APPLICATION GUIDELINE
MAX-PLY OVER MODIFIED BITUMEN

Note: To ensure warranty eligibility, each project shall be reviewed and approved by American WeatherStar prior to the commencement of work. American WeatherStar does not engage in the practice of architecture or engineering. This document is provided solely as a general guide based on information available to American WeatherStar at the time of publication and shall not be construed as design advice or as a substitute for project-specific specifications.

PART 1 GENERAL

1.01 DESCRIPTION

A. The purpose of this guideline is to outline the procedures for installing the American WeatherStar Max-Ply full-fabric membrane system on modified bitumen roof surfaces. These suggested guidelines outline the materials, methods, and conditions required for the proper application of the system. Actual application requirements may vary and are the responsibility of the contractor.

B. This guideline may not outline all procedures for the preparation and finishing of penetrations, drains, flashings, and other details. This work should be outlined separately by the contractor before commencing and shall be performed in accordance with good trade practices.

1.02 APPROVED APPLICATOR

A. All American WeatherStar products shall be applied by a single, experienced, and competent contractor approved by American WeatherStar.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. All materials used shall be manufactured by and or approved by American WeatherStar and shall meet the following specifications:

2.02 SYSTEM COMPONENTS

A. COATINGS

1. SILICONE 410: UV-resistant silicone roof coating
    a. Elongation: 318%
    b. Tensile Strength:
    c. Volume Solids: 69% ± 2%
2. HIGH-SOLIDS SILICONE 412: UV-resistant high-solids silicone roof coating
    a. Elongation: 170% + 25%
    b. Tensile strength: 450 psi + 50 psi
    c. Volume solids: 92% ± 2%
3. ALIPHATIC URETHANE 510-CA: Single-component moisture-cure aliphatic polyurethane roof coating
    a. Elongation: 230%
    b. Tensile strength: 2300 psi
    c. Volume solids: 76.7%
4. AROMATIC URETHANE 508: Single-component moisture-cure aromatic polyurethane roof coating
    a. Elongation: 475% ± 50%

b. Tensile strength: 725 ± 50 psi

c. Volume solids: 70% ± 2%

5. AROMATIC URETHANE 520: Single-component moisture-cure aromatic polyurethane roof coating

a. Elongation: 350% ± 50%

b. Tensile strength: 975 ± 25 psi

c. Volume solids: 70% ± 2%

6. ACRYLIC 211: Elastomeric acrylic roof coating

a. Elongation: 233 ± 20%

b. Tensile strength: 273 ± 20 psi

c. Volume solids: 55% ± 2%

7. HIGH-TENSILE ACRYLIC 211: High-tensile elastomeric acrylic roof coating

a. Elongation: 600 ± 50%

b. Tensile strength: 500 ± 50 psi

c. Volume solids: 55% ± 2%

B. ACCESSORIES

1. POLYESTER FABRIC: Spun-bound polyester roofing fabric

C. PRIMERS AND CLEANERS

1. ACRYLIC BONDING PRIMER 905: Water-based bonding primer

2. ECOCLEARNER 925: Biodegradable surface cleaner

2.03 DELIVERY AND STORAGE

A. Materials shall be delivered in their original, tightly sealed containers or unopened packages, all clearly labeled with the manufacturer’s name, file number, and batch numbers.

B. Materials shall be stored out of the weather in their original, tightly sealed containers or unopened containers, as recommended by the manufacturer.

2.04 WARRANTY

A. American WeatherStar warrants that the material supplied will meet or exceed the physical properties as published. The contractor guarantees that workmanship will be free of defects in system application. Since the performance of the existing roof substrate or previously applied coatings is beyond the control of American WeatherStar or the contractor, requests for additional warranty coverage must be submitted for prior approval by American WeatherStar.

B. Comply with the manufacturer's warranty application procedures. A Pre-Project Inspection Report should be submitted and approved before job commencement.

PART 3 INSTALLATION

3.01 SURFACE PREPARATION

A. Preparation shall include all requirements specified by American WeatherStar to ensure proper adhesion of the American WeatherStar products to the substrate. (An adhesion test may be necessary.)

