Guide Specification

Elasta-Gard™ Emulsion

Section 07 56 00 Fluid-Applied Roofing

NEOGARD® CONSTRUCTION COATINGS
A part of the Hempel Group

PART 1 – GENERAL

1.1 SUMMARY

A. Provide labor, materials, equipment and supervision necessary to install a seamless, fully adhered fluid-applied roof coating system for use over smooth and granulated cap sheet, modified bitumen and built-up roof substrates.

B. The manufacturer's application instructions for each product used are considered part of this specification and should be followed at all times.

C. Related Sections:
   1. Section 03 30 00: Cast-In-Place Concrete
   2. Section 07 50 00: Membrane Roofing
   3. Section 07 60 00: Flashing and Sheet Metal
   4. Section 07 72 00: Roof Accessories
   5. Section 07 92 00: Joint Sealants

1.2 SYSTEM DESCRIPTION

A. Elasta-Gard™ Emulsion shall be a complete system of compatible materials to create a seamless waterproof fluid-applied roof coating system.

B. Elasta-Gard™ Emulsion shall be designated for application on the specific type of substrate as indicated on the drawings and specifications.

1.3 SUBMITTALS

A. Technical Data: Submit NEOGARD® product technical literature and installation instructions.

B. Samples: Submit samples of specified fluid-applied roof coating system. Samples shall be construed as examples of finished color and texture of the system only.

C. Applicator Approval: Submit letter from NEOGARD® stating applicator is approved to install the specified fluid-applied roof coating system.

D. Warranty: Submit a copy of the NEOGARD® warranty to meet project specifications.

1.4 QUALITY ASSURANCE

A. Supplier Qualifications: Elasta-Gard™ Emulsion, as supplied by NEOGARD®, is approved for use on this project.

B. Applicator Qualifications: The Applicator shall be approved by NEOGARD® to install the Elasta-Gard™ Emulsion fluid-applied roof coating system. Manufacturer’s written verification of applicator approval is required.

C. Regulatory Requirements:
   1. The fluid-applied roof coating system shall be rated Class A in accordance with the spread of flame test requirements of ASTM E108.
   2. Materials used in the fluid-applied roof coating system shall meet Federal, State and local VOC regulations.

D. Adhesion Test: An adhesion test is recommended to ensure sufficient adhesion will exist between the substrate and fluid-applied roof coatings.

1.5 DELIVERY, STORAGE AND HANDLING

A. Containers and Packaging: Materials shall be delivered in original, tightly sealed containers, clearly labeled with the manufacturer’s name, brand name, type of material and batch number(s).

B. Storage and Handling: It is recommended to store materials at 75°F (23°C). Handle products to prevent damage to container. All materials shall be stored in compliance with local fire and safety requirements. Avoid high temperatures and direct sunlight.

1.6 PROJECT CONDITIONS

A. Prior to starting work, read and follow the Safety Data Sheet (SDS) and container labels for detailed health and safety information.

B. Proceed with application of materials only when substrate temperature is above 40°F (4°C) and in dry conditions. Do not apply if precipitation is imminent, or to a damp or frosty surface. Temperature should more than 5°F (3°C) above dew point and rising. If ambient and/or substrate temperatures are approaching or above 110°F (43°C), limit material application to evening hours.

C. Coordinate fluid-applied roof coating work with other trades to ensure coatings are protected from traffic and other abuse until completely cured and installation is complete.

D. Maintain work area in a neat and orderly condition, removing empty containers, rags, and trash from the site daily.

1.7 WARRANTY

A. Upon request, NEOGARD® shall offer a manufacturer's standard warranty for institutional, commercial, industrial, and high-rise/multi-family residential projects only, after substantial completion of the application and receipt of a properly executed warranty request form. System described in Part 3 Execution qualifies for a 10-year warranty through NEOGARD®. Contact NEOGARD® for systems with other warranty periods.

