SECTION 07 56 00

FLUID APPLIED ROOF COATINGS

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\*\* NOTE TO SPECIFIER \*\* Hempel (USA) Inc.; Fluid applied Coating products.  
This section is based on the products of Hempel (USA) Inc., which is located at:  
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Dallas, TX 75235-0288  
Toll Free Tel: 800-321-6588  
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Email: [request info (neogard@neogard.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Hempel+(USA)+Inc.&coid=34443&rep=&fax=214-357-7532&message=RE:%20Spec%20Question%20(07560neo):%20%20&mf=)  
Web: [www.neogard.com](http://www.neogard.com) | [www.north-america.hempel.com](http://www.north-america.hempel.com)   
 [ [Click Here](http://www.arcat.com/arcatcos/cos34/arc34443.html) ] for additional information.  
NEOGARD, a Division of Hempel (USA), Inc., is a fully integrated research and manufacturing organization in Dallas, Texas. NEOGARD products have been specified and used on prestigious projects around the world by leading architects, engineers and consultants for over 50 years. Our line of coating systems protects the building envelope through vehicular and pedestrian traffic coatings, protective roof coatings, seamless flooring and elastomeric wall coatings.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Built-up Roof Direct Bond Roof Coating Systems.
    2. Single-Ply Direct Bond Roof Coating Systems.
    3. Metal Roof Direct Bond Roof Coating Systems
    4. Structural Concrete Direct Bond Roof Coating Systems
    5. Sprayed Polyurethane Foam Roof Coating Systems
  1. RELATED SECTIONS

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

* + 1. Section 03 30 00 - Cast-in-Place Concrete
    2. Section 05 30 00 - Metal Decking
    3. Section 06 61 16 - Solid Surfacing Fabrications.
    4. Section 07 21 29 - Sprayed Insulation
    5. Section 07 50 00 - Membrane Roofing
    6. Section 07 26 23 - Below-Grade Gas Retarders
    7. Section 07 71 13 - Manufactured Copings: Roof Accessories
    8. Section 07 72 33 - Roof Hatches.
    9. Section 07 81 23.10 - Epoxy Intumescent Fireproofing\*.
    10. Section 07 90 00 - Joint Protection
    11. Section 22 11 13 - Facility Water Distribution Piping
  1. REFERENCES

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

* + 1. ASTM D 412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic ElastomersTension.
    2. ASTM D 471 - Standard Test Method for Rubber PropertyEffect of Liquids.
    3. ASTM D 903 - Standard Test Method for Peel or Stripping Strength of Adhesive Bonds.
    4. ASTM D 1004 - Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting.
    5. ASTM D 1308 - Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes
    6. ASTM D 2240 - Standard Test Method for Rubber Property - Durometer Hardness.
    7. ASTM D 2370 - Standard Test Method for Tensile Properties of Organic Coatings.
    8. ASTM D 2794 - Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
    9. ASTM D 4060 - Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
    10. ASTM D 4141 - Standard Practice for Conducting Black Box and Solar Concentrating Exposures of Coatings.
    11. ASTM D 4587 - Standard Practice for Fluorescent UV-Condensation Exposures of Paint and Related Coatings.
    12. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials.
    13. ASTM E 108 - Standard Test Methods for Fire Tests of Roof Coverings.
    14. ASTM E 1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.
    15. ASTM G 90 - tandard Practice for Performing Accelerated Outdoor Weathering of Materials Using Concentrated Natural Sunlight.
    16. ASTM G 147 - Standard Practice for Conditioning and Handling of Nonmetallic Materials for Natural and Artificial Weathering Tests
    17. ENERGY STAR(r) guidelines for energy efficiency (Roof Coatings).
    18. CRRC - Cool Roof Rating Council.
    19. U.S. Green Building Council, LEED Building Design & Construction (BD+C) 2009 (Version 3.0) (LEED v2009).
    20. U.S. Green Building Council, LEED Building Design and Construction (BD+C)Version 4.0 Rating System. (LEED v4.0).
  1. DESIGN / PERFORMANCE REQUIREMENTS
     1. Requirement of Regulatory Agencies: Specified materials shall meet existing Federal, State and local VOC regulations.
  2. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. 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 instructions.
        4. Safety Data Sheets (SDS) for all components.

\*\* NOTE TO SPECIFIER \*\* Delete the following paragraphs if LEED is not applicable.

* + 1. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
       1. Sustainable Sites Credit 7.1: Heat Island Reduction - Non-Roof and Roof (SSc7.1,
       2. Materials & Resources Credit 6.1: Building Product Disclosure and Optimization - Sourcing of Raw Materials (MRc6.1)
    2. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and texture.
    3. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

\*\* NOTE TO SPECIFIER \*\* Include the following paragraph field quality control is specified. Delete if not required.

* + 1. Field Quality Control: Submit the following.
       1. Daily inspection and testing reports
    2. Closeout Submittals: Submit roofing/waterproofing manufacturer and applicator's warranty and ensure forms have been completed in Owner's name and registered with manufacturer.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Company specializing in manufacturing fluid applied roofing membranes with a minimum of 20 years of documented experience with applications in the United States.
     2. Applicator Qualifications: Applicator shall be an approved applicator of Roof Coating Manufacturer and have a minimum of 3 years documented successful experience installing similar roof systems to those specified.
     3. Field Sample: Provide a field sample for evaluation of surface preparation techniques and application workmanship.
        1. Apply to an area 100 SF in a location designated by Architect.
        2. Do not proceed with remaining work until workmanship, color, and texture are approved by Architect.
        3. Refinish field sample area as required to produce acceptable work.
        4. Accepted field sample shall be the comparison standard for remaining Work
  2. PRE-INSTALLATION MEETINGS
     1. Pre-Installation Conference: Prior to beginning work, convene a conference to review conditions, system requirements, submittals, installation procedures, schedules, required inspections, and coordination with other work.
     2. Convene minimum two weeks prior to starting work of this section.
  3. DELIVERY, STORAGE, AND HANDLING
     1. Delivery: Materials shall be delivered in original sealed containers, clearly marked with supplier's name, brand name and type of material.
     2. Store products in manufacturer's unopened packaging at a recommended storage temperature of 75 degrees F (23 degrees C) until ready for installation. Handle products to prevent damage to containers.
     3. Store and dispose of in accordance with requirements of local authorities having jurisdiction.
  4. PROJECT CONDITIONS
     1. Prior to starting work, read and follow the SDS and container labels for detailed health and safety information.
     2. Do not proceed with application of materials when; substrate temperature is less than 40 degrees F (4 degrees C); if precipitation is imminent, or to a damp, unclean or frosty surface. Ambient temperature should be a minimum 40 degrees F (4 degrees C) and rising, and more than 5 degrees F (3 degrees C) above dew point. Take special precautions when ambient and/or substrate temperatures are approaching, at, or above 100 degrees F (38 degrees C) as it it may be necessary to limit material application to evening hours for exterior exposed decks.
     3. Coordinate work with other trades. Applicator shall have sole right of access to the specified area for the time needed to complete the application and allow the fluid-applied roof coatings to cure adequately.
     4. Protect plants, vegetation or other surfaces not to be coated against damage or soiling.
     5. Keep products away from spark or flame. Do not allow the use of spark-producing equipment during application and until all vapors have dissipated. Post "No Smoking" signs.
     6. Maintain work area in a neat and orderly condition, removing empty containers, rags and debris daily from the site.
  5. WARRANTY

\*\* NOTE TO SPECIFIER \*\* NEOGARD® offers a manufacturer's standard warranty for institutional, commercial, industrial, and high-rise/multi-family residential projects only. Select the Warranty Required for the System specified from the following paragraphs and delete those that are not applicable.