B. Preparation shall include, but not be limited to, the following:

1. All unnecessary and non-functional equipment and debris shall be removed from the roof.

2. Substrate must be pressure-washed. A minimum working pressure of 3,000 psi shall be used to remove all dirt, dust, any previous paints or coatings that are delaminating, as well as waste products (oil, oil-based roof cements, solvents, grease, animal fats, etc.). Use Ecocleaner 925 if necessary to remove all contaminants. Contact American WeatherStar for additional information.

3. HVAC condensate drains shall be appropriately routed to roof drains or plumbed off the roof.

4. HVAC stanchions should be in good condition or replaced at this time.

5. Wet roof insulation and damaged membranes are to be removed and replaced as necessary to match the existing specified material.

6. All roof penetrations, curbs, vent stacks, and related roof penetrations are to be flashed in accordance with the roof manufacturer's specifications.

7. All laps and wall flashings are to be repaired in accordance with the manufacturer's specifications for the roof.

8. Contractor shall make every effort to mechanically eliminate all ponding water areas on the roof surface before application of any [deleted roof coating] product.

3.02 PRIMER APPLICATION

A. MAX-PLY (URE-A-SIL)

1. Examine the substrate to receive the roof membrane. Do not proceed with the installation of the American WeatherStar roof membrane until all problem areas have been corrected in a manner acceptable to the manufacturer.

2. An adhesion test is recommended. Contact American WeatherStar for additional information.

B. MAX-PLY (ENVIR-O-SIL)

1. Treatment of Residual Asphalt: Installer shall make every effort to remove all loosely adhered asphaltic roofing elements. Removal efforts must include the use of pressure washers, scrapers, wire brushes, wire wheels, or other similar tools.

2. Asphalt bleed-through: Applying Acrylic Bonding Primer 905 directly to the modified bitumen substrate prevents asphalt bleed-through. If Asphalt Bleed-thru is not an issue, primer is not necessary over Modified Bitumen.

3. Previously coated areas: All previously coated areas of the roof must be primed with Acrylic Bonding Primer 905 at a rate of 1 gallon per 100 square feet. An adhesion test should be conducted to ensure

proper adhesion to the existing coating. Adhesion to the existing roof substrate depends on the condition of any existing coating.

C. MAX-PLY (URE-A-MAX)

1. Examine the substrate to receive the roof membrane. Do not proceed with the installation of the American WeatherStar roof membrane until all problem areas have been corrected in a manner acceptable to the manufacturer.

2. An adhesion test is recommended. Contact American WeatherStar for additional information.

D. MAX-PLY (ACRYLIC)

1. Examine the substrate to receive the roof membrane. Do not proceed with the installation of the American WeatherStar roof membrane until all problem areas have been corrected in a manner acceptable to the manufacturer.

2. An adhesion test is recommended. Contact American WeatherStar for additional information.

3.03 PREPARATION FOR MEMBRANE

A. MAX-PLY (URE-A-SIL)

1. American WeatherStar fabric should be installed using Aromatic Urethane 520 and 36”-40” rolls of American WeatherStar Polyester Fabric.

   a. Apply Aromatic Urethane 508 or Aromatic Urethane 520 at a rate of 1.5 gallons per 100 square feet. (24 Wet Mils)

   b. Roll or lay the Polyester Fabric into the wet membrane.

   c. Use rollers and roof brooms to push the Polyester Fabric into the wet membrane, ensuring there are no fish mouths or wrinkles and that the fabric lies as flat as possible.

   d. Apply Aromatic Urethane 508 or Aromatic Urethane 520 at a rate of 1.5 gallons per 100 square feet. (24 Wet Mils) Fully encapsulating the fabric.

   e. Use Rollers and roof brooms to work the material over the Polyester Fabric, ensuring there are no fish-mouth wrinkles and that the fabric lies as flat as possible.

2. All penetrations and parapet walls are to be flashed using Polyester Fabric and Aromatic Urethane 520

   a. Penetrations: The same procedure should be used for all penetrations, utilizing Aromatic Urethane 520 and either 4” or 6” Polyester Fabric.

   b. Parapet Walls: The same procedure should be used on all parapet walls using 36”-40” Polyester Fabric with one half of the fabric running up the wall.

   c. Allow 24-72 hours for membrane to dry underneath the fabric before proceeding with top coats.

B. MAX-PLY (ENVIR-O-SIL)

1. American WeatherStar fabric should be installed using High Solids Silicone 412 and 36”-40” rolls of American WeatherStar Polyester Fabric.

a. Apply High Solids Silicone 412 at a rate of 1.25 gallons per 100 square feet. (20 Wet Mils)

b. Roll or lay the Polyester Fabric into the wet membrane.

c. Use rollers and roof brooms to push the Polyester Fabric into the wet membrane, ensuring there are no fish mouths or wrinkles and that it lies as flat as possible.

d. Apply High Solids Silicone 412 at a rate of 1.25 gallons per 100 square feet. (20 Wet Mils) Fully encapsulating the fabric.

e. Use Rollers and roof brooms to work the material over the Polyester Fabric, ensuring there are no fish-mouth wrinkles and that the fabric lies as flat as possible.

2. All penetrations and parapet walls are to be flashed using Polyester Fabric and High-Solids Silicone 412.

a. Penetrations: The same procedure should be used for all penetrations, utilizing High Solids Silicone 412 and either 4” or 6” Polyester Fabric.

b. Parapet Walls: The same procedure should be used on all parapet walls using 36”-40” Polyester Fabric with one half of the fabric running up the wall.

c. Allow 24-72 hours for membrane to dry underneath the fabric before proceeding with top coats.

C. MAX-PLY (URE-A-MAX)

1. American WeatherStar fabric should be installed using Aromatic Urethane 520 and 36”-40” rolls of American WeatherStar Polyester Fabric.

a. Apply Aromatic Urethane 508 or Aromatic Urethane 520 at a rate of 1.5 gallons per 100 square feet. (24 Wet Mils)

b. Roll or lay the Polyester Fabric into the wet membrane.

c. Use rollers and roof brooms to push the Polyester Fabric into the wet membrane, ensuring there are no fish mouths or wrinkles and that the Polyester Fabric lies as flat as possible.

d. Apply Aromatic Urethane 508 or Aromatic Urethane 520 at a rate of 1.5 gallons per 100 square feet. (24 Wet Mils) Fully encapsulating the fabric.

e. Use Rollers and roof brooms to work the material over the Polyester Fabric, ensuring there are no fish-mouth wrinkles and that the fabric lies as flat as possible.

2. All penetrations and parapet walls are to be flashed using Polyester Fabric and Aromatic Urethane 520.

a. Penetrations: The same procedure should be used for all penetrations, utilizing Aromatic Urethane 520 and either 4” or 6” Polyester Fabric.

b. Parapet Walls: The same procedure should be used on all parapet walls using 36”-40” Polyester Fabric with one half of the fabric running up the wall.

c. Allow 24-72 hours for membrane to dry underneath the fabric before proceeding with top coats.

D. MAX-PLY (ACRYLIC)

1. American WeatherStar fabric should be installed using Acrylic 211 and 36”-40” rolls of American WeatherStar Polyester Fabric.
    a. Apply Acrylic 211 at a rate of 1.5 gallons per 100 square feet. (24 Wet Mils)
    b. Roll or lay the Polyester Fabric into the wet membrane.
    c. Use rollers and roof brooms to push the Polyester Fabric into the wet membrane, ensuring there are no fish mouths or wrinkles and that the fabric lies as flat as possible.
    d. Apply Acrylic 211 at a rate of 1.5 gallons per 100 square feet. (24 Wet Mils) Fully encapsulating the fabric.
    e. Use Rollers and roof brooms to work the material over the Polyester Fabric, ensuring there are no fish-mouth wrinkles and that the fabric lies as flat as possible.
2. All penetrations and parapet walls are to be flashed using Polyester Fabric and Acrylic 211.
    a. Penetrations: The same procedure should be used for all penetrations, utilizing Acrylic 211 and either 4” or 6” Polyester Fabric.
    b. Parapet Walls: The same procedure should be used on all parapet walls using 36”-40” Polyester Fabric with one half of the fabric running up the wall.
    c. Allow 24-72 hours for membrane to dry underneath the fabric before proceeding with top coats.

3.04 APPLICATION RATES

A. MAX-PLY (URE-A-SIL)

1. 12 Year System Requirement (45 mil Urethane-Silicone System)
    a. Top coat:
        i) Standard option: Apply Silicone 410 at a rate of 1.5 gallons per 100 square feet.
        ii)High Solids option: Apply High-Solids Silicone 412 at a rate of 1.1 gallons per 100 square feet.
2. 15 Year System Requirement (50 mil Urethane-Silicone System)
    a. Top coat:
        i) Standard option: Apply Silicone 410 at a rate of 2 gallons per 100 square feet
        ii)High Solids option: Apply High-Solids Silicone 412 at a rate of 1.5 gallons per 100 square feet.
3. 20 Year System Requirement (55 mil Urethane-Silicone System)
    a. Base coat:
        i) Standard option: Apply Silicone 410 at a rate of 1.25 gallons per 100 square feet
        ii)High Solids option: Apply High-Solids Silicone 412 at a rate of 0.9 gallons per 100 square feet.
    b. Top coat:

i) Standard Option: Apply Silicone 410 at a rate of 1.25 gallons per 100 square feet

ii) High Solids Option: Apply High-Solids Silicone 412 at a rate of .9 gallons per 100 square feet. A single pass of High-Solids Silicone 412 may be applied at 1.8 gallons per square.

4. Each coat must be allowed to dry for 24-48 hours, depending on humidity and temperature. The roof is to be inspected for defects, flaws, or holidays and repaired if necessary.
5. Each contractor should estimate product requirements based on their experience and the project's specific needs, considering factors such as applicator experience, surface texture, wind, waste, and other variables that may affect the actual gallons required.
6. It is the applicator's responsibility to verify wet and dry mil thickness during the application process to ensure proper dry mil thickness of the total roofing system.

B. MAX-PLY (ENVIR-O-SIL)

1. 10 Year System Requirement (50 mil High-Solids Silicone System)
    a. Top coat: Apply High-Solids Silicone 412 at a rate of 1.25 gallons per one hundred square feet.
2. 15 Year System Requirement (55 mil High-Solids Silicone System)
    a. Top coat: Apply High-Solids Silicone 412 at a rate of 1.5 gallons per one hundred square feet.
3. 20 Year System Requirement (60 mil High-Solids Silicone System)
    a. Top coat: Apply High-Solids Silicone 412 at a rate of 2 gallons per one hundred square feet.
4. Each coat must be allowed to dry for 24-48 hours, depending on humidity and temperature. The roof is to be inspected for defects, flaws, or holidays and repaired if necessary.
5. Each contractor should estimate product requirements based on their experience and the project's specific needs, considering factors such as applicator experience, surface texture, wind, waste, and other variables that may affect the actual gallons required.
6. It is the applicator's responsibility to verify wet and dry mil thickness during the application process to ensure proper dry mil thickness of the total roofing system.

C. MAX-PLY (URE-A-MAX)

1. 10 Year System Requirement (55 mil Hybrid Urethane Fabric System)
    a. Base coat: Apply Aliphatic Urethane 510-CA at a rate of 1 gallon per one hundred square feet.
    b. Top coat: Apply Aliphatic Urethane 510-CA at a rate of 1.5 gallons per one hundred square feet.
2. 15 Year System Requirement (60 mil Hybrid Urethane Fabric System)
    a. Base coat: Apply Aliphatic Urethane 510-CA at a rate of 1.25 gallons per one hundred square feet.
    b. Top coat: Apply Aliphatic Urethane 510-CA at a rate of 1.5 gallons per one hundred square feet.
3. 20 Year System Requirement (65 mil Hybrid Urethane Fabric System)
    a. Base coat: Apply Aliphatic Urethane 510-CA at a rate of 1.5 gallons per one hundred square feet.

b. Top coat: Apply Aliphatic Urethane 510-CA at a rate of 1.5 gallons per one hundred square feet.

4. Each coat must be allowed to dry for 24-48 hours, depending on humidity and temperature. The roof is to be inspected for defects, flaws, or holidays and repaired if necessary.

5. Each contractor should estimate product requirements based on their experience and the project's specific needs, considering factors such as applicator experience, surface texture, wind, waste, and other variables that may affect the actual gallons required.

6. It is the applicator's responsibility to verify wet and dry mil thickness during the application process to ensure proper dry mil thickness of the total roofing system.

D. MAX-PLY (ACRYLIC)

1. 10 Year System Requirement (45 mil Acrylic Fabric System)

a. Base coat: Apply Acrylic 211 at a rate of 1.5 gallons per one hundred square feet.

b. Top coat: Apply Acrylic 211 at a rate of 1.5 gallons per one hundred square feet.

2. 15 Year System Requirement (50 mil Acrylic Fabric System)

a. Base coat: Apply Acrylic 211 at a rate of 1.25 gallons per one hundred square feet.

b. Intermediate coat: Apply Acrylic 211 at a rate of 1.25 gallons per one hundred square feet.

c. Top coat: Apply High-Tensile Acrylic 211 at a rate of 1.25 gallons per one hundred square feet.

3. 20 Year System Requirement (58 mil Acrylic Fabric System)

a. Base coat: Apply Acrylic 211 at a rate of 1.5 gallons per one hundred square feet.

b. Intermediate coat: Apply Acrylic 211 at a rate of 1.5 gallons per one hundred square feet.

c. Top coat: Apply High-Tensile Acrylic 211 at a rate of 1.5 gallons per one hundred square feet.

4. Each coat must be allowed to dry for 24-48 hours, depending on humidity and temperature. The roof is to be inspected for defects, flaws, or holidays and repaired if necessary.

5. Each contractor should estimate product requirements based on their experience and the project's specific needs, considering factors such as applicator experience, surface texture, wind, waste, and other variables that may affect the actual gallons required.

6. It is the applicator's responsibility to verify wet and dry mil thickness during the application process to ensure proper dry mil thickness of the total roofing system.

3.05 PONDING

A. MAX-PLY (URE-A-SIL)

1. Known ponding water areas are to be repaired using commonly accepted roofing practices to allow proper drainage of the roof area.

2. Ponding water areas are a sign of possible mechanical failure in the roof.

3. In known ponding areas where water stands for more than 72 hours, add an additional 2 gallons per 100 square feet of Silicone 410 or add an additional 1.5 gallons per 100 square feet of High-Solids Silicone 412 extending 2 feet beyond the ponding area.

4. Ponding water is not excluded from the warranty of the roofing system when it is properly installed by an American WeatherStar Approved Contractor.

B. MAX-PLY (ENVIR-O-SIL)

1. Known ponding water areas are to be repaired using commonly accepted roofing practices to allow proper drainage of the roof area.

2. Ponding water areas are a sign of possible mechanical failure in the roof.

3. In known ponding areas where water stands for more than 72 hours, add an additional 1.5 gallons per 100 square feet of High-Solids Silicone 412 extending 2 feet beyond the ponding area.

4. Ponding water is not excluded from the warranty of the roofing system when it is properly installed by an American WeatherStar Approved Contractor.

C. MAX-PLY (URE-A-MAX)

1. Known ponding water areas are to be repaired using commonly accepted roofing practices to allow proper drainage of the roof area.

2. Ponding water areas are a sign of possible mechanical failure in the roof.

3. In known ponding areas where water stands for more than 72 hours, add an additional 1.5 gallons per 100 square feet of Aliphatic Urethane 510-CA extending 2 feet beyond the ponding area.

4. Ponding water is not excluded from the warranty of the roofing system when it is properly installed by an American WeatherStar Approved Contractor.

D. MAX-PLY (ACRYLIC)

1. Known ponding water areas are to be repaired using commonly accepted roofing practices to allow proper drainage of the roof area.

2. Ponding water areas are a sign of possible mechanical failure in the roof.

3. In known ponding areas where water stands for more than 72 hours, add an additional 1.5 gallons per 100 square feet of High-Solids Silicone 412 extending 2 feet beyond the ponding area.

4. Ponding water is not excluded from the warranty of the roofing system when it is properly installed by an American WeatherStar Approved Contractor.

3.06 RESTRICTIONS/LIMITATIONS

A. This system is to be used only in conjunction with commonly accepted roofing standards but not limited to the following:

1. No application of materials shall commence during inclement weather or when precipitation is imminent.

2. No thinning of materials is permitted.

3. No materials are to be applied to wet, dirty, or frozen surfaces.

4. In conjunction with the final inspection, all debris, containers, materials, and equipment are to be properly removed from the job site. The grounds are to be clean, undamaged, and acceptable to the owner.

5. The reflectivity of the membrane may be reduced if the roof surface is not cleaned on a regular, scheduled basis.

B. CAUTION: Do not apply within two hours of sunset, rain, fog, or freezing temperatures. The American WeatherStar roof membrane system must be completely dry before exposure to water or foot traffic. Keep American WeatherStar containers covered when not in use. Dispose of all containers in accordance with state and local environmental regulations. Keep away from children. If ingested, DO NOT induce vomiting. Call physician immediately.