PART 2 – PRODUCTS

2.1 MANUFACTURER

A. NEOGARD® a Division of Hempel (USA), Inc., 2728 Empire Central, Dallas, TX 75235, Toll Free (800) 321-6588, Fax (214) 357-7532, www.neogard.com.

2.2 MATERIALS

A. Fluid-Applied Roofing (Hempel product numbers in parentheses):
   1. Surface Cleaner: 8500 BioDegradable Cleaner (089JB).
   2. Primer: NEOGARD® 7780/7781 (280J9/98060) epoxy primer.
   3. Liquid Flashing: 70620-CA (474JB) single component moisture cured polyurethane coating.
   4. Reinforcing Material (choose one):
      a. 86220 (63BJB) reinforcing fabric (Tietex T-272), 40” wide rolls (contact NEOGARD® for source of supply).
      b. Chopped strand fiberglass (contact NEOGARD® for supply).
   5. Sealant: 70991 (47XJB) urethane sealant.
   6. Emulsion: Asphaltic emulsion; see specifications below, contact NEOGARD® for approved manufacturer.
   7. Mastic: 70690 (47CJB) Roof Mastic.
   8. Base Coat: 70620-CA (474JB) single component moisture cured polyurethane.
   9. Topcoat: 7490-CA (47YJB10000) single component aliphatic polyurethane.
   10. Cleaning Solvent: Acetone (contact NEOGARD® for source of supply).

2.3 MATERIAL PERFORMANCE CRITERIA

A. Typical physical properties of cured 70620-CA urethane used on this project are:
   1. Tensile Strength, ASTM D412, 1,000 psi
   2. Elongation, ASTM D412, 375%
   3. Permanent Set, ASTM D412, < 10%
   4. Tear Resistance, ASTM D1004, 100 pli
   5. Water Resistance, ASTM D471, < 3%
   6. Shore A, ASTM D2240, 50–55

B. Typical physical properties of cured 7490-CA urethane used on this project are:
   1. Tensile Strength, ASTM D412, 2,300 psi
   2. Elongation, ASTM D412, 230%
   3. Permanent Set, ASTM D412, 10%
   4. Tear Resistance, ASTM D1004, 200 pli
   5. Water Resistance, ASTM D471, <2% (7 days)
   6. Taber Abrasion, ASTM D4060, 16 mg (1,000 CS-17)
   7. MVT (20 mils), ASTM E96, 0.9 perms
   8. Shore A, ASTM D2240, 85
   9. Fire Resistance, ASTM E108, Pass (as part of a tested system)

C. Typical physical properties of asphalt emulsion used on this project are:
   1. Flexibility at 32°F/0°C, No cracking or flaking
   2. Heat Resist at 212°F/100°C, No sag, blistering, or slipping
   3. Permeability (varies with thickness), 0.0–2.0
   4. Minimum Application Temperature, 50°F/10°C
   5. Drying Time at 70°F/21°C, 50% relative humidity, 12 hours firm set

D. The above tested results are typical values. Individual lots may vary up to 10% from the typical value. Further technical information can be found at www.neogard.com.

2.4 ACCESSORIES

A. Fabric reinforcement and waterproofing coverings for expansion joints shall be compatible with specified fluid-applied roof coating system.

B. 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.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Inspect surfaces, which will receive the Elasta-Gard™ Emulsion fluid-applied roof coating system to make sure they are clean, smooth, sound, properly prepared, and free of moisture, dirt, debris, or other contaminants.

B. Verify that all roof penetrations, mechanical equipment, cants, edge metal, and other on-roof items are in place and secure.

C. Verify that all critical areas around the immediate vicinity of the coating application area are suitably protected.

D. Verify that roof has sufficient slope for water to drain.

E. Verify all roof drains are clean and in working order.

F. Verify that all air conditioning and air intake vents are suitably protected or closed.

3.2 PREPARATION

A. All existing HVAC and other equipment shall be protected from any damage that could be caused by the fluid-applied roof coating application.

B. Raising, re-setting, and protection of air conditioning equipment, ventilators, and exhaust fans may be required.

C. 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.

D. 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.

E. 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 of any kind.

F. 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.

G. All roof surfaces, whether old or new, shall be cleaned using 8500 BioDegradable Cleaner at a rate of 1 part concentrate to 10 parts water. Apply the diluted cleaning solution under low pressure spray at a rate of 150 to 200 square feet per gallon and allow to stand for 15 minutes. Do not allow the solution to dry. Thoroughly rinse with fresh water under high pressure to remove the cleaning solution. The use of stiff-bristle brooms or mechanical scrubbers may be required to remove heavy deposits of dirt or other contaminants from surface. Allow roof surface to thoroughly dry.

1. If algae is present on the surface, use bleach when cleaning. Follow local ordinances regarding runoff.

H. Before proceeding with coating application, ensure that substrate is clean, sound, dry (cured) and secure.

3.3 APPLICATION

A. Factors That Affect Dry Film Thickness: Volume of solids, thinning, surface profile, application technique and equipment, overspray, squeegee, brush and roller wet out, container residue, spills and other waste are among the many factors that affect the amount of wet coating required to yield proper dry film thickness. To ensure that specified dry film thickness is achieved, use a wet mil gauge to verify actual thickness of wet coating applied, adjusting as needed for those factors which directly affect the dry film build.

B. Primer: Apply 7780/7781 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. If emulsion coat cannot be applied over primer within 24 hours, re-prime.

C. Emulsion Coat:
   1. Thoroughly mix and apply asphaltic emulsion at a rate of 9 gal/100 sf.
   2. Embed one of the following reinforcing materials into entire Emulsion Coat while asphaltic emulsion is still wet:
      c. Tietex fabric, 40” wide. Use a roller or broom to ensure the fabric is fully embedded into the wet emulsion.
      d. Chopped strand fiberglass, applied at 3–4 lbs/100 sf. A chopper gun may be used to apply fiberglass strands.
   3. Allow the Emulsion Coat with reinforcing material to cure for 10–20 days. Ideal conditions: 70°F/21°C, 50% relative humidity. When fully cured, wash surface clean of any residue.

D. Elasta-Gard Emulsion 10-Year Warranty System:
   1. Base Coat: Thoroughly mix and apply 70620-CA 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 at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 18 dry mils and allow to cure.
   3. Coating Thickness Requirements: Total coating system thickness shall average 36 dry mils (DFT), exclusive of primer and Emulsion Coat.

E. Elasta-Gard HD 15-Year Warranty System:
   1. First Base Coat: Thoroughly mix and apply 70620-CA at app`roximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 18 dry mils and allow to cure.
   2. Second Base Coat: Thoroughly mix and apply 70620-CA at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 18 dry mils and allow to cure.
   3. First Topcoat: Thoroughly mix and apply 7490-CA at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 18 dry mils and allow to cure.
   4. Second Topcoat: Thoroughly mix and apply 7490-CA at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 18 dry mils and allow to cure.
   5. Coating Thickness Requirements: Total coating system thickness shall average 72 dry mils (DFT), exclusive of primer and Emulsion Coat.

3.4 FIELD QUALITY CONTROL

A. Manufacturer's Field Services: Inspection by an independent 3rd party or coating manufacturer's representative may be required to verify the proper installation of the fluid-applied roof coating system. Any areas that do not meet the minimum standards for application as specified herein shall be corrected at the applicator's expense. Manufacturer's inspection or verification shall not constitute acceptance of responsibility for any improper surface preparation or application of material.

B. Applicator is responsible for ensuring sufficient coating is applied to the roof.

3.5 CLEANING

A. Surfaces not intended to receive the Elasta-Gard™ Emulsion 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.

3.6 PROTECTION

A. After completion of application, do not allow traffic on coated surfaces for a period of at least 48 hours at 75°F (23°C) and 50% relative humidity, or until completely cured.

END OF SECTION

Issued by: Hempel (USA) – NEOGARD® Elasta-Gard™ Emulsion

This Guide Specification supersedes those previously issued.

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