* + 1. Provide Roof Coating System with the manufacturer's 10-year limited warranty.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Hempel (USA) Inc., which is located at: 2728 Empire Central; Dallas, TX 75235-0288; Toll Free Tel: 800-321-6588; Tel: 214-353-1600; Fax: 214-357-7532; Email: [request info (neogard@neogard.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Hempel+(USA)+Inc.&coid=34443&rep=&fax=214-357-7532&message=RE:%20Spec%20Question%20(07560neo):%20%20&mf=); Web: [www.neogard.com](http://www.neogard.com) | [www.north-america.hempel.com](http://www.north-america.hempel.com)

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

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
  1. BUILT-UP ROOF DIRECT BOND COATING SYSTEM
     1. Built-up Roof Acrylic Coating System: ELASTACRYL BUR/MB provided as a complete system of compatible materials to create a seamless waterproof fluid-applied roof coating system.
        1. Materials:

\*\* NOTE TO SPECIFIER \*\* Note that the equal Hempel Products are shown in parentheses below.

* + - * 1. Optional Primer: Contact NEOGARD for recommended primers.
        2. Liquid Flashing: 7251 (385JB) series acrylic coating.
        3. Mastic: 70690 (47CJB) urethane roof mastic.
        4. Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272)
        5. Sealant: 70991 (47XJB) urethane sealant.
        6. Elastomeric Coating: 7251 (385JB) or 7261 (387JB) single-component elastomeric acrylic coating, white in color.
      1. Approvals:
         1. System shall be listed on the CRRC website coolroofs.org showing that the initial solar reflectance, thermal emittance, and SRI values comply with LEED requirements, local building code requirements, and any specific project requirements.
      2. Performance: Typical performance requirements of cured fluid-applied roof coating materials used on this project are:
         1. Tensile Strength: ASTM D 2370, 280 psi
         2. Elongation: ASTM D 2370, 270%
         3. Permanent Set: ASTM D 412, < 20%
         4. Water Resistance: ASTM D 471, < 20%
         5. MVT @ 30 mils: ASTM E 96, 2.9 English
         6. Adhesion: ASTM D 903, 5 lb/in
         7. Solar Reflectance Index (White): ASTM E 1980, 103.8
      3. Accessories:
         1. Fabric reinforcement and waterproofing coverings for expansion joints, penetrations and 1-ply seams shall be compatible with specified fluid-applied roof coating system.
         2. Miscellaneous materials such as adhesives, metal primers, metal vents and drains shall be a composite part of the roof system and shall be compatible with the specified fluid-applied roof coating system.

\*\* NOTE TO SPECIFIER \*\* Granules are optional delete if not required.

* + - * 1. Granules (Optional): Granules shall be number 11 screen size, dust free, ceramic-coated roofing granule
    1. Built-up Roof Aliphatic Coating System: ELASTA-GARD BUR/MB Aliphatic shall be a complete system of compatible materials to create a seamless waterproof fluid-applied roof coating system
       1. Materials:

\*\* NOTE TO SPECIFIER \*\* Note that the equal Hempel Products are shown in parentheses below.

* + - * 1. Primer: NEOGARD 7780/7781 (280J9/98060) epoxy primer.
        2. Liquid Flashing: 70620-CA (474JB) single
        3. component moisture cured polyurethane coating.
        4. Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272)
        5. Sealant: 70991 (47XJB) urethane sealant.
        6. Mastic: 70690 (47CJB) Roof Mastic.
        7. Base Coat: 70620-CA (474JB) single component moisture cured polyurethane.
        8. Topcoat: 7490-CA (47YJB10000) single component aliphatic polyurethane.

\*\* NOTE TO SPECIFIER \*\* Granules are optional delete if not required.

* + - * 1. Optional Granule Coat: 7490-CA (47YJB10000) single component aliphatic polyurethane.
        2. Cleaning Solvent: 08080 Xylene Thinner or 7055 (086JB) Odorless Reducer.
      1. Approvals:
         1. System shall be rated Class A in accordance with the flame spread test requirements of ASTM E 108.
         2. System shall be listed on the CRRC website coolroofs.org showing that the initial solar reflectance, thermal emittance, and SRI values comply with LEED requirements, local building code requirements, and any specific project requirements.
      2. Performance: Typical performance requirements of cured 70620-CA Liquid Flashing used on this project are:
         1. Tensile Strength: ASTM D 412, 1,000 psi
         2. Elongation: ASTM D 412, 375%
         3. Permanent Set: ASTM D 412, < 10%
         4. Tear Resistance: ASTM D 1004, 100 lb/in
         5. Water Resistance: ASTM D 471, < 3%
         6. Shore A: ASTM D 2240, 50- 55
      3. Performance: Typical performance requirements of cured fluid-applied roof 7490-CA topcoat materials used on this project are:
         1. Tensile Strength: ASTM D 2370, 1,890 psi
         2. Elongation: ASTM D 2370, 270%
         3. Permanent Set: ASTM D 2370, 80%
         4. Tear Resistance: ASTM D 1004, 200 pli
         5. Water Resistance: ASTM D 471, < 2% @ 7 days
         6. MVT @ 20 mils: ASTM E 96, 0.9 perms
         7. Shore A: ASTM D 2240, 85
      4. Accessories:
         1. Fabric reinforcement and waterproofing coverings for expansion joints shall be compatible with specified fluid-applied roof coating system.
         2. Miscellaneous materials such as adhesives, metal primers, metal vents and drains shall be a composite part of the roof system and shall be compatible with the specified fluid-applied roof coating system.

\*\* NOTE TO SPECIFIER \*\* Granules are optional deletw if not required.

* + - * 1. Granules (Optional): Granules shall be number 11 screen size, dust free, ceramic-coated roofing granule
  1. SINGLE-PLY DIRECT BOND ROOF COATING SYSTEM
     1. Single-Ply Roof Elastomeric Acrylic Coating System: ELASTACRYL SP provided as a complete system of compatible materials to create a seamless waterproof fluid-applied roof coating system.
        1. Materials:

\*\* NOTE TO SPECIFIER \*\* Note that the equal Hempel Products are shown in parentheses below.

* + - * 1. Optional Primer: Contact NEOGARD for recommended primers.
        2. Liquid Flashing: 7251 (385JB) series acrylic coating.
        3. Mastic: 70690 (47CJB) urethane roof mastic.
        4. Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272)
        5. Sealant: 70991 (47XJB) urethane sealant.
        6. Elastomeric Coating: 7251 (385JB) or 7261 (387JB) single-component elastomeric acrylic coating, white in color.
      1. Approvals:
         1. System shall be listed on the CRRC website coolroofs.org showing that the initial solar reflectance, thermal emittance, and SRI values comply with LEED requirements, local building code requirements, and any specific project requirements.
      2. Performance: Typical performance requirements of cured fluid-applied roof coating materials used on this project are:
         1. Tensile Strength: ASTM D 2370, 280 psi
         2. Elongation: ASTM D 2370, 270%
         3. Permanent Set: ASTM D 412, < 20%
         4. Water Resistance: ASTM D 471, < 20%
         5. MVT @ 30 mils: ASTM E 96, 2.9 English
         6. Adhesion: ASTM D 903, 5 lb/in
         7. Solar Reflectance Index (White): ASTM E 1980, 103.8
      3. Accessories:
         1. Fabric reinforcement and waterproofing coverings for expansion joints, penetrations and 1-ply seams shall be compatible with specified fluid-applied roof coating system.
         2. Miscellaneous materials such as adhesives, metal primers, metal vents and drains shall be a composite part of the roof system and shall be compatible with the specified fluid-applied roof coating system.

\*\* NOTE TO SPECIFIER \*\* Granules are optional delete if not required.

* + - * 1. Granules (Optional): Granules shall be number 11 screen size, dust free, ceramic-coated roofing granule
    1. Single-Ply Roof Elastomeric Aliphatic Coating System: ELASTA-GARD SP Aliphatic shall be a complete system of compatible materials to create a seamless waterproof fluid-applied roof coating system
       1. Materials:

\*\* NOTE TO SPECIFIER \*\* Note that the equal Hempel Products are shown in parentheses below.

* + - * 1. Primer: NEOGARD 7780/7781 (280J9/98060) epoxy primer.
        2. Liquid Flashing: 70620-CA (474JB) single
        3. component moisture cured polyurethane coating.
        4. Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272)
        5. Sealant: 70991 (47XJB) urethane sealant.
        6. Mastic: 70690 (47CJB) Roof Mastic.
        7. Base Coat: 70620-CA (474JB) single component moisture cured polyurethane.
        8. Topcoat: 7490-CA (47YJB10000) single component aliphatic polyurethane.

\*\* NOTE TO SPECIFIER \*\* Granules are optional delete if not required.

* + - * 1. Optional Granule Coat: 7490-CA (47YJB10000) single component aliphatic polyurethane.
        2. Cleaning Solvent: 08080 Xylene Thinner or 7055 (086JB) Odorless Reducer.
      1. Approvals:
         1. System shall be rated Class A in accordance with the flame spread test requirements of ASTM E 108.
         2. System shall be listed on the CRRC website coolroofs.org showing that the initial solar reflectance, thermal emittance, and SRI values comply with LEED requirements, local building code requirements, and any specific project requirements.
      2. Performance: Typical performance requirements of cured 70620-CA Liquid Flashing used on this project are:
         1. Tensile Strength: ASTM D 412, 1,000 psi
         2. Elongation: ASTM D 412, 375%
         3. Permanent Set: ASTM D 412, < 10%
         4. Tear Resistance: ASTM D 1004, 100 lb/in
         5. Water Resistance: ASTM D 471, < 3%
         6. Shore A: ASTM D 2240, 50- 55
      3. Performance: Typical performance requirements of cured fluid-applied roof 7490-CA topcoat materials used on this project are:
         1. Tensile Strength: ASTM D 2370, 1,890 psi
         2. Elongation: ASTM D 2370, 270%
         3. Permanent Set: ASTM D 2370, 80%
         4. Tear Resistance: ASTM D 1004, 200 pli
         5. Water Resistance: ASTM D 471, < 2% @ 7 days
         6. MVT @ 20 mils: ASTM E 96, 0.9 perms
         7. Shore A: ASTM D 2240, 85
      4. Accessories:
         1. Fabric reinforcement and waterproofing coverings for expansion joints shall be compatible with specified fluid-applied roof coating system.
         2. Miscellaneous materials such as adhesives, metal primers, metal vents and drains shall be a composite part of the roof system and shall be compatible with the specified fluid-applied roof coating system.

\*\* NOTE TO SPECIFIER \*\* Granules are optional deletw if not required.

* + - * 1. Granules (Optional): Granules shall be number 11 screen size, dust free, ceramic-coated roofing granule
  1. METAL ROOF DIRECT BOND ROOF COATING SYSTEM
     1. Metal Roof Elastomeric Acrylic Coating System: ELASTACRYL M provided as a complete system of compatible materials to create a seamless waterproof fluid-applied roof coating system.
        1. Materials:

\*\* NOTE TO SPECIFIER \*\* Note that the equal Hempel Products are shown in parentheses below.

* + - * 1. Primer: 7797/7798 (254J9/946JB) General Purpose Primer.
        2. Liquid Flashing: 7251 (385JB) series acrylic coating.
        3. Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272).
        4. Flashing Tape: 86218 (62ZJB) flashing tape.
        5. Sealant: 70991 (47XJB) urethane sealant.
        6. Elastomeric Coating: 7251 (385JB) or 7261 (387JB) single-component elastomeric acrylic coating, white in color.
      1. Approvals:
         1. System shall be listed on the CRRC website coolroofs.org showing that the initial solar reflectance, thermal emittance, and SRI values comply with LEED requirements, local building code requirements, and any specific project requirements.
      2. Performance: Typical performance requirements of cured fluid-applied roof coating materials used on this project are:
         1. Tensile Strength: ASTM D 2370, 280 psi
         2. Elongation: ASTM D 2370, 270%
         3. Permanent Set: ASTM D 412, < 20%
         4. Water Resistance: ASTM D 471, < 20%
         5. MVT @ 30 mils: ASTM E 96, 2.9 English
         6. Adhesion: ASTM D 903, 5 lb/in
         7. Solar Reflectance Index (White): ASTM E 1980, 103.8
      3. Accessories:
         1. Fabric reinforcement and waterproofing coverings for expansion joints, penetrations and 1-ply seams shall be compatible with specified fluid-applied roof coating system.
         2. Miscellaneous materials such as adhesives, metal primers, metal vents and drains shall be a composite part of the roof system and shall be compatible with the specified fluid-applied roof coating system.

\*\* NOTE TO SPECIFIER \*\* Granules are optional delete if not required.

* + - * 1. Granules (Optional): Granules shall be number 11 screen size, dust free, ceramic-coated roofing granule
    1. Metal Roof Elastomeric Aliphatic Coating System: ELASTA-GARD M Aliphatic shall be a complete system of compatible materials to create a seamless waterproof fluid-applied roof coating system
       1. Materials:

\*\* NOTE TO SPECIFIER \*\* Note that the equal Hempel Products are shown in parentheses below.

* + - * 1. Primer: NEOGARD 7797/7798 (254J9/946JB) urethane primer.
        2. Liquid Flashing: 7251 (385JB) or 7261 (387JB) acrylic coating, white in color.
        3. Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272)
        4. Sealant: 70991 (47XJB) urethane sealant.
        5. Elastomeric Coating: 7251 (385JB) or 7261 (387JB)
        6. single-component elastomeric acrylic coating, white in color.
      1. Dry Film Thickness:
         1. Base Coat: 9 dry mils, 70630 series
         2. Topcoat: 9 dry mils, 7490-CA
         3. Total: 18 dry mils
      2. Approvals:
         1. System shall be listed on the CRRC website coolroofs.org showing that the initial solar reflectance, thermal emittance, and SRI values comply with LEED requirements, local building code requirements, and any specific project requirements.
      3. Performance: Typical performance requirements of cured fluid-applied roof coating materials used on this project are::
         1. Tensile Strength: ASTM D 2370, 280 psi
         2. Elongation: ASTM D 2370, 270%
         3. Permanent Set: ASTM D 2370, < 20 pli
         4. Water Resistance: ASTM D 471, < 20
         5. MVT @ 20 mils: ASTM E 96, 2.9 English
         6. Solar Reflectance Index (White): ASTM E 1980, 103.8
      4. Accessories:
         1. Fabric reinforcement and waterproofing coverings for expansion joints shall be compatible with specified fluid-applied roof coating system.
         2. Miscellaneous materials such as adhesives, metal primers, metal vents and drains shall be a composite part of the roof system and shall be compatible with the specified fluid-applied roof coating system.

\*\* NOTE TO SPECIFIER \*\* Granules are optional delete if not required.

* + - * 1. Granules (Optional): Granules shall be number 11 screen size, dust free, ceramic-coated roofing granule
    1. Metal Roof Acrylic Urethane Coating System: Metal Roof Coating ACRYLITHANE HS2 shall be a complete system of compatible materials to create a seamless waterproof fluid-applied roof coating system
       1. Materials:

\*\* NOTE TO SPECIFIER \*\* Note that the equal Hempel Products are shown in parentheses below.

* + - * 1. Primer: 15050 UREPRIME HS4, white in color (1505916640 base & 95041 curing agent).
        2. Sealant: 47XJB (NEOGARD 70991) urethane sealant.
        3. Flashing Tape: 62ZJB (NEOGARD 86218) ashing tape
        4. Top Coat: 7010 ACRYLITHANE HS2, clear or tinted (5701900010 base and 95041 curing agent)
      1. Dry Film Thickness:
         1. Base Coat: 9 dry mils, 70630 series
         2. Topcoat: 9 dry mils, 7490-CA
         3. Total: 18 dry mils
      2. Approvals:
         1. System shall be listed on the CRRC website coolroofs.org showing that the initial solar reflectance, thermal emittance, and SRI values comply with LEED requirements, local building code requirements, and any specific project requirements.
      3. Performance: Typical properties for ACRYLITHANE HS2 topcoat to be used on this project are:
         1. Q-UVA 340 (4,000 hrs): ASTM D 4587, > 90% gloss retention, (60 degrees) color change, DE < 0.5
         2. Xenon Arc (1,000 hrs) quartz borosilicate lilters: ASTM G 147-96, > 95% gloss retention (60 degrees)
         3. EMMAQUA 290 MJ/M2: ASTM G 90-98, > 95% gloss retention (60 degrees)
         4. Q-Trac 290 MJ/M2: ASTM D 4141, > 90% gloss retention (60 degrees)
         5. Exterior Exposure, 45 degrees S, Dallas, TX: ASTM D 1014, > 90% gloss retention, 3 years
         6. 24 Hour Chemical Resistance Exposure; ASTM D 1308, No Effect: DI Water, 10%; H2SO4, 10%; NaOH, 25%; H3PO4, Xylene & Mineral Spirits
         7. Impact Resistance: ASTM D 2794, 160 F & 160 R
      4. Accessories:
         1. Miscellaneous materials such as adhesives, metal primers, metal vents and drains shall be a composite part of the roof system and shall be compatible with the specified fluid-applied roof coating system.
  1. STRUCTURAL CONCRETE DIRECT BOND ROOF COATING SYSTEM
     1. Structural Concrete Roof Urethane Coating System: Elasta-Gard C Aliphatic shall be a complete system of compatible materials to create a seamless waterproof fluid-applied roof coating system
        1. Materials:

\*\* NOTE TO SPECIFIER \*\* Note that the equal Hempel Products are shown in parentheses below.

* + - * 1. Primer: Primer: 7797/7798 (254J9/946JB) urethane primer.
        2. Liquid Flashing: 70620-CA (474JB) single component moisture cured polyurethane coating.
        3. Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272)
        4. Sealant: 47XJB (NEOGARD 70991) urethane sealant.
        5. Mastic: 70690 (47CJB) Roof Mastic.
        6. Base Coat: 70620-CA (474JB) single componenmoisture-cured aromatic polyurethane.
        7. Topcoat: 7490-CA (47YJB10000) single component aliphatic polyurethane.
        8. Optional Granule Coat: 7490-CA (47YJB10000 single component aliphatic polyurethane.
        9. Cleaning Solvent: 08080 Xylene Thinner or 705 (086JB) Odorless Reducer.
      1. Dry Film Thickness:
         1. Base Coat: 18 dry mils, 70630 series
         2. Topcoat: 18 dry mils, 7490-CA
         3. Total: 36 dry mils
      2. Performance: Typical performance requirements of cured 70620-CA to be used on this project are:
         1. Tensile Strength: ASTM D 412, 1,000 psi
         2. Elongation: ASTM D 412, 375%
         3. Permanent Set: ASTM D 412, < 10%
         4. Tear Resistance: ASTM D 1004, 100 lb/in
         5. Water Resistance: ASTM D 471, < 3%
         6. Shore A: ASTM D 2240, 50- 55
      3. Performance: Typical performance requirements of cured 7490-CA to be used on this project are:
         1. Tensile Strength: ASTM D 2370, 1,890 psi
         2. Elongation: ASTM D 2370, 270%
         3. Permanent Set: ASTM D 2370, 80%
         4. Tear Resistance: ASTM D 1004,
         5. 200 pliWater Resistance: ASTM D 471, < 2% @ 7 days
         6. MVT @ 20 mils; ASTM E 96, 0.9 perms
         7. Shore A: ASTM D 2240, 85
         8. Taber Abrasion, CS- 17 1,000 cycles: ASTM D 4060, 21 mg
      4. Accessories:
         1. Miscellaneous materials such as adhesives, metal primers, metal vents and drains shall be a composite part of the roof system and shall be compatible with the specified fluid-applied roof coating system.
  1. SPRAYED POLYURETHANE FOAM ROOF COATING SYSTEMS
     1. Sprayed Polyurethane Foam Elastomeric Acrylic Roof Coating System: ELASTACRYL FR provided as a complete system of compatible materials to create a seamless waterproof fluid-applied roof coating system.
        1. Materials:

\*\* NOTE TO SPECIFIER \*\* Note that the equal Hempel Products are shown in parentheses below.

* + - * 1. Liquid Flashing: 7251 (385JB) or 7261 (387JB) acrylic coating.
        2. Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272).
        3. Flashing Tape: 86218 (62ZJB) Flashing tape.
        4. Sealant: Sealant: Acrylic sealant approved by NEOGARD.
        5. Elastomeric Coating: 7251 (385JB) or 7261 (387JB) single-component elastomeric acrylic coating, white in color.

\*\* NOTE TO SPECIFIER \*\* Granules are optional delete if not required.

* + - * 1. Granules (Optional): Granules shall be #11 screen size, dust free, ceramic-coated roofing granules. Use only granules as approved by NEOGARD
      1. Approvals:
         1. System shall be listed on the CRRC website coolroofs.org showing that the initial solar reflectance, thermal emittance, and SRI values comply with LEED requirements, local building code requirements, and any specific project requirements.
      2. Performance: Typical performance requirements of cured fluid-applied roof coating materials used on this project are:
         1. Tensile Strength: ASTM D 2370, 280 psi
         2. Elongation: ASTM D 2370, 270%
         3. Permanent Set: ASTM D 412, < 20%
         4. Water Resistance: ASTM D 471, < 20%
         5. MVT @ 30 mils: ASTM E 96, 2.9 English
         6. Adhesion: ASTM D 903, 5 lb/in
         7. Solar Reflectance Index (White): ASTM E 1980, 103.8
      3. Accessories:
         1. Fabric reinforcement and waterproofing coverings for expansion joints, penetrations and 1-ply seams shall be compatible with specified fluid-applied roof coating system.
         2. Miscellaneous materials such as adhesives, metal primers, metal vents and drains shall be a composite part of the roof system and shall be compatible with the specified fluid-applied roof coating system.

\*\* NOTE TO SPECIFIER \*\* Granules are optional delete if not required.

* + - * 1. Granules (Optional): Granules shall be number 11 screen size, dust free, ceramic-coated roofing granule
    1. Sprayed Polyurethane Foam Roof Coating System: PERMATHANE Aliphatic shall be a complete system of compatible materials to create a seamless waterproof fluid-applied roof coating system
       1. Materials:

\*\* NOTE TO SPECIFIER \*\* Note that the equal Hempel Products are shown in parentheses below.

* + - * 1. Liquid Flashing: 70620-CA (474JB) series single component moisture cured polyurethane coating.
        2. Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272)
        3. Mastic: 70690 (47CJB) urethane roof mastic.
        4. Sealant: 70991 (47XJB) urethane sealant.
        5. Flashing Tape: 86218 (62ZJB) flashing tape.
        6. Base Coat: 70620-CA (474JB) series single component moisture cured polyurethane
        7. Topcoat: 7490-CA (47YJB) series single component aliphatic polyurethane,..

\*\* NOTE TO SPECIFIER \*\* Granules are optional delete if not required.

* + - * 1. Granules (Optional): Granules shall be #11 screen size, dust free, ceramic-coated roofing granules. Use only granules as approved by NEOGARD.
        2. Cleaning Solvent: 08080 Xylene Thinner or 7055 (086JB) Odorless Reducer.
      1. Approvals:
         1. System shall be listed on the CRRC website coolroofs.org showing that the initial solar reflectance, thermal emittance, and SRI values comply with LEED requirements, local building code requirements, and any specific project requirements.
      2. Performance: Typical performance requirements of cured fluid-applied roof coating materials used on this project are::
         1. Tensile Strength 70620-CA: ASTM D 412, 1,000 psi
         2. Tensile Strength 7490-CA: ASTM D 2370, 1,920 psi
         3. Elongation 70620-CA: ASTM D 412, 375%
         4. Elongation 7490-CA: ASTM D 2370, 250%
         5. Permanent Set 70620-CA: ASTM D 412, < 10%
         6. Permanent Set 7490-CA: ASTM D 2370, 7%
         7. Tear Resistance 70620-CA: ASTM D 1004, 100 lb/in
         8. Tear Resistance 7490-CA: ASTM D 1004, 144 pli
         9. Water Resistance 70620-CA: ASTM D 471, < 3%
         10. Water Resistance 7490-CA: ASTM D 471, 1% @ 7 days
         11. Shore A 70620-CA: ASTM D 2240, 50- 55
         12. Shore A 7490-CA: ASTM D 2240, 85
         13. Fire Resistance: ASTM E 108, System Passes
      3. Accessories:
         1. Fabric reinforcement and waterproofing coverings for expansion joints shall be compatible with specified fluid-applied roof coating system.
         2. Miscellaneous materials such as adhesives, metal primers, metal vents and drains shall be a composite part of the roof system and shall be compatible with the specified fluid-applied roof coating system.

\*\* NOTE TO SPECIFIER \*\* Granules are optional delete if not required.

* + - * 1. Granules (Optional): Granules shall be number 11 screen size, dust free, ceramic-coated roofing granule
    1. Sprayed Polyurethane Foam Roof Coating System: SILICONE FR shall be a complete system of compatible materials to create a seamless waterproof fluid-applied roof coating system
       1. Materials:

\*\* NOTE TO SPECIFIER \*\* Note that the equal Hempel Products are shown in parentheses below.

* + - * 1. Liquid Flashing: 7860-LO (47FJB) series low odor RTV silicone coating, gray, dark gray, tan or white in color.
        2. Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272).
        3. Flashing Tape: 86218 (62ZJB) flashing tape.
        4. Sealant: Silicone sealant approved by NEOGARD.
        5. Protective Coating: 7860-LO Series low odor RTV silicone coating, gray, dark gray, tan or white in color.
      1. Approvals:
         1. System shall be listed on the CRRC website coolroofs.org showing that the initial solar reflectance, thermal emittance, and SRI values comply with LEED requirements, local building code requirements, and any specific project requirements.
      2. Performance: Typical performance requirements of cured fluid-applied roof coating materials used on this project are:
         1. Tensile Strength: ASTM D 412, 270 psi
         2. Elongation: ASTM D 412, 350%
         3. Permanent Set: ASTM D 412, 2%
         4. Tear Resistance: ASTM D 1004, 26.7 lb/in
         5. Water Resistance: ASTM D 471, < 1% @ 7 days
         6. MVT @ 30 mils: ASTM E 96, Pro B, 2.9 Metric
         7. Shore A, ASTM D 2240, 35- 40
         8. Adhesion: ASTM D 903, 2.6 lb/in
         9. Thermal Shock: Alternate Heat/Cold, No Loss of Adhesion
      3. Accessories:
         1. Fabric reinforcement and waterproofing coverings for expansion joints, penetrations and 1-ply seams shall be compatible with specified fluid-applied roof coating system.
         2. Miscellaneous materials such as adhesives, metal primers, metal vents and drains shall be a composite part of the roof system and shall be compatible with the specified fluid-applied roof coating system.

\*\* NOTE TO SPECIFIER \*\* Granules are optional delete if not required.

* + - * 1. Granules (Optional): Granules shall be number 11 screen size, dust free, ceramic-coated roofing granule

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly prepared.
      2. Inspect surfaces, which will receive the fluid-applied roof coating system to make sure they are clean, smooth, sound, properly prepared, and free of moisture, dirt, debris, or other contaminants.
         1. Verify that all roof penetrations, mechanical equipment, cants, edge metal, and other on-roof items are in place and secure.
         2. Verify that all critical areas around the immediate vicinity of the coating application area are suitably protected.
         3. Verify that roof has sufficient slope for water to drain.
         4. Verify all roof drains are clean and in working order.
         5. Verify that all air conditioning and air intake vents are suitably protected or closed.
      3. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. General: Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
         1. Existing HVAC and other equipment shall be protected from any damage that could be caused by the fluid- applied roof coating application.
         2. Raise, re-set, and protect air conditioning equipment, ventilators, and exhaust fans as required.
         3. Protect all adjoining areas that are not to receive the fluid-applied roof coatings and provide a suitable work station to mix the coating materials.
         4. Remove all abandoned, unnecessary and non-functional equipment, deteriorated and/or water saturated roofing materials, adhesives and foreign materials down to sound substrate. Replace these areas with materials and components to match existing roof system and seal water tight. The width, adhesion and/or fastening requirements of the new materials must be compatible with the existing roof and meet local codes.
         5. Thoroughly clean all exposed metal surfaces such as pipe sleeves, drains, boxes, ducts, etc. Remove all loose paint, rust and asphalt or loose roofing materials .
         6. Seal gutters, parapet walls and caps to watertight condition. Repair any damaged metal. Caulk and seal to watertight condition all screws, seams, skylights, joints, pipes, voids, protrusions and any areas where water could enter through the roof.
         7. Thoroughly clean all exposed metal surfaces such as pipe sleeves, drains, boxes, ducts, etc. Remove all loose paint, rust and asphalt or loose roo ng materials of any kind.
         8. Seal gutters, parapet walls and caps to watertight condition. Repair any damaged metal. Caulk and seal to watertight condition all screws, seams, skylights, joints, pipes, voids, protrusions and any areas where water could enter through the roof.
         9. Clean all roof surfaces using NEOGARD 8500 BioDegradable Cleaner at the rate of 1 part concentrate to 10 parts water. Apply under low pressure spray at a rate of 150- 200 square feet per gallon and allow to stand for 15 minutes. Do not allow the solution to dry. Thoroughly rinse with fresh water to remove the cleaning solution. Use stiff-bristle brooms or mechanical scrubbers as required to remove heavy deposits of dirt or other contaminants from surface. Allow roof surface to thoroughly dry.
         10. If algae is present on the surface, cleaning must include bleach in the washing of the substrate. Follow local ordinances regarding runoff from this procedure.
         11. Before proceeding with coating application, ensure that substrate and repairs are clean, sound, dry (cured) and secure.
      2. Smooth or Mineral-Surfaced Built-Up and Modified Bitumen:
         1. Repair deteriorated flashings, seams, cracks, blisters, splits, fishmouths, holes and other surface imperfections including all vertical/horizontal interfaces, roof termination points, base of all vent pipes and other protrusions, HVAC units and other roof mounted equipment using NEOGARD 70690 Roofing Mastic or 6 inch wide reinforcing fabric embedded in 24 wet mils of elastomeric base coat and topped with 16 wet mils of base coat.
         2. If elastomeric base coat and reinforcing fabric are used, work reinforcing fabric into wet base coat using a brush or roller to eliminate air pockets, wrinkles and gaps, applying additional base coat material as necessary to totally encapsulate the reinforcing fabric.
         3. Over the repair, apply NEOGARD epoxy primer at the rate of 1/3 gallon per 100 square feet (300 sf/gal) and allow to cure until primer will not transfer when touched. When primer has cured, apply elastomeric base coat and fabric a minimum of 4 inches beyond the edges of the repair at 24 dry mils.
         4. Work reinforcing fabric into wet base coat using a brush or roller to eliminate air pockets, wrinkles and gaps, applying additional base coat material as necessary to totally encapsulate the reinforcing fabric.
      3. Single-Ply Roof Systems:
         1. Repair deteriorated flashings, seams, cracks, blisters, splits, fishmouths, holes and other surface imperfections including all vertical/horizontal interfaces, roof termination points, base of all vent pipes and other protrusions, HVAC units and other roof mounted equipment using NEOGARD 70690 Roofing Mastic or 6 inch wide reinforcing fabric embedded in 24 wet mils of elastomeric base coat and topped with 16 wet mils of base coat.
         2. If elastomeric base coat and reinforcing fabric are used, work reinforcing fabric into wet base coat using a brush or roller to eliminate air pockets, wrinkles and gaps, applying additional base coat material as necessary to totally encapsulate the reinforcing fabric.
         3. Repair fasteners that are backing out by re-tightening or relocating to adjacent area. Single-ply membrane shall then be patched with Roof Mastic and in accordance with the single ply manufacturer standards for roof repair.
      4. Metal Roof Systems:
         1. Inspect existing metal roof surface to receive coatings. Metal panels that no longer has integrity due to excessive rust and deterioration must be replaced. Metal panels with seam gaps greater than 1/8 inch should be stitched as tight as possible with additional stitch screw fasteners.
         2. Tighten all loose fasteners and replace stripped fasteners with oversized version of the same fastener, (aluminum, galvanized, or stainless). Maintain integrity of original fastening pattern design.
         3. Remove loose scale or rust from metal surfaces and prime with approved metal primer prior to roof coating.
         4. Detail horizontal metal seams with NEOGARD 70690 Roof Mastic or elastomeric Base Coat with embedded 6 inch wide reinforcing fabric.
         5. Apply a 2 inch wide band of 70690 mastic material to the seam at a rate sufficient to create a smooth transition, minimum 80 wet mils. Taper the edges to the existing substrate.
         6. Base Coat Material with TieTex Fabric: Apply 24 wet mils of elastomeric base coat material, 10 inches wide, over seam. Apply and center 6 inch wide TieTex fabric over wet base coat material. Work the reinforcing fabric into wet coating material using a brush or roller to eliminate air pockets, wrinkles and gaps. Apply additional 16 wet mils of base coat material over the entire seam detail and allow to cure.
         7. Apply polyurethane sealant around fasteners and strike or tool into place to achieve a smooth transition and allow to thoroughly cure.
         8. Round projections, machine legs, sign posts, guide wire straps, inside and outside corners, etc. Projections can be flashed with NEOGARD flashing materials.
      5. Concrete Roof Systems:
         1. Concrete surfaces to receive roof coatings must be a minimum of 3,000 psi compressive strength.
         2. Concrete must have a full 28 day cure period prior to coating. Water curing of the decks is the preferred method. However, if a curing compound is to be used, it must be of the sodium silicate type. Other types of curing compounds require prior written approval by NEOGARD.
         3. Insulating concrete (Zonolite, Vermiculite, Perlite, etc.) must never be coated directly with NEOGARD fluid-applied roof coatings. Contact the manufacturer for additional information.
         4. If the concrete finish is rougher or smoother than a light broom finish, consult NEOGARD for additional surface preparation procedures.
         5. Ridges and sharp projections should be ground off and pits, holes, low spots and spalled areas should be filled with NEOGARD 70714/70715 series epoxy and sand mixture at a ratio of one part epoxy to four parts sand so they are flush with the surrounding substrate.
         6. Concrete patches must have a full 28 day cure period prior to coating.
         7. Cracks and Cold Joints: Visible hairline cracks (up to 1/16 inch in width) in concrete and cold joints shall be cleaned, primed and treated with polyurethane Base Coat material extended a minimum distance of 2 inches on either side of crack to yield thickness of 30 dry mils. Large cracks (over 1/16 inch in width) shall be routed, blown clean, and filled flush with 70991 or 70995 polyurethane sealant. Sealant shall be applied to inside area of crack only, not applied to deck surface. After sealant has cured, detail sealed cracks with polyurethane Base Coat material extended a minimum distance of 2 inches on either side of crack to yield thickness of 30 dry mils. Note: Sealant must be solvent wiped. Allow solvent to flash off prior to installation of Base Coat detail stripe.
         8. Control Joints: Seal control joints equal to or less than 1 inch with 70995 polyurethane sealant. Be sure to maintain proper width to depth ratio. After sealant has cured, detail sealed cracks with polyurethane Base Coat material extended a minimum distance of 2 inches on either side of crack to yield thickness of 30 dry mils, feathering edges. Preparation and treatment of joints > 1 inch in width shall be structurally repaired as specified in Section 03 30 00 - Cast-in-Place Concrete.
   3. APPLICATION
      1. Apply coating system in accordance with manufacturer's instructions for the system specified.
      2. Built-up Roof Coating System.
         1. ELASTACRYL BUR/MB:
            1. Optional Primer: Apply NEOGARD 7780/7781 epoxy primer at a rate of 1/3 gallon per 100 square feet (300 sf/gal) and allow to cure until primer will not transfer when touched. Do not apply epoxy primer over base coat material used for detailing. If base coat cannot be applied over primer within 24 hours, re-apply primer.
            2. Base Coat: Thoroughly mix and apply 7251 series coating at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 13 dry mils and allow to cure.
            3. Top Coat: Thoroughly mix and apply 7251 series coating at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 13 dry mils and allow to cure.
            4. Optional Granule Coat: Thoroughly mix and apply 7251 series coating at approximately 100 sf/gal (1 gal/100 sf or 16 wet mils) and immediately broadcast #11 roo ng granules at the rate of 30 lbs to 40 lbs /100 sf. After cure, remove loose granules from roof surface.
         2. ELASTA-GARD BUR/MB Aliphatic:
            1. Primer: Apply NEOGARD 7780/7781 epoxy primer at a rate of 1/3 gallon per 100 square feet (300 sf/ gal) and allow to cure until primer will not transfer when touched. Do not apply epoxy primer over coating material used for detailing. Apply each coat perpendicular to the previous coat.
            2. Base Coat: Thoroughly mix and apply 70620-CA coating at approximately 40 sf/gal (2.5 gal/100 sf or 40 wet mils) to yield 30 dry mils and allow to cure.
            3. Topcoat: Thoroughly mix and apply 7490-CA coating at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 18 dry mils and allow to cure.
            4. Optional Granule Coat: Thoroughly mix and apply 7490-CA coating at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) and immediately broadcast #11 roo ng granules at the rate of 30 lbs/100 sf. After cure, remove loose granules from roof surface.
      3. Single-Ply Roof Coating System.
         1. Elastacryl SP:
            1. Optional Primer: Contact NEOGARD for recommended primers.
            2. Base Coat: Thoroughly mix and apply 7251 series coating at approximately sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 13 dry mils and allow to cure.
            3. Topcoat: Thoroughly mix and apply 7251 series coating at approximately sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 13 dry mils and allow to cure.
            4. Optional Granule Coat: Thoroughly mix and apply 7251 series coating at approximately sf/gal (1.0 gal/100 sf or 16 wet mils) and immediately broadcast #11 roo ng granules at the rate of 30 lbs to 40 lbs /100 sf. After cure, remove loose granules from roof surface.
         2. ELASTA-GARD SP Aliphatic:
            1. Primer: Contact NEOGARD for recommended primers.
            2. Base Coat: Thoroughly mix and apply 70620-CA coating at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 18 dry mils and allow to cure. If Base Coat cannot be applied over primer within 24 hours, reprime. Do not leave base coat exposed for more than 5 days.
            3. Topcoat: Thoroughly mix and apply 7490-CA coating at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 18 dry mils and allow to cure.
            4. Optional Granule Coat: Thoroughly mix and apply 7490-CA coating at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) and immediately broadcast #11 roofing granules at the rate of 30 lbs /100 sf. After cure, remove loose granules from roof surface.
      4. Metal Roof Coating Systems
         1. Elastacryl M:
            1. Primer: Thoroughly mix and apply 7797/7798 General Purpose primer at a rate of 400 square feet per gallon.
            2. First Coat: Thoroughly mix and apply 7251 or 7261 coating at a minimum rate of 1.5 gallons per 100 square feet (66 sf/gal or 24 wet mils) to yield 13 dry mils and allow to cure.
            3. Second Coat: Thoroughly mix and apply 7251 or 7261 coating at a minimum rate of 1.5 gallons per 100 square feet (66 sf/gal or 24 wet mils) to yield 13 dry mils and allow to cure.
            4. Optional Granule Coat: Thoroughly mix and apply 7251 or 7261 coating at approximately 1.25 gallons per 100 square feet (80 sf/gal or 20 wet mils) and immediately broadcast #11 roo ng granules at the rate of 30 lbs/100 sf. After cure, remove loose granules from roof surface.
         2. Elasta-Gard M Aliphatic:
            1. Primer: For previously coated or factory finished metal roofs, apply 7797/7798 urethane primer at a rate of 400 sf/gal.
            2. Seam Detail: All seams on the roof must be sealed.

Horizontal seam treatment options are as follows:

Mastic: Apply a 2" wide band of 70690 mastic material to the seam at a rate sufficient to create a smooth transition, minimum 80 wet mils. Taper the edges to the existing substrate.

TieTex: Apply 24 wet mils of elastomeric base coat material, 10" wide, over seam. Apply and center TieTex fabric over wet base coat material. Work the reinforcing fabric into wet coating material using a brush or roller to eliminate air pockets, wrinkles and gaps. Apply additional 16 wet mils of base coat over the entire seam detail and allow to cure.

Vertical seam treatment: Treat all vertical seams with urethane sealant at a rate sufficient to create a smooth transition. Each coat shall be applied perpendicular to the previous coat.

* + - * 1. Base Coat: Thoroughly mix and apply 70630 series coating at approximately 133 sf/gal (0.75 gal/100 sf or 12 wet mils) to yield 9 dry mils and allow to cure. If Base Coat cannot be applied over primer within 24 hours, reprime. Do not leave base coat exposed for more than 5 days.
        2. Topcoat: Thoroughly mix and apply 7490-CA coating at approximately 133 sf/gal (0.75 gal/100 sf or 12 wet mils) to yield 9 dry mils and allow to cure.
        3. Optional Granule Coat: Thoroughly mix and apply 7490-CA single component aliphatic polyurethane coating at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) and immediately broadcast #11 roo ng granules at the rate of 30 lbs/100 sf. After cure, remove loose granules from roof surface.
      1. Metal Roof Coating Acrylic Urethane:
         1. Primer: Apply 15040 UREPRIME HS2 white at a rate of 200- 300 square feet per gallon in a uniform thickness to yield 3- 5 mils DFT and allow to cure tack free before applying topcoat.
         2. Topcoat: Apply 57010 ACRYLITHANETM HS2 in desired color at a rate of 250- 330 square feet per gallon in a uniform thickness to yield 3- 4 mils DFT.
         3. Clear Coat (Required for 7 Year Colorfast Warranty): For higher gloss and durability, apply 57010 ACRYLITHANETM HS2 clear at a rate of 650- 1,000 square feet per gallon in a uniform thickness to yield 1- 1.5 mils DFT.
    1. Concrete Roof Coating Systems
       1. Elasta-Gard C Aliphatic:
          1. Primer: Apply NEOGARD 7797/7798 urethane primer at a rate of 1/3 gallon per 100 square feet (300 sf/gal) and allow to cure until primer will not transfer when touched. Do not apply epoxy primer over base coat material used for detailing. Each coat shall be applied perpendicular to the previous coat.
          2. Base Coat: Thoroughly mix and apply 70620-CA coating at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 18 dry mils and allow to cure. If base coat cannot be applied over primer within 24 hours, reprime. Do not leave base coat exposed for more than 5 days.
          3. 4. Topcoat: Thoroughly mix and apply 7490-CA coating at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 18 dry mils and allow to cure.
          4. Optional Granule Coat: Thoroughly mix and apply 7490-CA coating at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) and immediately broadcast #11 roo ng granules at the rate of 30 lbs/100 sf. After cure, remove loose granules from roof surface.
    2. Sprayed Polyurethane Foam Elastomeric Roof Coating Systems
       1. ELASTACRYL FR:
          1. First Coat: Apply 7251 or 7261 single component elastomeric acrylic coating at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 12 dry mils and allow to cure.
          2. Second Coat: Apply 7251 or 7261 single component elastomeric acrylic coating at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 12 dry mils and allow to cure.
          3. Top Coat: Apply 7251 or 7261 single component elastomeric acrylic coating at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 12 dry mils and allow to cure.
          4. Optional Granule Coat: Apply 7251 or 7261 single component elastomeric acrylic coating at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) and immediately broadcast #11 roofing granules at the rate of 30 lbs/100 sf. After cure, remove loose granules from roof surface.
          5. Coating Thickness Requirements: Total coating system thickness shall average 36 dry mils (DFT), exclusive of Optional Granule Coat and granules. Minimum dry lm thickness (DFT) at any point on the roof shall not be less than 24 dry mils.
    3. Sprayed Polyurethane Foam Elastomeric Roof Coating Systems
       1. PERMATHANE Aliphatic:
          1. Base Coat: Base coat shall be applied the same day as the sprayed polyurethane foam. Thoroughly mix and apply 70620-CA series single component moisture cured polyurethane coating at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 18 dry mils and allow to cure.
          2. Topcoat: Thoroughly mix and apply 7490-CA series single component aliphatic polyurethane coating at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 18 dry mils and allow to cure.
          3. Optional Granule Coat: Thoroughly mix and apply 7490- CA series single component aliphatic polyurethane coating at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) and immediately broadcast #11 roo ng granules at the rate of 30 lbs/100 sf. After cure, remove loose granules from roof surface.
          4. Coating Thickness Requirements: Total coating system thickness shall average 36 dry mils (DFT), exclusive of Optional Granule Coat and granules. Minimum dry lm thickness (DFT) at any point on the roof shall not be less than 24 dry mils of which 16 dry mils must be above the base coat material and 8 dry mils must be 7490 series material.
    4. Sprayed Polyurethane Foam Elastomeric Roof Coating Systems
       1. SILICONE FR:
          1. First Coat: Apply 7860-LO Series low odor RTV silicone coating at approximately 62 sf/gal (1.6 gal/100 sf or 24 wet mils) to yield an average of 15 dry mils and allow to cure.
          2. Second Coat: Apply 7860-LO Series low odor RTV silicone coating at approximately 62 sf/gal (1.6 gal/100 sf or 24 wet mils) to yield an average of 15 dry mils and allow to cure.

\*\* NOTE TO SPECIFIER \*\* Granules are optional delete if not required.

* + - * 1. Optional Granule Coat: Apply 7860-LO Series low odor RTV silicone coating at approximately 80 sf/gal (1.25 gal/100 sf or 20 wet mils) and immediately broadcast #11 roo ng granules at the rate of 30 lbs /100 sf. After cure, remove loose granules from roof surface.
        2. Coating Thickness Requirements: Total coating system thickness shall average 30 dry mils (DFT), exclusive of Optional Granule Coat and granules. Minimum dry lm thickness (DFT) at any point on the roof shall not be less than 20 dry mils.

\*\* NOTE TO SPECIFIER \*\* Include the following paragraph if field quality control is specified. Delete if not required.

* 1. FIELD QUALITY CONTROL
     1. Field Quality Control Services: Provide inspection by coating manufacturer's representative to verify the proper installation of the fluid-applied roof coating system. Any areas that do not meet the minimum standards or application as specified shall be corrected at the applicator's expense.
  2. CLEANING AND PROTECTION
     1. Surfaces not intended to receive the fluid-applied coating system shall be protected during the application of the system. Should this protection not be effective, or not be provided, the respective surfaces shall be restored to their proper conditions by cleaning, repairing or replacing. All debris from completion of work shall be completely removed from the project site.
     2. After completion of application, do not allow traffic on coated surfaces for a period of at least 48 hours at 75 degrees F (23 degrees C) and 50 percent R.H., or until completely cured.
     3. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION