evaluation Report.
 - 3. ICC-ES AC 148 - Acceptance Criteria for Flexible Flashing Materials.
 - 4. ICC-ES ESR 3980 - Evaluation Report.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Submit shop drawings including details of construction and relationship with adjacent construction.
- D. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
- E. Warranty: Submit manufacturer's standard warranty.
- F. Verification Samples: For each finish product specified, two samples, minimum size 3 inches (75 mm) x 4 inches (100 mm), representing actual product, color, and patterns.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Experienced in installation of specified material type with working knowledge of specified products and Project specific application requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage:
 - 1. Store materials in clean, dry, heated area indoors in accordance with manufacturer's instructions.

2. Store cartons on end and protect from moisture and damage.
3. Protect from temperatures above 100 degrees F (38 degrees C).
4. Do not remove rolls from cartons until application.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.8 WARRANTY

- A. Limited Warranty:

**** NOTE TO SPECIFIER ** Subseal-25, 30 and 50 warranty. Delete if not required.**

1. Manufacturer warrants materials to be free from leaks caused by defects in material or manufacturing for a period of five years from the date of purchase when applied according to published directions.

**** NOTE TO SPECIFIER ** Subseal-40 and 60 warranty. Delete if not required.**

2. Manufacturer warrants materials to be free from leaks caused by defects in material or manufacturing for a period of 10 years from the date of purchase when applied according to published directions.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: MFM Building Products Corp.; 525 Orange St., Coshocton, OH 43812. ASD. Toll Free Tel: (800) 882-7663. Tel: (740) 622-2645. Fax: (740) 622-6161. Email: customerservice@mfmbsp.com. Web: <http://www.mfmbsp.com>.

**** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.**

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 WATERPROOFING MEMBRANES

SubSeal-25™ is a prefabricated, self-adhering sheet-type waterproofing membrane. It is composed of a tough, multi-layer, cross-laminated film that is coated with a rubberized asphalt adhesive. It is a high performance, multi-purpose waterproofing membrane for use on vertical surfaces protected from ultraviolet exposure. It provides an outstanding bond under a wide range of temperatures and conditions, and adheres aggressively to most clean, dry substrates including metal, wood, vinyl, masonry and rigid insulation boards. It is resistant to tear and puncture, and offers excellent nail sealability to prevent damage caused by water penetration. Use under siding, stucco (exterior plaster), around windows and doors, to seal joints of structural insulated panels (SIPS) and in other areas of potential leaks.

**** NOTE TO SPECIFIER** Delete product if not required.**

- A. Product: **SubSeal-25™** as manufactured by MFM Building Products Corp.

**** NOTE TO SPECIFIER ** Delete products model numbers not required.**

1. Product Model Numbers: 36 inches (914 mm) wide, MFM 51634.
2. Product Model Numbers: 12 inches (305 mm) wide, MFM 51632.
3. Product Model Numbers: 9 inches (229 mm) wide, MFM 51631.
4. Product Model Numbers: 6 inches (152 mm) wide, MFM 51630.
5. Description: Prefabricated self-adhering sheet-type waterproofing membrane.
6. Composition: Multi-layer cross-laminated film coated with a rubberized asphalt adhesive.
7. Release Liners: Protect asphalt, removed as membrane is installed.
8. Technical Properties:
 - a. Material Thickness (ASTM D 1970): 25 Mils (0.64 mm) Nominal.
 - b. Flexibility at -20 degrees F (-29 degrees C) (ASTM D 1970): Pass.
 - c. Vapor Permeance (ASTM E 96): 0.02 g/m² Maximum.
 - d. Water Resistance (ASTM D 779): Greater than 30 hours
 - e. Nail Sealability (ASTM D 1970): Pass.
 - f. Tensile MD (ASTM D 882): 21 lbf/in² (0.02 ksi).
 - g. Tensile CMD (ASTM D 882): 28 lbf/in² (0.03 ksi).
 - h. Installation Temperature Range: Greater than 50 degrees F (10 degrees C).
 - i. Material Color: Black.

SubSeal-30™ is a prefabricated, self-adhering sheet-type waterproofing membrane. It is composed of a tough, multi-layer, cross-laminated film that is coated with a rubberized asphalt adhesive. It is a high performance, multi-purpose waterproofing membrane for use on vertical surfaces protected from ultraviolet exposure. It provides an outstanding bond under a wide range of temperatures and conditions, and adheres aggressively to most clean, dry substrates including metal, wood, vinyl, masonry and rigid insulation boards. It is resistant to tear and puncture, and offers excellent nail sealability to prevent damage caused by water penetration. Use under siding, stucco (exterior plaster), around windows and doors, to seal joints of structural insulated panels (SIPS) and in other areas of potential leaks. Delete product if not required.

**** NOTE TO SPECIFIER** Delete product if not required.**

- B. Product: **SubSeal-30™** as manufactured by MFM Building Products Corp.
 1. Product Model Numbers: 36 inches (914 mm) wide: MFM 51636.
 2. Description: Prefabricated self-adhering sheet-type waterproofing membrane.
 3. Composition: Multi-layer cross-laminated film coated with a Broad Temperature Spectrum rubberized asphalt adhesive.
 4. Release Liners: Protect asphalt, removed as membrane is installed.
 5. Technical Properties:
 - a. Material Thickness (ASTM D 1970): 30 Mils (0.76 mm) Nominal.
 - b. Flexibility at -20 degrees F (-29 degrees C) (ASTM D 1970): Pass.
 - c. Vapor Permeance (ASTM E 96): 0.02 g/m² Maximum.
 - d. Water Resistance (ASTM D 779): Greater than 30 hours
 - e. Nail Sealability (ASTM D 1970): Pass.
 - f. Tensile MD (ASTM D 882): 21 lbf/in² (0.02 ksi).
 - g. Tensile CMD (ASTM D 882): 28 lbf/in² (0.03 ksi).
 - h. Installation Temperature Range: Greater than 50 degrees F (10 degrees C).
 - i. Material Color: Black.

SubSeal-40™ is a prefabricated, self-adhering sheet-type waterproofing membrane. It is composed of a tough, multi-layer, cross-laminated film that is coated with a rubberized asphalt adhesive. It is a high performance, multi-purpose waterproofing membrane intended for use in sub-grade applications, and under siding, exterior plaster, as a through-wall flashing or anywhere it will be protected from ultraviolet exposure. It adheres aggressively to most clean, dry substrates including metal, wood, vinyl, masonry, ICF foundations, Gold Bond® e²XP™ and rigid insulation boards. It may be used to waterproof foundations and other below-grade structures, plaza decks, balconies, under siding, and exterior plaster. Other uses include wall, floor and planter waterproofing, under stucco and at head, sill chimney shoulders, pot shelves, parapets and pony walls. Seals SIPS building panels and around doors, windows and other potential leak areas. Waterproofs and protects ICF foundations from damage. This advanced system bonds to the substrate and self-seals around nails, staples and other fasteners to prevent damage caused by water penetration.

**** NOTE TO SPECIFIER **** Delete if not required.

C. Product: **SubSeal-40™** as manufactured by MFM Building Products Corp.

**** NOTE TO SPECIFIER **** Delete products not required.

1. Product Model Numbers: 36 inches (914 mm) wide, MFM 51336.
2. Product Model Numbers: 18 inches (457 mm) wide, MFM 51318.
3. Product Model Numbers: 12 inches (305 mm) wide, MFM 51312.
4. Product Model Numbers: 9 inches (229 mm) wide, MFM 51309.
5. Product Model Numbers: 6 inches (152 mm) wide, MFM 51306.
6. Description: Prefabricated, 40 mil (1 mm) self adhering sheet-type waterproofing membrane.
7. Composition: Multi-layer high-strength polymer film that is coated with a layer of specially formulated rubberized asphalt adhesive.
8. Release Liners: Protect asphalt, removed as membrane is installed.
9. Technical Properties:
 - a. Tested to ICC-ES AC 38, ICC-ES ESR 3980.
 - b. Tested to ICC-ES AC 148, ICC-ES ESR 2783.
 - c. Complies with AAMA 711-13, Level 2.
 - d. Material Thickness (ASTM D 1970): 40 Mils (1.0 mm) Nominal.
 - e. Pliability (ICC-ES AC 38): Pass.
 - f. Vapor Permeance (ASTM E 96): 0.02 g/m² Maximum.
 - g. Water Resistance (ASTM D 779): Greater than 30 hours
 - h. Nail Sealability (ASTM D 1970): Pass.
 - i. Tensile MD (ASTM D 882): 21 lbf/in² (0.02 ksi).
 - j. Tensile CMD (ASTM D 882): 28 lbf/in² (0.03 ksi).
 - k. Installation Temperature Range: Greater than 50 degrees F (10 degrees C).
 - l. Material Color: Black.

SubSeal-50™ is a prefabricated, self-adhering sheet-type waterproofing membrane. It is composed of a tough, multi-layer, cross-laminated film that is coated with a rubberized asphalt adhesive. It is a high performance, multi-purpose waterproofing membrane for use on vertical surfaces protected from ultraviolet exposure. It provides an outstanding bond under a wide range of temperatures and conditions, and adheres aggressively to most clean, dry substrates including metal, wood, vinyl, masonry and rigid insulation boards. It is resistant to tear and puncture, and offers excellent nail sealability to prevent damage caused by water penetration. Use under siding, stucco (exterior plaster), around windows and doors, to seal joints of structural insulated panels (SIPS) and in other areas of potential leaks. Delete product if not required.

**** NOTE TO SPECIFIER**** Delete product if not required.

- D. Product: **SubSeal-50™** as manufactured by MFM Building Products Corp.
1. Product Model Numbers:
 - a. 36 inches (914 mm) wide: MFM 51536.
 2. Description: Prefabricated self-adhering sheet-type waterproofing membrane.
 3. Composition: Multi-layer cross-laminated film that is coated with a Broad Temperature Spectrum rubberized asphalt adhesive.
 4. Release Liners: Protect asphalt, removed as membrane is installed.
 5. Technical Properties:
 - a. Material Thickness (ASTM D 1970): 50 Mils (1.3 mm) Nominal.
 - b. Flexibility at -20 degrees F (-29 degrees C) (ASTM D 1970): Pass.
 - c. Vapor Permeance (ASTM E 96): 0.02 g/m² Maximum.
 - d. Water Resistance (ASTM D 779): Greater than 30 hours
 - e. Nail Sealability (ASTM D 1970): Pass.
 - f. Tensile MD (ASTM D 882): 21 lbf/in² (0.02 ksi).
 - g. Tensile CMD (ASTM D 882): 28 lbf/in² (0.03 ksi).
 - h. Installation Temperature Range: Greater than 50 degrees F (10 degrees C).
 - i. Material Color: Black.

SubSeal-60™ is a prefabricated, self-adhering sheet-type waterproofing membrane. It is composed of a tough, multi-layer, cross-laminated film that is coated with a rubberized asphalt adhesive. It is a high performance, multi-purpose waterproofing membrane intended for use in sub-grade applications, and under siding, exterior plaster, as a through-wall flashing or anywhere it will be protected from ultraviolet exposure. It adheres aggressively to most clean, dry substrates including metal, wood, vinyl, masonry, ICF foundations, Gold Bond® e²XP™ and rigid insulation boards. It may be used to waterproof foundations and other below-grade structures, plaza decks, balconies, under siding, and exterior plaster. Other uses include wall, floor and planter waterproofing, under stucco and at head, sill chimney shoulders, pot shelves, parapets and pony walls. Seals SIPS building panels and around doors, windows and other potential leak areas. Waterproofs and protects ICF foundations from damage. This advanced system bonds to the substrate and self-seals around nails, staples and other fasteners to prevent damage caused by water penetration.

**** NOTE TO SPECIFIER ** Delete if not required.**

- E. Product: **SubSeal-60™** as manufactured by MFM Building Products Corp.

**** NOTE TO SPECIFIER ** Delete products not required.**

1. Product Model Numbers: 37 inches (914 mm) wide: MFM 51S60.
2. Product Model Numbers: 12 inches (305 mm) wide: MFM 51S12.
3. Description: Prefabricated, 60-mil (1.5 mm) self adhering sheet-type waterproofing membrane.
4. Composition: Multi-layer high-strength polymer film that is coated with a layer of specially formulated rubberized asphalt adhesive.
5. Sealing: Mastic selfedge on both edges for sealing.
6. Release Liners: Protect asphalt, removed as membrane is installed.
7. Technical Properties:
 - a. Tested to ICC-ES AC 38, ICC-ES ESR 3980.
 - b. Tested to ICC-ES AC 148, ICC-ES ESR 2783.
 - c. Complies with AAMA 711-13, Level 2.
 - d. Material Thickness (ASTM D 1970): 60 Mils (1.5 mm) Nominal.
 - e. Pliability (ICC-ES AC 38): Pass.
 - f. Vapor Permeance (ASTM E 96): 0.02 g/m² Maximum.
 - g. Water Resistance (ASTM D 779): Greater than 30 hours
 - h. Nail Sealability (ASTM D 1970): Pass.

- i. Tensile MD (ASTM D 882): 21 lbf/in² (0.02 ksi).
- j. Tensile CMD (ASTM D 882): 28 lbf/in² (0.03 ksi).
- k. Installation Temperature Range: Greater than 50 degrees F (10 degrees C).
- l. Material Color: Black.

**** NOTE TO SPECIFIER **** For installation below minimum installation surface temperature. Delete if not required.

2.3 ACCESSORIES

- A. Adhesive: MFM Spray Adhesive™ as manufactured by MFM Building Products Corp.
- B. Primer: Asphalt-based commercial primer.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Inspect and prepare substrates using the methods recommended by the manufacturer for achieving best result for the substrates under project conditions.
- B. Clean surfaces thoroughly prior to installation. Do not proceed with installation until substrates have been prepared using the methods recommended by the manufacturer and deviations from manufacturer's recommended tolerances are corrected. Commencement of installation constitutes acceptance of conditions.
- C. If preparation is the responsibility of another installer, notify Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions.

SubSeal adheres to most clean, dry substrates including metal, wood, rigid vinyl, masonry, poured concrete, concrete block, wallboard/mortarboard, foam insulation board and other common building materials such as house wrap. Concrete, OSB, masonry, Densdeck® and Fiberock® must be dry, fully cured and primed with an asphalt-based primer before applying. A primer helps to remove any surface dust or loose material that would inhibit good adhesion. Clean, dry wood and metal surfaces do not require priming. Prime weathered surfaces as needed. It is the contractor's responsibility to ensure adequate adhesion. SubSeal's film surface is compatible with most construction sealants and primers. For additional adhesion, especially in cool temperatures, use MFM Spray Adhesive. When applying on vertical concrete surfaces, a termination bar is recommended around the top.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions including the following:
 - 1. Apply in clear, dry weather.
 - 2. Surface must be clean, dry and free from oil.
 - 3. Masonry must be clean, fully cured and primed with an asphalt primer.
 - 4. Prime weathered surfaces as necessary - clean, dry, wood and metal surfaces do not require priming.
 - 5. Use 3 inches (76 mm) side laps and 6 inches (152 mm) head laps.
 - 6. Apply uniform pressure with a 2 to 3 inches (51 to 76 mm) hand roller to entire surface.
 - 7. Do not install over solvent-based sealants unless fully cured - active solvents may liquefy bottom adhesive surface.
 - 8. Test for compatibility with caulks and sealants.
 - 9. Do not install over flexible vinyl gaskets.
 - 10. Do not expose installed product to direct sunlight for more than 90 days.

3.3 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION