

Application Manual

Fluid-Applied Roof
Coating Systems

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Introduction

Dear Neogard Customer,

This manual covers many important technical aspects of Neogard fluid-applied roof coating systems. It is intended for personnel who are involved in selling, estimating, administration and application.

Neogard roof coating systems protect and preserve a variety of roofs including spray polyurethane foam, smooth and mineral-surfaced built-up roof membranes, modified bitumen, metal, concrete, and all types of single-ply membranes. Ballasted single-ply membranes are not candidates for Neogard fluid-applied roof coating systems.

We will make changes and additions to this handbook as technology evolves. For specific application questions or technical assistance, contact the Neogard Technical Service Department by phone at (214) 353-1600, or use the contact form at www.Neogard.com/Contact. Additional technical resources are also available at www.Neogard.com.

Thank you for your help in making this manual possible.

Your Neogard Team

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Project and Substrate Conditions

The following guidelines apply to all surfaces receiving a Neogard roof coating system.

Examination

Inspect roof surfaces to make sure they are clean, dry, sound, and secure.

- **Clean:** An absence of any substances other than the surface being coated. Contaminants such as dirt, pollen, rust, mold, algae, leaves, limbs, nuts, water, and other similar substances must be removed.
- **Dry:** An absence of any liquid both on the surface and in the existing roof assembly. Please see the Moisture Detection Survey section of this Application Manual.
- **Sound:** The existing roof components should be structurally sound.
- **Secure:** Seams must be tight. All metal work must be intact and free of damage. All screws and fasteners must be tight.

Identify any areas of ponding water and correct as necessary. Ponding water is defined as water that remains on a roof surface longer than 48 hours after conditions conducive to drying.

All roof penetrations, mechanical equipment, cants, edge metal, and other on-roof items must be in place, secure, and functioning as intended.

Critical areas around the immediate vicinity of the application area must be suitably protected.

Verify that roof deck has sufficient slope for water to drain and that all drains and drain lines are clean and in working order including air conditioning condensate lines.

Air conditioning and air intake vents must be suitably protected or closed.

Field Adhesion Test

Always perform an adhesion test to determine material compatibility and/or the need for a primer. See the Field Adhesion Testing section of this Application Manual for methods and instructions.

Record and maintain results for future reference.

Project Conditions

Prior to starting work, read and follow the Safety Data Sheets (SDS) and container labels for detailed health and safety information. Also read the system's Guide Specification for detailed application instructions.

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 be 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. Refer to "Weather Impact on Coating Materials" in the Support Information section of this Application Manual.

Coordinate roofing work with other trades to ensure coatings are protected from traffic and other abuse until completely cured and application is complete. Applicator has sole right of access to the specified area for the time needed to complete the application.

Keep products away from spark or flame. Do not use equipment which may produce sparks during application and until all vapors have dissipated. Post "No Smoking" signs.

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

Surface Preparation

Spray Polyurethane Foam (SPF) Systems

Neogard coatings protect roof-grade spray polyurethane foam applications which are compliant with Spray Polyurethane Foam Alliance (SPFA) guidelines. SPFA is the standards body for spray polyurethane foam and can be found at www.sprayfoam.org.

SPF Surface Texture

The texture of the spray polyurethane foam is important to the performance of the roof coating system. The rougher the texture, the more coating is required to provide the minimum dry film thickness specified. When the surface becomes too rough or uneven, it is difficult to successfully provide the minimum specified coating thickness to all surface areas of the foam. SPF surface texture is the resulting surface from the final pass of SPF. Per SPFA Technical Document AY-121, *Spray Polyurethane Foam Estimating Reference Guide*:

“When coatings are applied over sprayed polyurethane foam, many factors, such as the polyurethane surface texture, overspray loss, container residue, equipment characteristics, applicator technique, etc. will directly affect the amount of coating material required to meet the designed in -place minimum dry film thickness (DFT). Therefore, it is very important that additional material be added to the theoretical quantities to ensure that the proper minimum coating thickness is applied.”

Theoretical coverage rates cannot be used without adding additional material to adequately cover the foam’s texture.

Acceptable SPF Surface Types

Smooth: The surface shows minimal spray undulation.

Orange Peel: The surface shows a fine texture and is compared to the exterior skin of an orange.

Coarse Orange Peel: The surface shows a texture where nodules and valleys are approximately the same size and shape.

Verge of Popcorn: This is the roughest texture suitable for receiving the protective coating. The surface shows a texture where nodules are larger than valleys with the valleys relatively curved. This surface is acceptable for receiving a protective coating only because of the relatively curved valleys. However, the surface is considered undesirable because of the additional amount of coating material required to protect the surface properly.

Unacceptable SPF Surface Types

Popcorn: The surface shows a coarse texture where valleys form sharp angles and the surface is similar to popcorn.

Tree bark: The surface shows a coarse texture where valleys form sharp angles and is similar in appearance to rough tree bark.

For more information, refer to SPFA Technical Document AY-145, *Surface Texture Of Spray Polyurethane Foam*.

Additional Coating Requirements

SPFA guidelines for estimating additional material requirements due to the SPF surface texture:

Surface Texture	Additional Coating Material Requirements
Smooth Surface Texture	+ 5%
Orange Peel Surface Texture	+ 10%
Coarse Orange Peel Surface Texture	+ 25%
Verge of Popcorn Surface Texture	+ 50%

Direct Bond Systems

Surface preparation for Direct Bond roof coating systems vary according to the substrate.

Concrete

Concrete surfaces to receive roof coatings must have a minimum compressive strength of 3,000 psi.

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 used, it must be a sodium silicate type. Other types of curing compounds require prior written approval by Neogard. Do not use chlorinated rubber, wax, or resin based curing compounds.

Insulating concrete: Never directly coat Zonolite, Vermiculite, Perlite, or others with Neogard fluid-applied roof coatings.

Finish: If the concrete finish is rougher or smoother than a light hair broom finish, consult Neogard for additional surface preparation procedures.

Repairs and Patching: Ridges and sharp projections should be ground off. 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. Concrete patches must have a full 28 day cure period prior to coating.

Cracks and Cold Joints: Visible hairline cracks (up to 1/16" in width) in concrete and cold joints shall be cleaned, primed and treated with polyurethane Base Coat material. Large cracks (over 1/16" in width) shall be routed, blown clean, and filled flush with 70991 polyurethane sealant (70998 silicone sealant for Silicone and Silicone HS systems). Sealant shall be applied to inside area of crack only, not applied to deck surface. Wipe sealant with solvent after it has cured. Allow solvent to flash off prior to installation of Base Coat detail stripe. Detail sealed cracks with Base Coat material, extended a minimum distance of 2" on either side of crack to yield thickness of 30 dry mils, feathering edges.

Control Joints: Seal control joints equal to or less than 1" with 70991 polyurethane sealant (70998 silicone sealant for Silicone and Silicone HS systems). Be sure to maintain proper width to depth ratio. Wipe sealant with solvent after it has cured. Allow solvent to flash off prior to installation of Base Coat detail stripe. Detail sealed cracks with Base Coat material extended a minimum distance of 2" on either side of crack to yield thickness of 30 dry mils, feathering edges.

Preparation and treatment of joints > 1" in width is beyond the scope of this Application Manual and an expansion joint manufacturer should be consulted for those applications.

Roof-Mounted Equipment: Thoroughly clean all exposed metal surfaces such as pipe sleeves, drains, boxes, ducts, and others. Remove all loose paint, rust and asphalt or loose roofing materials of any kind.

Clean and seal all drains, gutters, parapet walls, wall flashing 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.

As needed, reinforce all vertical/horizontal interfaces, including roof termination points, base of all vent pipes and other protrusions, HVAC units and other roof mounted equipment 70690 roofing mastic (70695 for silicone systems) or elastomeric Base Coat with Tietex reinforcing fabric.

- 70690 or 70965 Roofing Mastic: Apply a 2" wide band of 70690 or 70965 mastic material to the interface at a rate sufficient to create a smooth transition; minimum 70690 at 80 wet mils, 70695 at 65 wet mils. Taper the edges to the existing substrate.
- Base Coat Material with Tietex Fabric: Apply 24 wet mils of elastomeric base coat material, 10" wide, over interface. Apply and center 6" 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 detail and allow to cure.

Cleaning: All roof surfaces, whether old or new, shall be cleaned using Neogard 8500 BioDegradable Cleaner. Apply at a rate of 1 part concentrate to 10 parts water. Apply the diluted cleaning solution under low pressure spray at a rate of 450 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 to remove heavy deposits of dirt or other contaminants from surface. Allow roof surface to thoroughly dry. If algae is present on the surface, the cleaning must include bleach in the washing of the substrate.

Metal

Inspect existing metal roof surface to receive coatings.

Loose scale or rust must be removed from metal surfaces and primed with metal primer prior to roof coating application as job conditions dictate. See "Primers" in the Support Information section of this Application Manual.

Metal panels with excessive rust and/or deterioration must be replaced. Metal panels with seam gaps greater than 1/8" should be stitched as tight as possible with additional stitch screw fasteners.

Fasteners: Tighten all loose fasteners and replace stripped fasteners with oversized version of the same fastener, i.e. aluminum, galvanized, or stainless. Maintain integrity of original fastening pattern design.

Apply polyurethane sealant around fasteners and strike or tool into place to achieve a smooth transition and allow to thoroughly cure.

Seams: Detail horizontal metal seams with 70690 roofing mastic (70695 for silicone systems) or elastomeric Base Coat with embedded 6" wide Tietex reinforcing fabric.

- 70690 or 70965 Roofing Mastic: Apply a 2" wide band of mastic material to the seam at a rate sufficient to create a smooth transition; minimum 70690 at 80 wet mils, 70695 at 65 wet mils. Taper the edges to the existing substrate.
- Base Coat Material with Tietex Fabric: Apply 24 wet mils of elastomeric base coat material, 10" wide, over seam. Apply and center 6" 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.

Roof-Mounted Equipment: 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 applicable local codes. Seal all edges.

Clean and seal all drains, gutters, parapet walls and caps to watertight condition. Caulk and seal all screws, seams, skylights, joints, pipes, voids, protrusions and any areas where water could enter through the roof. Repair any damaged metal.

As needed, reinforce all vertical/horizontal interfaces, roof termination points, base of all vent pipes and other protrusions, HVAC units and other roof mounted equipment 70690 roofing mastic (70695 for silicone systems) or elastomeric Base Coat with Tietex fabric.

- 70690 or 70965 Roofing Mastic: Apply a 2" wide band of mastic material to the interface at a rate sufficient to create a smooth transition minimum 70690 at 80 wet mils, 70695 at 65 wet mils. Taper the edges to the existing substrate.
- Base Coat Material with Tietex Fabric: Apply 24 wet mils of elastomeric base coat material, 10" wide, over interface. Apply and center 6" 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 detail and allow to cure.

Round projections, machine legs, sign posts, guide wire straps, inside and outside corners, etc. can be flashed with Neogard flashing materials.

Cleaning: All roof surfaces, whether old or new, shall be cleaned using Neogard 8500 BioDegradable Cleaner. Apply at a rate of 1 part concentrate to 10 parts water. Apply the diluted cleaning solution under low pressure spray at a rate of 450 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 to remove heavy deposits of dirt or other contaminants from surface. Allow roof surface to thoroughly dry. If algae is present on the surface, the cleaning must include bleach in the washing of the substrate.

Single-Ply

Prior to installation of coatings, all laps and detail areas should be probed to ensure that all seams are intact.

All single-ply patches shall be examined to determine whether or not the patch is aged or new. All new patches must be sanded to develop a profile before coating materials are applied for repair or recoat. See "Field Adhesion Testing" in the Support Information section of this Application Manual.

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.

Repair or replace damaged metal and seal drains, gutters, parapet walls and cap to watertight condition. Caulk and seal to watertight condition all screws, seams, skylights, joints and any other areas where water could enter through the roof.

Roof-Mounted Equipment: 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.

Membrane Repairs and Reinforcement: Repair deteriorated flashings, seams, cracks, blisters, splits, fishmouths, holes and other surface imperfections including but not limited to all vertical/horizontal interfaces, roof termination points, base of all vent pipes and other protrusions, HVAC units and other roof mounted equipment using 70690 roofing mastic (70695 for silicone systems) or elastomeric Base Coat with embedded 6" wide Tietex reinforcing fabric.

- 70690 or 70965 Roofing Mastic, applied as required.
- Base Coat Material with Tietex Fabric: Apply 24–30 wet mils of Base Coat material. Apply and center 6" wide Tietex fabric over wet 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 repair and allow to cure.

Fasteners: Fasteners which are backing out shall be repaired by re-tightening or relocating to adjacent area. Single-ply membrane shall then be patched with Roofing Mastic and in accordance with the single ply manufacturer standards for roof repair.

Roof-Mounted Equipment: As needed, reinforce all vertical/horizontal interfaces, roof termination points, base of all vent pipes and other protrusions, HVAC units and other roof mounted equipment with 70690 roofing mastic (70695 for silicone systems) or elastomeric Base Coat with Tietex fabric.

- 70690 or 70965 Roofing Mastic: Apply a 2" wide band of mastic material to the interface at a rate sufficient to create a smooth transition; minimum 70690 at 80 wet mils, 70695 at 65 wet mils. Taper the edges to the existing substrate.
- Base Coat Material with Tietex Fabric: Apply 24 wet mils of elastomeric base coat material, 10" wide, over interface. Apply and center 6" 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 detail and allow to cure.

Cleaning: All roof surfaces, whether old or new, shall be cleaned using Neogard 8500 BioDegradable Cleaner at the rate of 1 part concentrate to 10 parts water. Apply the diluted cleaning solution under low pressure spray at a rate of 450 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. 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.

Smooth or Mineral-Surfaced Built-Up and Modified Bitumen

Roof-Mounted Equipment: 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. Seal all edges.

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.

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.

As needed, reinforce all vertical/horizontal interfaces, roof termination points, base of all vent pipes and other protrusions, HVAC units and other roof mounted equipment with 70690 roofing mastic (70695 for silicone systems) or elastomeric Base Coat with Tietex fabric.

- 70690 or 70695 Roofing Mastic: Apply a 2" wide band of mastic material to the interface at a rate sufficient to create a smooth transition; minimum 70690 at 80 wet mils, 70695 at 65 wet mils. Taper the edges to the existing substrate.
- Base Coat Material with Tietex Fabric: Apply 24 wet mils of elastomeric base coat material, 10" wide, over interface. Apply and center 6" 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 detail and allow to cure.

Repairs and Reinforcement: Repair deteriorated flashings, seams, cracks, blisters, splits, fishmouths, holes and other surface imperfections including but not limited to all vertical/horizontal interfaces, roof termination points, base of all vent pipes and other protrusions, HVAC units and other roof mounted equipment using 70690 roofing mastic (70695 for silicone systems) or elastomeric Base Coat with embedded 6" wide Tietex reinforcing fabric.

- 70690 or 70695 Roofing Mastic, applied as required.
- Base Coat Material with Tietex Fabric: Apply 24–30 wet mils of Base Coat material. Apply and center 6"

wide Tietex fabric over wet 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 repair and allow to cure.

Cleaning: All roof surfaces, whether old or new, shall be cleaned using Neogard 8500 BioDegradable Cleaner at the rate of 1 part concentrate to 10 parts water. Apply the diluted cleaning solution under low pressure spray at a rate of 450 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. 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. If algae is present on the surface, the cleaning must include bleach in the washing of the substrate.

- Note: The roof may be power vacuumed to prevent introducing water into the roof substrate. Contact Neogard for more information.

Moisture Detection Survey

The applicator is responsible for determining whether an existing roofing system is a suitable candidate for a roof coating system. To determine if a roof is a good candidate, test the existing roof assembly for moisture. Neogard recommends that applicators conduct a moisture detection survey prior to applying any roof coating system. Typically, if 25% or more of the roof system contains moisture, it is not a candidate for coating.

Moisture detection surveys typically fall into two categories; destructive and nondestructive. However, it should be noted that all surveys should involve some destructive testing (i.e. core sampling) to verify results. Nondestructive tests may be employed to help reduce the amount of destructive testing needed. The following are examples of different types of nondestructive test methods:

- **Electrical Capacitance (EC):** Electrical capacitance moisture meters can measure the electrical resistance within a roof system and detect changes in roofing conditions that may indicate the presence of moisture.
- **Infrared Thermography (IR):** An infrared camera is used to detect temperature of areas within a roof system assembly. As the air temperature decreases at sunset, dry insulation allows the roof surface above to cool quickly, while areas where moisture is present, either in the insulation or between membrane plies, have a large thermal mass and take much longer to cool.
- **Nuclear Hydrogen Detection (NHD):** A nuclear scanning meter emits neutrons from a radiation source within the scanning meter, downward through the roof system assembly. Neutrons which encounter hydrogen atoms are slowed down; a portion of which “bounce back” to be counted by a detector within the scanning meter. Since water contains significant hydrogen atoms, areas of moisture within the roofing plies and/or insulation record high levels of slowed neutrons.

Regardless of the method used to identify areas of suspected moisture contamination, a destructive test such as core sampling must be used to verify the findings. If moisture is verified within the existing roof assembly, a determination must be made as to whether or not the roof should be coated or replaced. If the decision is made to coat the roof, any saturated and/or water damaged materials must be removed and replaced with compatible materials and appropriate repairs made to meet all applicable building codes.

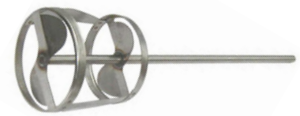
Product Mixing Instructions

Note: This section does not apply to components of spray polyurethane foam. Consult foam manufacturer for instructions concerning mixing foam components.

Note: If a film of cured material is found on the top of the coating product when opened, remove the film. NEVER mix cured material into coating.

Use a low-to-medium speed drill and a Jiffy Mixer, shown at right, to mix all materials thoroughly. Mixing at high speed or with the wrong mixer can introduce air bubbles into the coating. These bubbles may develop into blisters during application.

Jiffy Mixer



Single Component Polyurethane Coatings

Read Product Data Sheets and container labels prior to mixing materials.

Thin materials only after they are mixed. Thin materials by at most 10%. See “Thinning and Cleaning Solvents” in the Support Information section of this Application Manual.

Read instructions for using accelerators in “Additives” in the Support Information section of this Application Manual.

Two-Part Urethane or Epoxy Primers

Caution: Two-component materials must be mixed thoroughly.

Check the product’s mix ratio on container labels, Product Data Sheets, and in this Application Manual prior to mixing materials. Proper ratios are essential for coating performance and development of physical properties. Off-ratio materials will improperly cure and not meet their physical specifications.

The curing agent—sometimes called the catalyst or B-side—is always to be added to the base. Never add the base to the curing agent; the materials will not mix properly.

Mix the base thoroughly for 3–5 minutes before adding the curing agent. This ensures proper color distribution.

Once the base and curing agent are combined, mix them together. Mix 5-gallon or smaller buckets for a minimum of 5 minutes.

Thin two-part materials only after they are mixed. If materials are thinned prior to mixing, proper coating ratios will not be achieved. Thin materials by at most 10%. See “Thinning and Cleaning Solvents” in the Support Information section of this Application Manual.

System Application: SPF

Important General Principles

Note: Prior to application, refer to the Product Mixing Instructions section in this Application Manual.

- Do not apply materials when substrate temperature is greater than 110°F (32°C) or below 40°F/4°C.
- Never coat wet or moist surfaces with urethane materials. If in doubt, perform a moisture test.
- Urethane products are incompatible with asphalt compounds.
- It is much easier to keep coating off an adjacent surface during application than to remove it after cure.
- Flush equipment lines thoroughly every night to prevent material from clogging hoses.
- In systems requiring the use of primers, coating materials should be applied the same day as priming.
- When placing two-component (2k) materials, never turn empty pails upside down or scrape sides to capture remaining coating. This material is not fully mixed and will result in uncured areas of coating.
- Always segregate topcoat material by batch number and avoid using different batch numbered material in continuous expanses. If you don't have enough material from the same batch number to complete the final topcoat application, box the material. Neogard cannot guarantee absolute color consistency between batches.

Factors That Affect Dry Film Thickness

Many factors can affect the amount of wet coating required to yield proper dry film thickness, including: Volume of solids; thinning; surface profile; application technique and equipment; overspray; squeegee; brush and roller wet out; container residue; spills and other waste.

To ensure that specified dry film thickness is achieved, use a wet mil gauge to check thickness of wet coating applied, adjusting as needed for those factors which directly affect the dry film build. Utilize an optical comparator to verify actual dry film thickness and adjust coverage rates accordingly.

Coating Phase Termination

Ideally, terminate phases at joints. This will provide a neat break and will offer the best aesthetics when project application is completed. Be sure to use the same batch number of topcoat material for all phases of the project. Phase termination suggestions are as follows:

- **At Joint:** bring current coating on to urethane joint sealant and end on sealant. When continuing coating application, clean and solvent wipe existing coating, apply primer (as needed) and follow with coating system.
- **Mid-Surface:** Apply tape or similar material to terminate current application in a straight line. Leave base coat exposed by stopping wear/topcoat application 4"–6" from termination point. Do not leave base coat exposed for more than 5 days. When proceeding with application, clean and solvent wipe exposed base coat. Apply wear coat to existing wear coat. Overlap neat topcoat to existing finished system. If using seed and backroll application method, overlap on existing system approximately 4".

Note: If base coat will not be coated within 5 days, terminate full system at straight line. When proceeding with application, clean and solvent wipe existing system approximately 4"–6" and overlap new system over existing system.

Elastacryl FR

Materials (Hempel product numbers in parentheses)

- Coating: 7251 (385JB) or 7261 (387JB) acrylic coating, white in color.
- Granules (Optional): Granules shall be #11 screen size, dust free, ceramic-coated roofing granules. Use only granules as approved by Neogard.

Dry Film Thickness

10-Year Warranty System: 36 dry mils, excluding Optional Granule Coat.

15-Year Warranty System: 48 dry mils, excluding Optional Granule Coat.

Application Instructions

10-Year Warranty System:

1. First Coat: Apply 7251 or 7261 acrylic 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 acrylic at approximately 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 12 dry mils and allow to cure.
3. Third Coat: Apply 7251 or 7261 acrylic 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 acrylic 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.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
First	7251 or 7261	White	66 sf/gal	24 WFT/12 DFT	2–4 hours or tack free
Second	7251 or 7261	White	66 sf/gal	24 WFT/12 DFT	2–4 hours or tack free
Third	7251 or 7261	White	66 sf/gal	24 WFT/12 DFT	2–4 hours or tack free
Optional Granule Coat	7251 or 7261 #11 Granules	White	66 sf/gal 30 lbs/100 sf	24 WFT/12 DFT	NA

15-Year Warranty System:

1. First Coat: Apply 7251 or 7261 acrylic at approximately 50 sf/gal (2.0 gal/100 sf or 32 wet mils) to yield 16 dry mils and allow to cure.
2. Second Coat: Apply 7251 or 7261 acrylic at approximately 50 sf/gal (2.0 gal/100 sf or 32 wet mils) to yield 16 dry mils and allow to cure.
3. Third Coat: Apply 7251 or 7261 acrylic at approximately 50 sf/gal (2.0 gal/100 sf or 32 wet mils) to yield 16 dry mils and allow to cure.
4. Optional Granule Coat: Apply 7251 or 7261 acrylic 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.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
First	7251 or 7261	White	50 sf/gal	32 WFT/16 DFT	2–4 hours or tack free
Second	7251 or 7261	White	50 sf/gal	32 WFT/16 DFT	2–4 hours or tack free
Third	7251 or 7261	White	50 sf/gal	32 WFT/16 DFT	2–4 hours or tack free
Optional Granule Coat	7251 or 7261 #11 Granules	White	66 sf/gal 30 lbs/100 sf	24 WFT/12 DFT	NA

Permathane Aliphatic II

Materials (Hempel product numbers in parentheses)

- Base Coat: 70620-CA (474JB) series single component moisture cured polyurethane.
- Topcoat: 7490-CA (47YJB) series single component aliphatic polyurethane.
- Optional Granule Coat: 7490-CA (47YJB) series single component aliphatic polyurethane.
- Granules (Optional): Granules shall be #11 screen size, dust free, ceramic-coated roofing granules. Use only granules as approved by Neogard.
- Cleaning Solvent: 08080 Xylene Thinner or 7055 (086JB) Odorless Reducer.

Dry Film Thickness

10-Year Warranty System: 36 dry mils, excluding Optional Granule Coat.

15-Year Warranty System: 48 dry mils, excluding Optional Granule Coat.

20-Year Warranty, Very Severe Hail (VSH) System: 60 dry mils, excluding Optional Granule Coat.

Application Instructions

10-Year Warranty System:

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 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 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.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Base	70620-CA	Dark Gray	66 sf/gal	24 WFT/18 DFT	8–12 hours or tack-free
Topcoat	7490-CA	White	66 sf/gal	24 WFT/18 DFT	8–12 hours or tack-free
Optional Granule Coat	7490-CA #11 Granules	White	100 sf/gal 30 lbs/100 sf	16 WFT/12 DFT	NA

15-Year Warranty System:

1. First Base Coat: First Base Coat shall be applied the same day as the sprayed polyurethane foam. Thoroughly mix and apply 70620-CA at approximately 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 15 dry mils and allow to cure.
2. Second Base Coat: Thoroughly mix and apply 70620-CA at approximately 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 15 dry mils and allow to cure.
3. 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.

- Optional Granule Coat: Thoroughly mix and apply 7490-CA 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.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
First Base	70620-CA	Dark Gray	80 sf/gal	20 WFT/15 DFT	8–12 hours or tack-free
Second Base	70620-CA	Dark Gray	80 sf/gal	20 WFT/15 DFT	8–12 hours or tack-free
Topcoat	7490-CA	White	66 sf/gal	24 WFT/18 DFT	8–12 hours or tack-free
Optional Granule Coat	7490-CA #11 Granules	White	100 sf/gal 30 lbs/100 sf	16 WFT/12 DFT	NA

20-Year Warranty, Very Severe Hail (VSH) System:

Note: System meets FM4473 Class 4 Hail Impact Resistance Classification standard.

- First Base Coat: First Base Coat shall be applied the same day as the sprayed polyurethane foam. Thoroughly mix and apply 70620-CA at approximately 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 15 dry mils and allow to cure.
- Second Base Coat: Thoroughly mix and apply 70620-CA at approximately 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 15 dry mils and allow to cure.
- First Topcoat: Thoroughly mix and apply 7490-CA at approximately 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 15 dry mils and allow to cure.
- Second Topcoat: Thoroughly mix and apply 7490-CA at approximately 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 15 dry mils and allow to cure.
- Optional Granule Coat: Thoroughly mix and apply 7490-CA 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.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
First Base	70620-CA	Dark Gray	80 sf/gal	20 WFT/15 DFT	8–12 hours or tack-free
Second Base	70620-CA	Dark Gray	80 sf/gal	20 WFT/15 DFT	8–12 hours or tack-free
First Topcoat	7490-CA	White	80 sf/gal	20 WFT/18 DFT	8–12 hours or tack-free
Second Topcoat	7490-CA	White	80 sf/gal	20 WFT/18 DFT	8–12 hours or tack-free
Optional Granule Coat	7490-CA #11 Granules	White	100 sf/gal 30 lbs/100 sf	16 WFT/12 DFT	NA

Silicone FR

Materials (Hempel product numbers in parentheses)

- Coating: 7860-LO (47FJB) series low odor RTV silicone coating, gray, dark gray, tan or white in color.
- Granules (Optional): Granules shall be #11 screen size, dust free, ceramic-coated roofing granules. Use only granules as approved by Neogard.

Dry Film Thickness

10-Year Warranty System: 30 dry mils, excluding Optional Granule Coat.

15-Year Warranty System: 40 dry mils, excluding Optional Granule Coat.

Application Instructions

10-Year Warranty System:

1. First Coat: Apply 7860-LO series 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 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.
3. Optional Granule Coat: Apply 7860-LO at approximately 80 sf/gal (1.25 gal/100 sf or 20 wet mils) and immediately broadcast #11 roofing granules at the rate of 30 lbs /100 sf. After cure, remove loose granules from roof surface.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
First Coat	7860-LO series	Dark Gray, Gray, White, Tan	62 sf/gal	24 WFT/15 DFT	2–4 hours or tack-free
Second Coat	7860-LO series	Dark Gray, Gray, White, Tan	62 sf/gal	24 WFT/15 DFT	2–4 hours or tack-free
Optional Granule Coat	7860 series #11 Granules	Dark Gray, Gray, White, Tan	80 sf/gal 30 lbs/100 sf	20 WFT/12 DFT	NA

15-Year Warranty System:

1. First Coat: Apply 7860-LO series at approximately 50 sf/gal (2.0 gal/100 sf or 32 wet mils) to yield an average of 20 dry mils and allow to cure.
2. Second Coat: Apply 7860-LO series at approximately 50 sf/gal (2.0 gal/100 sf or 32 wet mils) to yield an average of 20 dry mils and allow to cure.
3. Optional Granule Coat: Apply 7860-LO at approximately 80 sf/gal (1.25 gal/100 sf or 20 wet mils) and immediately broadcast #11 roofing granules at the rate of 30 lbs /100 sf. After cure, remove loose granules from roof surface.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
First Coat	7860-LO series	Dark Gray, Gray, White, Tan	50 sf/gal	32 WFT/20 DFT	2–4 hours or tack-free
Second Coat	7860-LO series	Dark Gray, Gray, White, Tan	50 sf/gal	32 WFT/20 DFT	2–4 hours or tack-free
Optional Granule Coat	7860 series #11 Granules	Dark Gray, Gray, White, Tan	80 sf/gal 30 lbs/100 sf	20 WFT/12 DFT	NA

Silicone HS SPF

Materials (Hempel product numbers in parentheses)

- Protective Coating: 7870 (873JB) series single-component, moisture cured, high solid silicone.

Dry Film Thickness

10-Year Warranty System: 25 dry mils.

15-Year Warranty System: 30 dry mils.

20-Year Warranty System: 35 dry mils.

Application Instructions

10-Year Warranty System:

1. Single Coat: Thoroughly mix and apply 7870 at a rate of 110 sf/gal (0.9 gal/100 sf or 14 wet mils) to yield 12.5 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Single Coat	7870 series	White or Gray	110 sf/gal	14 WFT/12.5 DFT	NA

15-Year Warranty System (two application options):

1. Single Coat: Thoroughly mix and apply 7870 at a rate of 45 sf/gal (2.2 gal/100 sf or 34 wet mils) to yield 30 dry mils. Allow to cure.

Two Coats:

1. First Coat: Thoroughly mix and apply 7870 at a rate of 90 sf/gal (1.1 gal/100 sf or 17 wet mils) to yield 15 dry mils. Allow to cure.
2. Second Coat: Thoroughly mix and apply 7870 at a rate of 90 sf/gal (1.1 gal/100 sf or 17 wet mils) to yield 15 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Single Coat	7870 series	White or Gray	45 sf/gal	34 WFT/30 DFT	NA
or					
First Coat	7870 series	White or Gray	90 sf/gal	17 WFT/15 DFT	2–4 hours or tack-free
Second Coat	7870 series	White or Gray	90 sf/gal	17 WFT/15 DFT	NA

20-Year Warranty System:

1. First Coat: Apply 7870 series at approximately 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield an average of 15 dry mils and allow to cure.

2. Second Coat: Apply 7870 series at approximately 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield an average of 15 dry mils and allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75 °F/23 °C
First Coat	7870 series	White or Gray	80 sf/gal	20 WFT/17.5 DFT	2–4 hours or tack-free
Second Coat	7870 series	White or Gray	80 sf/gal	20 WFT/17.5 DFT	NA

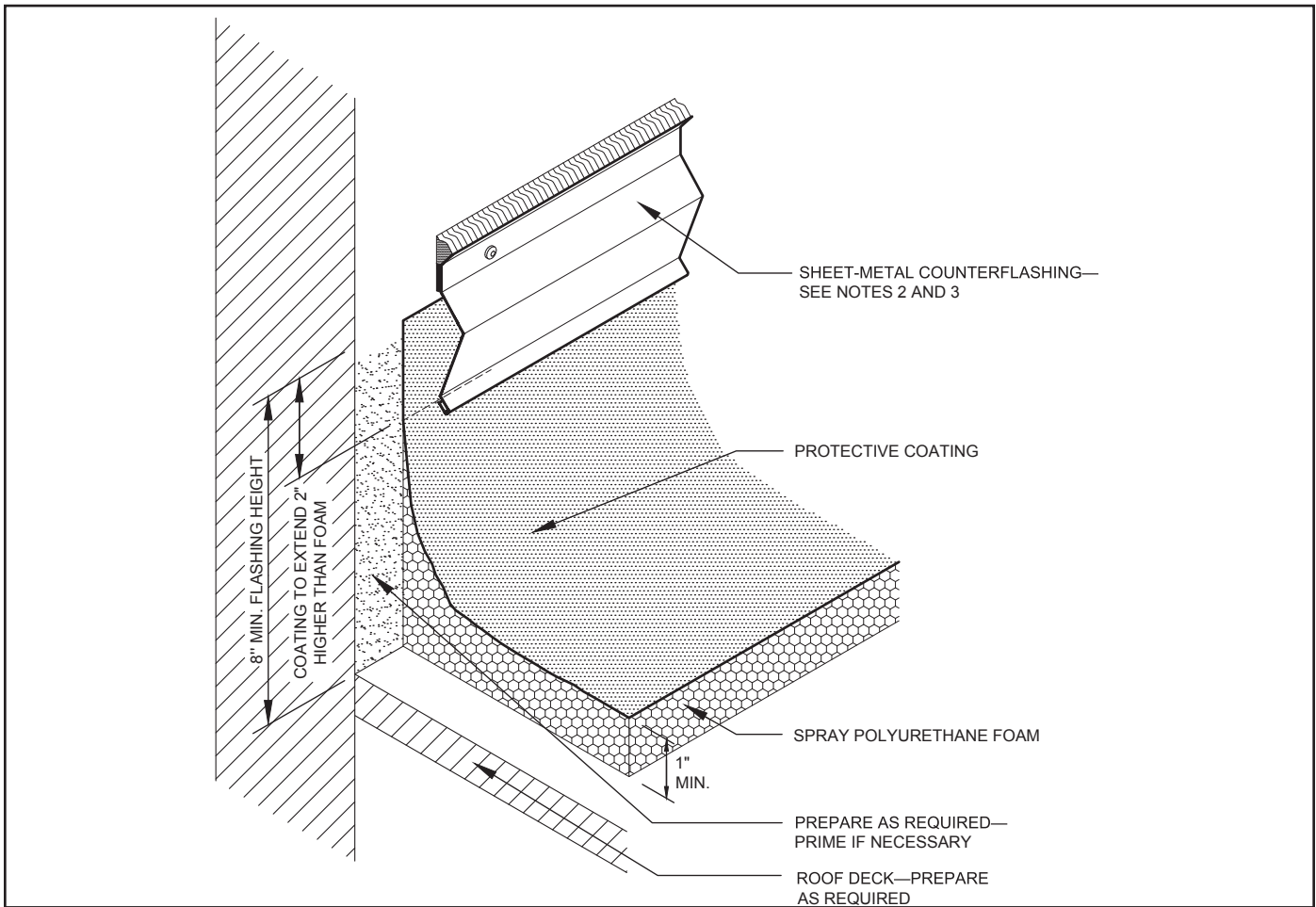
SPF Details

Introduction

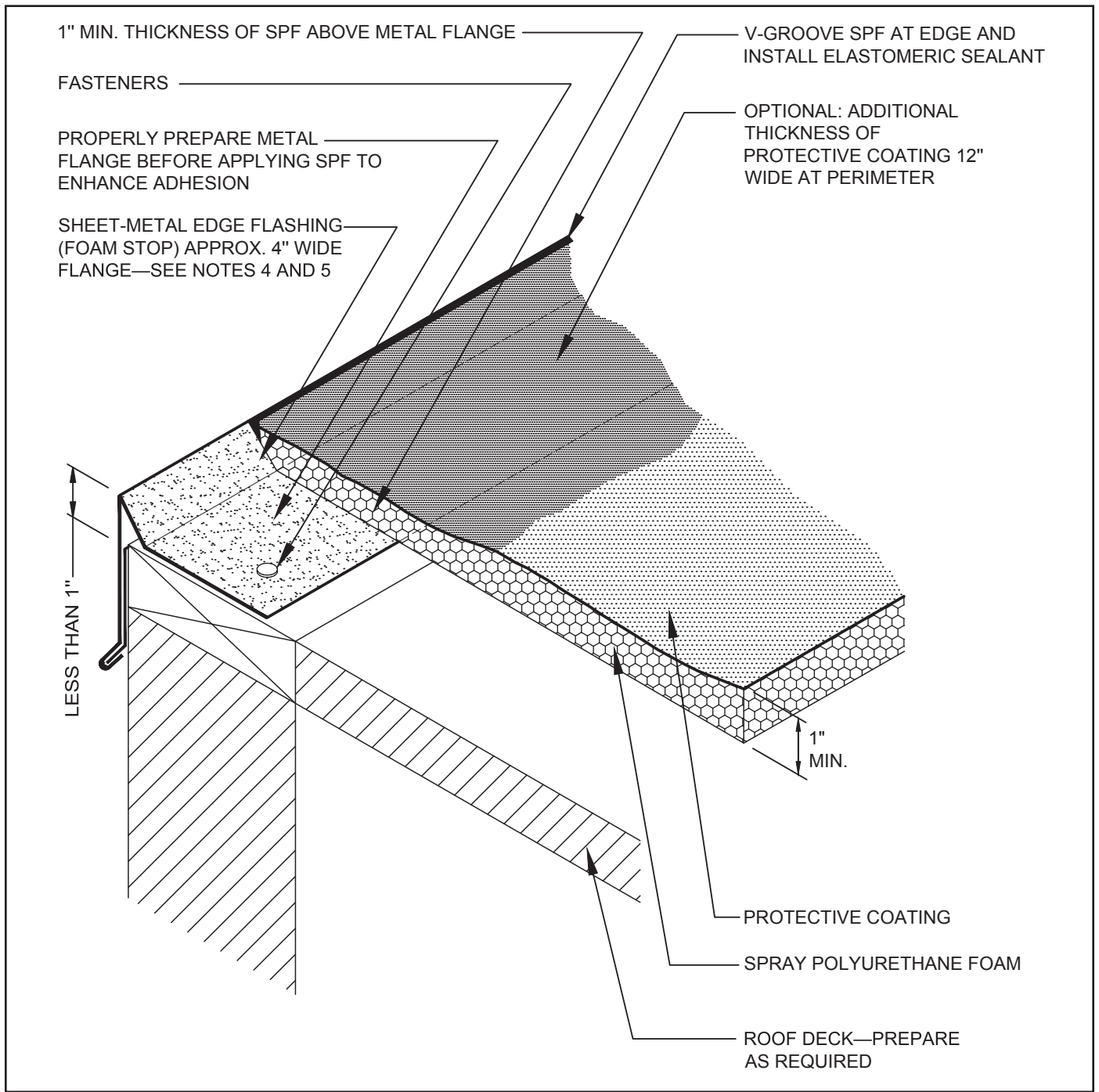
The following details are utilized in the specification and design of Neogard polyurethane foam roof coating systems in both new and retrofit applications. They are provided to show a generally recommended procedure for dealing with the condition shown. They will not and can not provide a specific solution for every condition likely to be encountered in field application. Where field conditions differ, the use of applicable portions of the details shown on their adaptation by an experienced and conscientious applicator should result in a quality project. If you have specific project related questions, contact Neogard Technical Services at www.Neogard.com.

Detail drawings are from *The NRCA Roofing Manual: Metal Panel and SPF Roof Systems*, 2012. Used with permission.

Base Flashing with Counterflashing

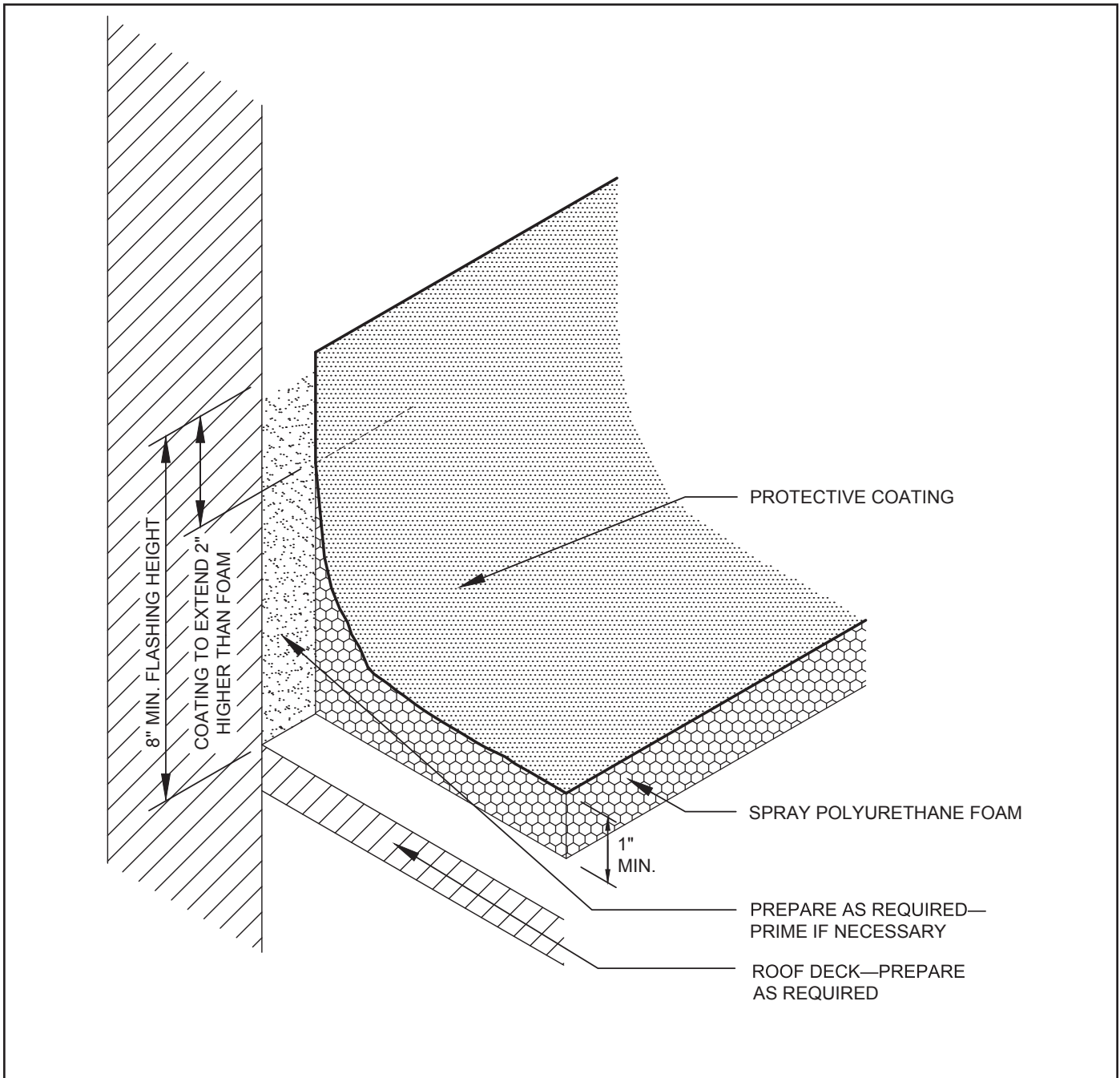


Perimeter Edge-Metal Flashing with Sealant (Foam Stop)

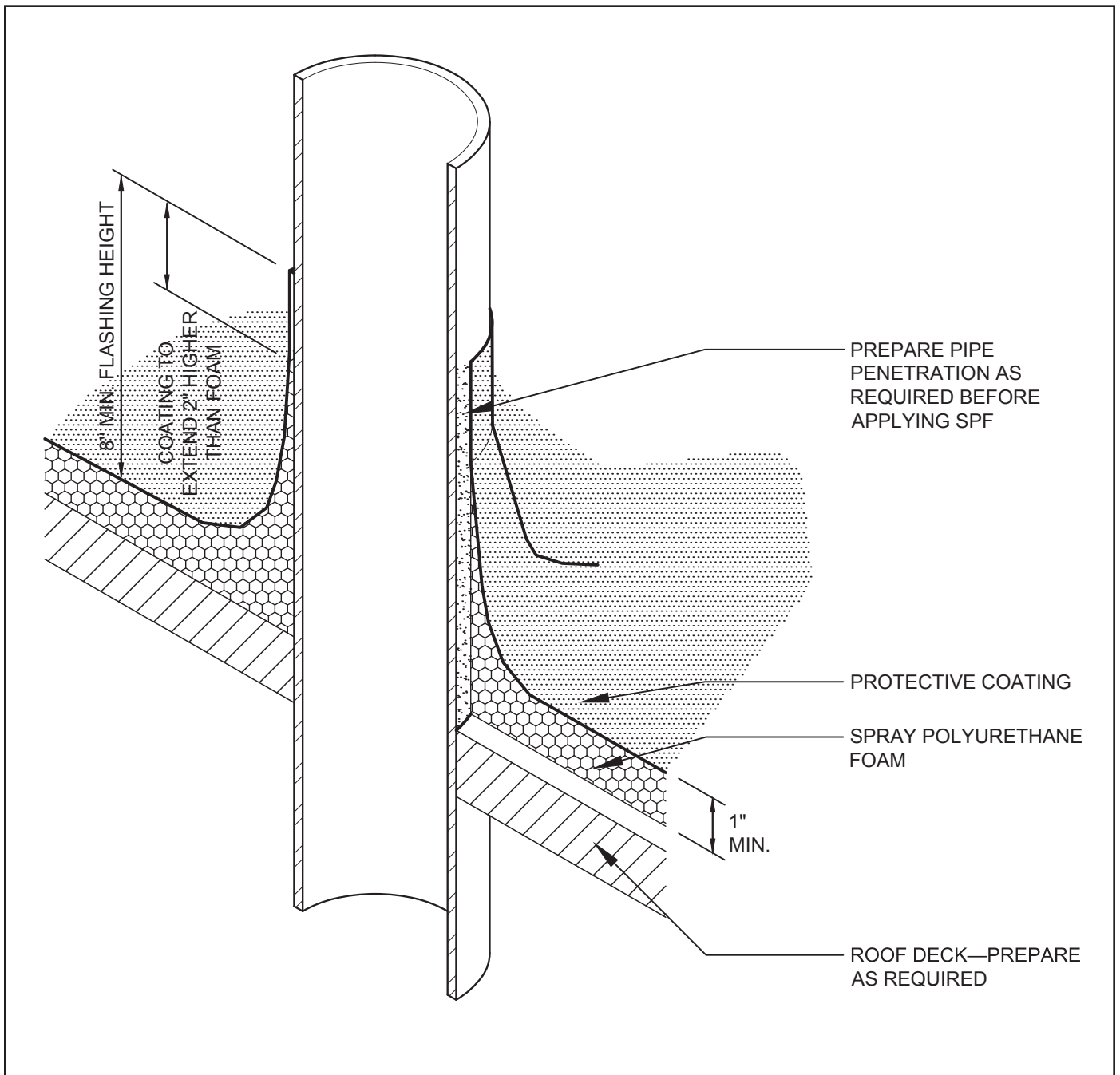


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Base Flashing

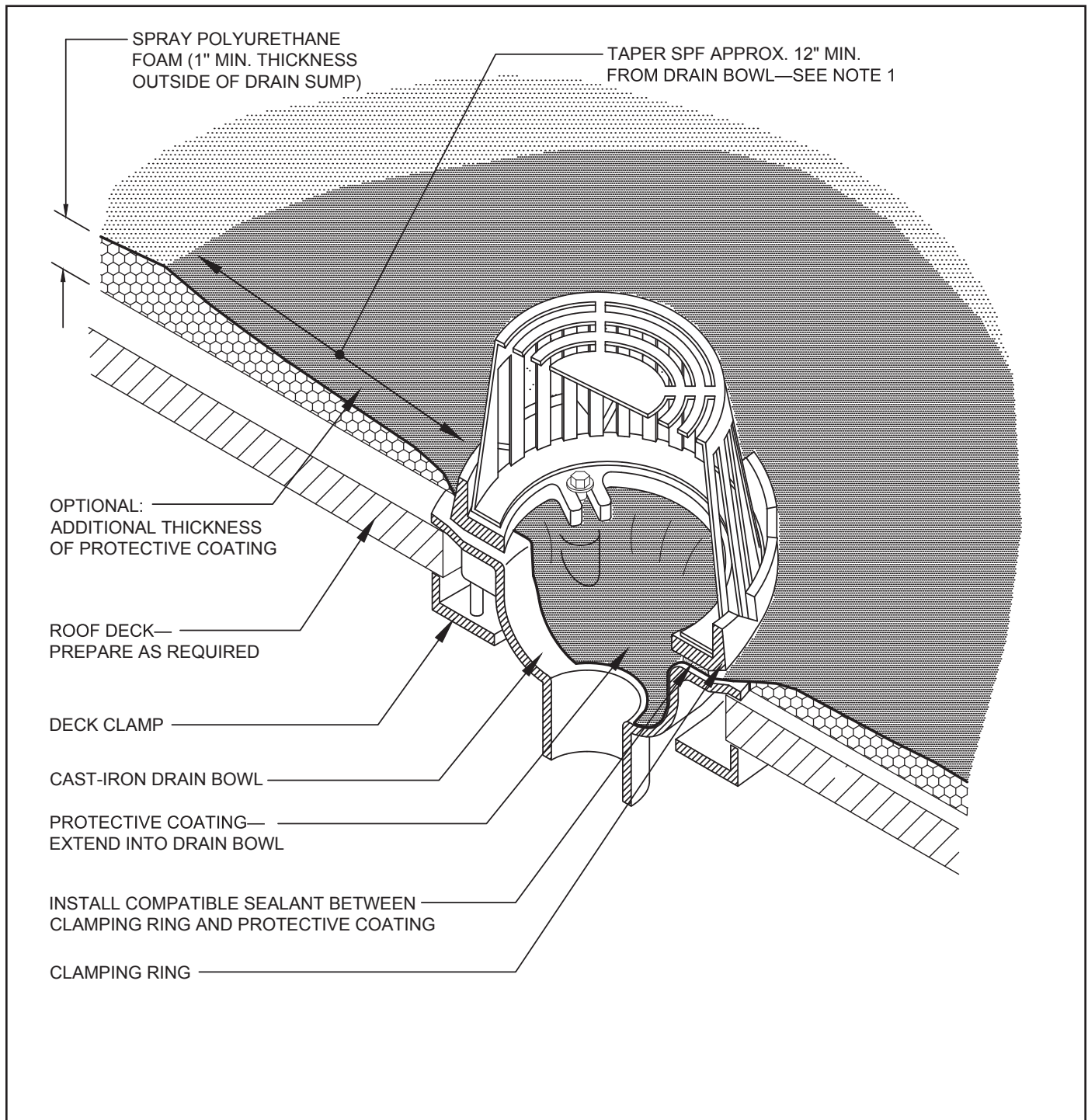


Pipe Penetration

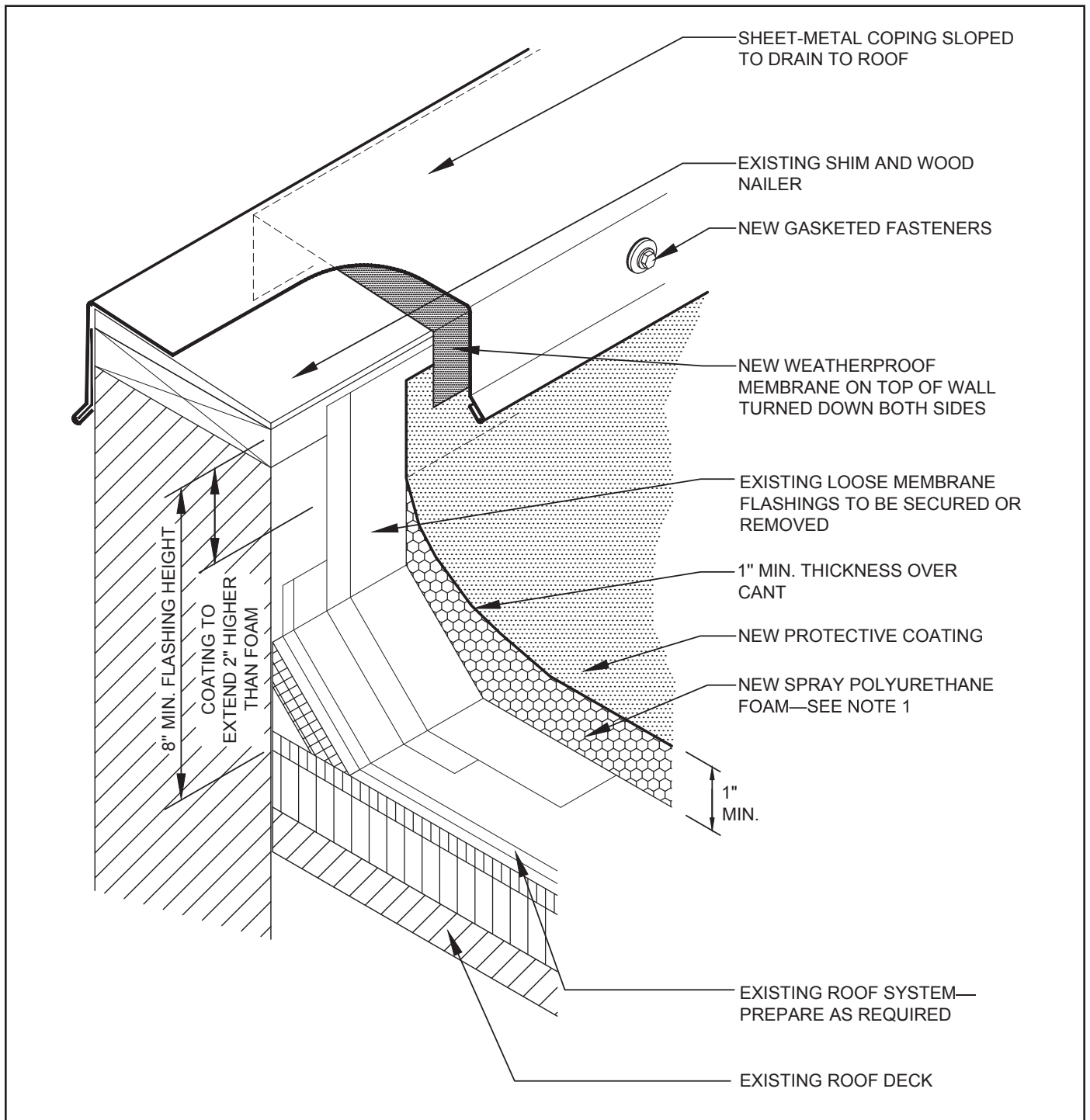


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Roof Drain



Base Flashing at Parapet Wall with New Metal Coping for SPF Re-Cover



System Application: Direct Bond

Important General Principles

Note: Prior to application, refer to the Product Mixing Instructions section in this Application Manual.

- Do not apply materials when substrate temperature is greater than 110°F (32°C) or below 40°F/4°C.
- Never coat wet or moist surfaces with urethane materials. If in doubt, perform a moisture test.
- Urethane products are incompatible with asphalt compounds.
- It is much easier to keep coating off an adjacent surface during application than to remove it after cure.
- Flush equipment lines thoroughly every night to prevent material from clogging hoses.
- In systems requiring the use of primers, coating materials should be applied the same day as priming.
- When placing two-component (2k) materials, never turn empty pails upside down or scrape sides to capture remaining coating. This material is not fully mixed and will result in uncured areas of coating.
- Always segregate topcoat material by batch number and avoid using different batch numbered material in continuous expanses. If you don't have enough material from the same batch number to complete the final topcoat application, box the material. Neogard cannot guarantee absolute color consistency between batches.

Factors That Affect Dry Film Thickness

Many factors can affect the amount of wet coating required to yield proper dry film thickness, including: Volume of solids; thinning; surface profile; application technique and equipment; overspray; squeegee; brush and roller wet out; container residue; spills and other waste.

To ensure that specified dry film thickness is achieved, use a wet mil gauge to check thickness of wet coating applied, adjusting as needed for those factors which directly affect the dry film build. Utilize an optical comparator to verify actual dry film thickness and adjust coverage rates accordingly.

Coating Phase Termination

Ideally, terminate phases at joints. This will provide a neat break and will offer the best aesthetics when project application is completed. Be sure to use the same batch number of topcoat material for all phases of the project. Phase termination suggestions are as follows:

- **At Joint:** bring current coating on to urethane joint sealant and end on sealant. When continuing coating application, clean and solvent wipe existing coating, apply primer (as needed) and follow with coating system.
- **Mid-Surface:** Apply tape or similar material to terminate current application in a straight line. Leave base coat exposed by stopping wear/topcoat application 4"–6" from termination point. Do not leave base coat exposed for more than 5 days. When proceeding with application, clean and solvent wipe exposed base coat. Apply wear coat to existing wear coat. Overlap neat topcoat to existing finished system. If using seed and backroll application method, overlap on existing system approximately 4".

Note: If base coat will not be coated within 5 days, terminate full system at straight line. When proceeding with application, clean and solvent wipe existing system approximately 4"–6" and overlap new system over existing system.

Elastacryl BUR/MB

Smooth/Granulated Cap Sheet, Modified Bitumen, and Built-Up Roof Substrates

Materials (Hempel product numbers in parentheses)

- Primer: 7780/7781 (280JB) water-based epoxy.
- Liquid Flashing: 7251 (385JB) series acrylic coating.
- Mastic: 70690 (47CJB) urethane roof mastic.
- Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272)
- Sealant: 70991 (47XJB) urethane sealant.
- Elastomeric Coating: 7251 (385JB) or 7261 (387JB) series acrylic.

Dry Film Thickness

10-Year Warranty System: 26 dry mils, excluding Optional Granule Coat.

15-Year Warranty System: 39 dry mils, excluding Optional Granule Coat.

Application Instructions

Both systems include Steps 1 and 2.

1. Primer: Apply Neogard 7780/7781 epoxy primer at a rate of 0.33 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. Seam Detail: All seams on the roof must be sealed. Treatment options are as follows:
 - Roofing Mastic: Apply a 2" wide band of 70690 mastic to the seam at a rate sufficient to create a smooth transition, minimum 80 wet mils. Taper the edges to the existing substrate.
 - Base Coat Material with Tietex Fabric: Apply 24 wet mils of base coat material, 10" wide, over seam. Apply and center 6" 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 over the entire seam detail and allow to cure.

10-Year Warranty System:

3. 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.
4. 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.
5. 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 roofing granules at the rate of 30 lbs/100 sf. After cure, remove loose granules from roof surface.

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Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Optional Primer	7780/7781	NA	300 sf/gal	NA	6 hours or tack-free
Seam Detail	Refer to Application Instructions.				
First Coat	7251 or 7261	White	66 sf/gal	24 WFT/13 DFT	2–4 hours or tack free
Second Coat	7251 or 7261	White	66 sf/gal	24 WFT/13 DFT	2–4 hours or tack free
Optional Granule Coat	7251 or 7261 #11 Granules	White	80 sf/gal 30 lbs/100 sf	20 WFT/10 DFT	NA

15-Year Warranty System:

3. 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.
4. 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.
5. Third 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.
6. 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 roofing granules at the rate of 30 lbs/100 sf. After cure, remove loose granules from roof surface.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Optional Primer	7780/7781	NA	300 sf/gal	NA	6 hours or tack-free
Seam Detail	Refer to Application Instructions.				
First Coat	7251 or 7261	White	66 sf/gal	24 WFT/13 DFT	2–4 hours or tack free
Second Coat	7251 or 7261	White	66 sf/gal	24 WFT/13 DFT	2–4 hours or tack free
Third Coat	7251 or 7261	White	66 sf/gal	24 WFT/13 DFT	2–4 hours or tack free
Optional Granule Coat	7251 or 7261 #11 Granules	White	80 sf/gal 30 lbs/100 sf	20 WFT/10 DFT	NA

Elastacryl M

Metal Roof Substrate

Materials (Hempel product numbers in parentheses)

- Primer: 7797/7798 (254JB) General Purpose Primer.
- Elastomeric Coating: 7251 (385JB) or 7261 (387JB) series acrylic.
- Granules (Optional): Granules shall be #11 screen size, dust free, ceramic-coated roofing granules. Use only granules as approved by Neogard.

Dry Film Thickness

10-Year Warranty System: 26 dry mils, excluding Optional Granule Coat.

15-Year Warranty System: 39 dry mils, excluding Optional Granule Coat.

Application Instructions

10-Year Warranty System:

1. Primer: Thoroughly mix and apply 7797/7798 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 roofing granules at the rate of 30 lbs/100 sf. After cure, remove loose granules from roof surface.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7797/7798	NA	400 sf/gal	NA	6 hours or tack-free
First Coat	7251 or 7261	White	66 sf/gal	24 WFT/13 DFT	2–4 hours or tack free
Second Coat	7251 or 7261	White	66 sf/gal	24 WFT/13 DFT	2–4 hours or tack free
Optional Granule Coat	7251 or 7261 #11 Granules	White	80 sf/gal 30 lbs/100 sf	20 WFT/10 DFT	NA

15-Year Warranty System:

1. Primer: Thoroughly mix and apply 7797/7798 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. Third 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.

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5. 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 roofing granules at the rate of 30 lbs/100 sf. After cure, remove loose granules from roof surface.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75° F/23° C
Primer	7797/7798	NA	400 sf/gal	NA	6 hours or tack-free
First Coat	7251 or 7261	White	66 sf/gal	24 WFT/13 DFT	2–4 hours or tack free
Second Coat	7251 or 7261	White	66 sf/gal	24 WFT/13 DFT	2–4 hours or tack free
Third Coat	7251 or 7261	White	66 sf/gal	24 WFT/13 DFT	2–4 hours or tack free
Optional Granule Coat	7251 or 7261 #11 Granules	White	80 sf/gal 30 lbs/100 sf	20 WFT/10 DFT	NA

Elastacryl SP

Single-Ply Roof Substrate

Materials (Hempel product numbers in parentheses)

- Primers:
 - TPO substrate: 7720 (263JB) high-adhesion primer.
 - All others: 7797/7798 (254JB) urethane primer.
- Elastomeric Coating: 7251 (385JB) or 7261 (387JB) series acrylic.

Dry Film Thickness

10-Year Warranty System: 26 dry mils, excluding Optional Granule Coat.

15-Year Warranty System: 39 dry mils, excluding Optional Granule Coat.

Application Instructions

Both systems include Step 1.

1. Primer:
 - TPO substrate: Thoroughly mix and apply 7720 at 300–400 sf/gal (0.33–0.25 gal/100 sf) and allow to cure.
 - All others: Thoroughly mix and apply 7797/7798 (254JB) urethane primer at 400 sf/gal (0.25 gal/100 sf) and allow to cure.

10-Year Warranty System:

Note: Apply First Coat within 3 hours of primer application.

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 roofing granules at the rate of 30 lbs/100 sf. After cure, remove loose granules from roof surface.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75° F/23° C
Primer	7720 7797/7798	NA	250–300 sf/gal 400 sf/gal	NA	1 hour 6 hours or tack-free
First Coat	7251 or 7261	White	66 sf/gal	24 WFT/13 DFT	2–4 hours or tack free
Second Coat	7251 or 7261	White	66 sf/gal	24 WFT/13 DFT	2–4 hours or tack free
Optional Granule Coat	7251 or 7261 #11 Granules	White	80 sf/gal 30 lbs/100 sf	20 WFT/10 DFT	NA

15-Year Warranty System:

Note: Apply First Coat within 3 hours of primer application.

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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. Third 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.
5. 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 roofing granules at the rate of 30 lbs/100 sf. After cure, remove loose granules from roof surface.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75° F/23° C
Primer	7720 7797/7798	NA	250–300 sf/gal 400 sf/gal	NA	1 hour 6 hours or tack-free
First Coat	7251 or 7261	White	66 sf/gal	24 WFT/13 DFT	2–4 hours or tack free
Second Coat	7251 or 7261	White	66 sf/gal	24 WFT/13 DFT	2–4 hours or tack free
Third Coat	7251 or 7261	White	66 sf/gal	24 WFT/13 DFT	2–4 hours or tack free
Optional Granule Coat	7251 or 7261 #11 Granules	White	80 sf/gal 30 lbs/100 sf	20 WFT/10 DFT	NA

Elasta-Gard BUR/MB Aliphatic

Smooth and Granulated Cap Sheet, Modified Bitumen and Built-Up Roof Substrate

Materials (Hempel product numbers in parentheses)

- Primer: Neogard 7780/7781 (280JB) epoxy primer.
- Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272)
- Sealant: 70991 (47XJB) urethane sealant.
- Mastic: 70690 (47CJB) Roofing Mastic.
- Base Coat: 70620-CA (474JB) single component moisture cured polyurethane.
- Intermediate Coat: 7490-CA (47YJB10000) single component aliphatic polyurethane.
- Topcoat: 7490-CA (47YJB10000) single component aliphatic polyurethane.
- Optional Granule Coat: 7490-CA (47YJB10000) single component aliphatic polyurethane.

Dry Film Thickness

10-Year Warranty System: 44 dry mils, excluding Optional Granule Coat.

15-Year Warranty System: 48 dry mils, excluding Optional Granule Coat.

Application Instructions

Both systems include Steps 1 and 2.

1. Primer: Apply Neogard 7780/7781 epoxy primer at a rate of 0.33 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. Seam Detail: All seams on the roof must be sealed. Treatment options are as follows:
 - Roofing Mastic: Apply a 2" wide band of 70690 mastic to the seam at a rate sufficient to create a smooth transition, minimum 80 wet mils. Taper the edges to the existing substrate.
 - Base Coat Material with Tietex Fabric: Apply 24 wet mils of base coat material, 10" wide, over seam. Apply and center 6" 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 over the entire seam detail and allow to cure.

10-Year Warranty System:

3. Base Coat: Thoroughly mix and apply 70620-CA at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 12 dry mils and allow to cure.
4. Intermediate Coat: Thoroughly mix and apply 70620-CA at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 12 dry mils and allow to cure.
5. Topcoat: Thoroughly mix and apply 7490-CA at approximately 60 sf/gal (1.66 gal/100 sf or 27 wet mils) to yield 20 dry mils and allow to cure.
6. Optional Granule Coat: Thoroughly mix and apply 7490-CA 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.

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Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7780/7781	NA	300 sf/gal	NA	1.5 hours
Seam Detail	Refer to Application Instructions.				
Base Coat	70620-CA	Dark Gray	100 sf/gal	16 WFT/12 DFT	8–12 hours or tack-free
Intermediate Coat	70620-CA	Dark Gray	100 sf/gal	16 WFT/12 DFT	8–12 hours or tack free
Topcoat	7490-CA	White	60 sf/gal	27 WFT/20 DFT	8–12 hours or tack free
Optional Granule Coat	7490-CA #11 Granules	White	100 sf/gal 30 lbs/100 sf	16 WFT/12 DFT	NA

15-Year Warranty System:

3. First Base Coat: Thoroughly mix and apply 70620-CA at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 12 dry mils and allow to cure.
4. Second Base Coat: Thoroughly mix and apply 70620-CA at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 12 dry mils and allow to cure.
5. Intermediate Coat: Thoroughly mix and apply 7490-CA at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 12 dry mils and allow to cure.
6. Topcoat: Thoroughly mix and apply 7490-CA at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 12 dry mils and allow to cure.
7. Optional Granule Coat: Thoroughly mix and apply 7490-CA 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.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7780/7781	NA	300 sf/gal	NA	1.5 hours
Seam Detail	Refer to Application Instructions.				
First Base Coat	70620-CA	Dark Gray	100 sf/gal	16 WFT/12 DFT	8–12 hours or tack-free
Second Base Coat	70620-CA	Dark Gray	100 sf/gal	16 WFT/12 DFT	8–12 hours or tack-free
Intermediate Coat	7490-CA	White	100 sf/gal	16 WFT/12 DFT	8–12 hours or tack free
Topcoat	7490-CA	White	100 sf/gal	16 WFT/12 DFT	8–12 hours or tack free
Optional Granule Coat	7490-CA #11 Granules	White	100 sf/gal 30 lbs/100 sf	16 WFT/12 DFT	NA

Elasta-Gard C Aliphatic

Structural Concrete Substrate

Materials (Hempel product numbers in parentheses)

- Primer: 7797/7798 (254JB) urethane primer.
- Base Coat: 70620-CA (474JB) single component moisture-cured aromatic polyurethane.
- Intermediate Coat: 7490-CA (47YJB10000) single component aliphatic polyurethane.
- Topcoat: 7490-CA (47YJB10000) single component aliphatic polyurethane.
- Optional Granule Coat: 7490-CA (47YJB10000) single component aliphatic polyurethane.

Dry Film Thickness

10-Year Warranty System: 36 dry mils, excluding Optional Granule Coat.

15-Year Warranty System: 42 dry mils, excluding Optional Granule Coat.

Application Instructions

10-Year Warranty System:

1. Primer: Apply 7797/7798 urethane primer at a rate of 0.33 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, reprime.
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.
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.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7797/7798	NA	300 sf/gal	NA	1.5 hours
Base Coat	70620-CA	Dark Gray	66 sf/gal	24 WFT/18 DFT	8–12 hours or tack free
Topcoat	7490-CA	White	66 sf/gal	24 WFT/18 DFT	8–12 hours or tack free
Optional Granule Coat	7490-CA #11 Granules	White	100 sf/gal 30 lbs/100 sf	16 WFT/12 DFT	NA

15-Year Warranty System:

1. Primer: Apply 7797/7798 urethane primer at a rate of 0.33 gallon per 100 square feet (300 sf/gal) and allow to cure until primer will not transfer when touched. Note: Do not apply epoxy primer over base coat material used for detailing. If base coat cannot be applied over primer within 24 hours, reprime.
2. 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.

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3. Intermediate Coat: Thoroughly mix and apply 7940-CA at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 12 dry mils and allow to cure.
4. Topcoat: Thoroughly mix and apply 7490-CA at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 12 dry mils and allow to cure.
5. Optional Granule Coat: Thoroughly mix and apply 7490-CA 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.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7797/7798	NA	300 sf/gal	NA	1.5 hours
Base Coat	70620-CA	Dark Gray	66 sf/gal	24 WFT/18 DFT	8–12 hours or tack free
Intermediate Coat	7490-CA	White	100 sf/gal	16 WFT/12 DFT	8–12 hours or tack free
Topcoat	7490-CA	White	100 sf/gal	16 WFT/12 DFT	8–12 hours or tack free
Optional Granule Coat	7490-CA #11 Granules	White	100 sf/gal 30 lbs/100 sf	16 WFT/12 DFT	NA

Elasta-Gard M Aliphatic

Metal Roof Substrate

Materials (Hempel product numbers in parentheses)

- Primer: Neogard 7797/7798 (254JB) urethane primer for previously coated or factory finished metal roofs.
- Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272).
- Sealant: 70991 (47XJB) urethane sealant.
- Mastic: 70690 (47CJB) Roofing Mastic.
- Base Coat: 7490-CA (47YJB10000) single component aliphatic polyurethane.
- Topcoat: 7490-CA (47YJB10000) single component aliphatic polyurethane.
- Optional Granule Coat: 7490-CA (47YJB10000) single component aliphatic polyurethane.

Dry Film Thickness

10-Year Warranty System: 18 dry mils, excluding Optional Granule Coat.

15-Year Warranty System: 24 dry mils, excluding Optional Granule Coat.

Application Instructions

Both systems include Steps 1 and 2.

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.
 - A. Horizontal seam treatment options are as follows:
 - Mastic: Apply a 2" wide band of 70690 mastic 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.
 - B. Vertical seam treatment: Treat all vertical seams with 70991 urethane sealant at a rate sufficient to create a smooth transition.

10-Year Warranty System:

3. Base Coat: 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.
4. 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.
5. 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 roofing granules at the rate of 30 lbs/100 sf. After cure, remove loose granules from roof surface.

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Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7797/7798	NA	400 sf/gal	NA	1.5 hours
Seam Detail	Refer to Application Instructions.				
Base Coat	7490-CA	White	133 sf/gal	12 WFT/9 DFT	6 hours or tack-free
Topcoat	7490-CA	White	133 sf/gal	12 WFT/9 DFT	6 hours or tack-free
Optional Granule Coat	7490-CA #11 Granules	White	100 sf/gal 30 lbs/100 sf	16 WFT/12 DFT	NA

15-Year Warranty System:

3. Base Coat: Thoroughly mix and apply 7490-CA coating at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 12 dry mils and allow to cure.
4. Topcoat: Thoroughly mix and apply 7490-CA coating at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 12 dry mils and allow to cure.
5. 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 roofing granules at the rate of 30 lbs/100 sf. After cure, remove loose granules from roof surface.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7797/7798	NA	400 sf/gal	NA	1.5 hours
Seam Detail	Refer to Application Instructions.				
Base Coat	7490-CA	White	100 sf/gal	16 WFT/12 DFT	6 hours or tack-free
Topcoat	7490-CA	White	100 sf/gal	16 WFT/12 DFT	6 hours or tack-free
Optional Granule Coat	7490-CA #11 Granules	White	100 sf/gal 30 lbs/100 sf	16 WFT/12 DFT	NA

Elasta-Gard SP Aliphatic

Single-Ply Roof Substrate

Materials (Hempel product numbers in parentheses)

- Primers:
 - TPO substrate: 7720 (263JB) high-adhesion primer.
 - All others: 7797/7798 (254JB) urethane primer.
- Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272)
- Sealant: 70991 (47XJB) urethane sealant.
- Mastic: 70690 (47CJB) Roofing Mastic.
- Base Coat: 70620-CA (474JB) single component moisture-cured polyurethane.
- Intermediate Coat: 7490-CA (47YJB10000) single component aliphatic polyurethane.
- Topcoat: 7490-CA (47YJB10000) single component aliphatic polyurethane.
- Optional Granule Coat: 7490-CA (47YJB10000) single component aliphatic polyurethane.

Dry Film Thickness

10-Year Warranty System: 36 dry mils, excluding Optional Granule Coat.

15-Year Warranty System: 42 dry mils, excluding Optional Granule Coat.

Application Instructions

Both systems include Steps 1 and 2.

1. Primer:
 - TPO substrate: Thoroughly mix and apply 7720 at 300–400 sf/gal (0.33–0.25 gal/100 sf) and allow to cure.
 - All others: Thoroughly mix and apply 7797/7798 (254JB) urethane primer at 400 sf/gal (0.25 gal/100 sf) and allow to cure.

Note: Apply Base Coat within 3 hours of primer application.

2. Seam Detail: All seams on the roof must be sealed.
 - A. 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.
 - B. Vertical seam treatment: Treat all vertical seams with 70991 urethane sealant at a rate sufficient to create a smooth transition.

10-Year Warranty System:

3. 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.
4. 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. Optional Granule Coat: Thoroughly mix and apply 7490-CA 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.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7720 7797/7798	NA	300–400 sf/gal 400 sf/gal	NA	1 hour 6 hours or tack-free
Seam Detail	Refer to Application Instructions.				
Base Coat	70620-CA	Dark Gray	66 sf/gal	24 WFT/18 DFT	8–12 hours or tack free
Topcoat	7490-CA	White	66 sf/gal	24 WFT/18 DFT	8–12 hours or tack free
Optional Granule Coat	7490-CA #11 Granules	White	100 sf/gal 30 lbs/100 sf	16 WFT/12 DFT	NA

15-Year Warranty System:

3. 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.
4. Intermediate Coat: Thoroughly mix and apply 7940-CA at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 12 dry mils and allow to cure.
5. Topcoat: Thoroughly mix and apply 7490-CA at approximately 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 12 dry mils and allow to cure.
6. Optional Granule Coat: Thoroughly mix and apply 7490-CA 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.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7720 7797/7798	NA	250–300 sf/gal 400 sf/gal	NA	1 hour 6 hours or tack-free
Seam Detail	Refer to Application Instructions.				
Base Coat	70620-CA	Dark Gray	66 sf/gal	24 WFT/18 DFT	8–12 hours or tack free
Intermediate Coat	7490-CA	White	100 sf/gal	16 WFT/12 DFT	8–12 hours or tack free
Topcoat	7490-CA	White	100 sf/gal	16 WFT/12 DFT	8–12 hours or tack free
Optional Granule Coat	7490-CA #11 Granules	White	100 sf/gal 30 lbs/100 sf	16 WFT/12 DFT	NA

Elasta-Gard Emulsion

Smooth and Granulated Cap Sheet, Modified Bitumen and Built-Up Roof Substrate

Materials (Hempel product numbers in parentheses)

- Emulsion: Asphaltic emulsion (contact Neogard for approved manufacturer).
- Reinforcing material:
 - Tietex fabric, 40" wide rolls (contact Neogard for supply).
 - Chopped strand fiberglass (contact Neogard for supply).
- Base Coat: 70620-CA (474JB) single component moisture-cured polyurethane.
- Topcoat: 7490-CA (47YJB10000) single component aliphatic polyurethane.

Dry Film Thickness

Elasta-Gard Emulsion: 36 dry mils excluding Emulsion Coat.

Elasta-Gard Emulsion HD: 60 dry mils excluding Emulsion Coat.

Application Instructions

1. Emulsion Coat: Thoroughly mix and apply asphaltic emulsion at a rate of 9 gal/100 sf.
2. Embed one of the following into the entire Emulsion Coat while emulsion is still wet:
 - Tietex fabric, 40" wide. Use a roller or broom to ensure the fabric is fully embedded into the wet emulsion.
 - 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.

10-Year Warranty System

4. 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.
5. 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.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 70 °F (21 °C)
Emulsion	Asphaltic emulsion	Dark Brown	9 gal/100 sf	Approximately 144 WFT/72 DFT	10–20 days
Base Coat	70620-CA	Dark Gray	66 sf/gal	24 WFT/18 DFT	8–12 hours or tack free
Topcoat	7490-CA	White	66 sf/gal	24 WFT/18 DFT	8–12 hours or tack free

Heavy Duty, 15-Year Warranty System

4. First 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.
5. 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.

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6. Topcoat: Thoroughly mix and apply 7490-CA at approximately 50 sf/gal (2.0 gal/100 sf or 32 wet mils) to yield 24 dry mils and allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 70 °F (21 °C)
Emulsion	Asphaltic emulsion	Dark Brown	9 gal/100 sf	Approximately 144 WFT/72 DFT	10–20 days
First Base Coat	70620-CA	Dark Gray	66 sf/gal	24 WFT/18 DFT	8–12 hours or tack free
Second Base Coat	70620-CA	Dark Gray	66 sf/gal	24 WFT/18 DFT	8–12 hours or tack free
Topcoat	7490-CA	White	50 sf/gal	32 WFT/24 DFT	8–12 hours or tack free

Silicone HS C

Structural Concrete Substrate

Materials (Hempel product numbers in parentheses)

- Primer: 7797/7798 (254JB) urethane primer.
- Protective Coating: 7870 (47YJB) single-component high solids silicone.

Dry Film Thickness

10-Year Warranty System: 30 dry mils.

15-Year Warranty System: 35 dry mils.

20-Year Warranty System: 40 dry mils.

Application Instructions

1. Primer: Apply 7797/7798 urethane primer at a rate of 0.33 gallon per 100 square feet (300 sf/gal) and allow to cure until primer will not transfer when touched. If 7870 silicone cannot be applied over primer within 24 hours, reprime.

10-Year Warranty System:

2. Single Coat: Thoroughly mix and apply 7870 at a rate of 45 sf/gal (2.2 gal/100 sf or 34 wet mils) to yield 30 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75° F/23° C
Primer	7797/7798	NA	300 sf/gal	NA	1.5 hours
Single Coat	7870	White or Gray	45 sf/gal	17 WFT/15 DFT	NA

15-Year Warranty System (two application options):

2. Single Coat: Single Coat: Thoroughly mix and apply 7870 at a rate of 40 sf/gal (2.5 gal/100 sf or 40 wet mils) to yield 34 dry mils. Allow to cure.

Two Coats:

2. First Coat: Thoroughly mix and apply 7870 at a rate of 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 17.5 dry mils. Allow to cure.
3. Second Coat: Thoroughly mix and apply 7870 at a rate of 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 17.5 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75° F/23° C
Primer	7797/7798	NA	300 sf/gal	NA	1.5 hours
Single Coat	7870	White or Gray	40 sf/gal	40 WFT/35 DFT	NA
or					
First Coat	7870	White or Gray	80 sf/gal	20 WFT/17.5 DFT	1–4 hours
Second Coat	7870	White or Gray	80 sf/gal	20 WFT/17.5 DFT	NA

20-Year Warranty System:

2. First Coat: Thoroughly mix and apply 7870 at a rate of 70 sf/gal (1.4 gal/100 sf or 23 wet mils) to yield 20 dry mils. Allow to cure.
3. Second Coat: Thoroughly mix and apply 7870 at a rate of 70 sf/gal (1.4 gal/100 sf or 23 wet mils) to yield 20 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7797/7798	NA	300 sf/gal	NA	1.5 hours
First Coat	7870	White or Gray	70 sf/gal	23 WFT/20 DFT	1–4 hours
Second Coat	7870	White or Gray	70 sf/gal	23 WFT/20 DFT	NA

Silicone HS M

Metal Roof Substrate

Materials (Hempel product numbers in parentheses)

- Primer: 7797/7798 (254JB) urethane primer.
- Mastic: 70695 (874JB) silicone mastic. For seam detail; see *Surface Preparation* for instructions.
- Protective Coating: 7870 (47YJB) single-component high solids silicone.

Dry Film Thickness

10-Year Warranty System: 20 dry mils.

15-Year Warranty System: 25 dry mils.

20-Year Warranty System: 30 dry mils.

Application Instructions

1. Primer: Apply 7797/7798 urethane primer at a rate of 0.33 gallon per 100 square feet (300 sf/gal) and allow to cure until primer will not transfer when touched. If 7870 silicone cannot be applied over primer within 24 hours, reprime.

10-Year Warranty System:

2. Single Coat: Thoroughly mix and apply 7870 at a rate of 60 sf/gal (1.6 gal/100 sf or 23 wet mils) to yield 20 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75° F/23° C
Primer	7797/7798	NA	300 sf/gal	NA	1.5 hours
Single Coat	7870	White or Gray	60 sf/gal	23 WFT/20 DFT	NA

15-Year Warranty System (two application options):

2. Single Coat: Thoroughly mix and apply 7870 at a rate of 55 sf/gal (1.8 gal/100 sf or 28 wet mils) to yield 25 dry mils. Allow to cure.

Two Coats:

2. First Coat: Thoroughly mix and apply 7870 at a rate of 110 sf/gal (0.9 gal/100 sf or 14 wet mils) to yield 12.5 dry mils. Allow to cure.
3. Second Coat: Thoroughly mix and apply 7870 at a rate of 110 sf/gal (0.9 gal/100 sf or 14 wet mils) to yield 12.5 dry mils. Allow to cure.

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Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7797/7798	NA	300 sf/gal	NA	1.5 hours
Single Coat	7870	White or Gray	55 sf/gal	28 WFT/25 DFT	NA
or					
First Coat	7870	White or Gray	110 sf/gal	14 WFT/12.5 DFT	1–4 hours
Second Coat	7870	White or Gray	110 sf/gal	14 WFT/12.5 DFT	NA

20-Year Warranty System:

2. First Coat: Thoroughly mix and apply 7870 at a rate of 90 sf/gal (1.4 gal/100 sf or 23 wet mils) to yield 20 dry mils. Allow to cure.
3. Second Coat: Thoroughly mix and apply 7870 at a rate of 90 sf/gal (1.4 gal/100 sf or 23 wet mils) to yield 20 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7797/7798	NA	300 sf/gal	NA	1.5 hours
First Coat	7870	White or Gray	90 sf/gal	17 WFT/15 DFT	1–4 hours
Second Coat	7870	White or Gray	90 sf/gal	17 WFT/15 DFT	NA

Silicone HS MB

Modified Bitumen Roof Substrate

Materials (Hempel product numbers in parentheses)

- Primer: 7711 (259JB) water-based acrylic bleed-block primer.
- Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272).
- Mastic: 70695 (874JB) silicone mastic.
- Protective Coating: 7870 (873JB) series single-component, moisture cured, high solid silicone.

Dry Film Thickness

10-Year Warranty System: 30 dry mils.

15-Year Warranty System: 35 dry mils.

20-Year Warranty System: 40 dry mils.

Application Instructions

All systems include Steps 1 and 2.

1. Primer: Apply 7711 primer at a rate of 0.5 gallon per 100 square feet (200 sf/gal) and allow to cure until primer will not transfer when touched.
 - Do not apply primer over base coat material used for detailing.
 - If 7870 silicone cannot be applied over primer within 24 hours, reprime.
2. Seam Detail: All capsheet seams on the roof must be sealed. Treatment options:
 - Silicone Mastic: Apply 70695 silicone mastic to the seam at a rate sufficient to create a smooth transition, minimum 80 wet mils. Taper the edges to the existing substrate.
 - 7870 with Tietex Fabric: Apply 7870 silicone at 27 wet mils, 10" wide, over seam. Apply and center 6" wide Tietex fabric over wet 7870. Work fabric into wet 7870 using a brush or roller to eliminate air pockets, wrinkles and gaps. Apply additional 18 wet mils of 7870 over the entire seam detail and allow to cure.

10-Year Warranty System:

3. Single Coat: Thoroughly mix and apply 7870 at a rate of 45 sf/gal (2.2 gal/100 sf or 34 wet mils) to yield 30 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75° F/23° C
Primer	7711	NA	200 sf/gal	NA	1.5 hours
Single Coat	7870	White or Gray	45 sf/gal	34 WFT/30 DFT	NA

15-Year Warranty System (two application options):

3. Single Coat: Thoroughly mix and apply 7870 at a rate of 40 sf/gal (2.5 gal/100 sf or 40 wet mils) to yield 35 dry mils. Allow to cure.

Two Coats:

3. First Coat: Thoroughly mix and apply 7870 at a rate of 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 17.5 dry mils. Allow to cure.

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4. Second Coat: Thoroughly mix and apply 7870 at a rate of 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 17.5 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7797/7798	NA	300 sf/gal	NA	1.5 hours
Single Coat	7870	White or Gray	40 sf/gal	40 WTF/35 DFT	NA
or					
First Coat	7870	White or Gray	80 sf/gal	20 WFT/17.5 DFT	1–4 hours
Second Coat	7870	White or Gray	80 sf/gal	20 WFT/17.5 DFT	NA

20-Year Warranty System:

3. First Coat: Thoroughly mix and apply 7870 at a rate of 70 sf/gal (1.4 gal/100 sf or 23 wet mils) to yield 20 dry mils. Allow to cure.
4. Second Coat: Thoroughly mix and apply 7870 at a rate of 70 sf/gal (1.4 gal/100 sf or 23 wet mils) to yield 20 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7797/7798	NA	300 sf/gal	NA	1.5 hours
First Coat	7870	White or Gray	70 sf/gal	23 WFT/20 DFT	1–4 hours
Second Coat	7870	White or Gray	70 sf/gal	23 WFT/20 DFT	NA

Silicone HS SP

Single-Ply Roof Substrate

Materials (Hempel product numbers in parentheses)

- Primer: 7710 (258JB) water-based acrylic primer.
- Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272).
- Mastic: 70695 (874JB) silicone mastic.
- Protective Coating: 7870 (873JB) series single-component, moisture cured, high solid silicone.

Dry Film Thickness

10-Year Warranty System: 25 dry mils.

15-Year Warranty System: 30 dry mils.

20-Year Warranty System: 35 dry mils.

Application Instructions

All systems include Steps 1 and 2.

1. Primer: Apply 7710 primer at a rate of 300–400 sf/gal (TPO) (0.33–0.25 gal/100 sf) or 100 sf/gal (PVC) (1 gal/100 sf). Allow to cure until primer will not transfer when touched.
 - Do not apply primer over silicone material used for detailing.
 - If 7870 silicone cannot be applied over primer within 24 hours, reprime.
2. Seam Detail: Inspect seams and seal if necessary. Treatment options:
 - Silicone Mastic: Apply 70695 silicone mastic to the seam at a rate sufficient to create a smooth transition, minimum 80 wet mils. Taper the edges to the existing substrate.
 - 7870 with Tietex Fabric: Apply 7870 silicone at 27 wet mils, 10" wide, over seam. Apply and center 6" wide Tietex fabric over wet 7870. Work fabric into wet 7870 using a brush or roller to eliminate air pockets, wrinkles and gaps. Apply additional 18 wet mils of 7870 over the entire seam detail and allow to cure.

10-Year Warranty System:

3. Single Coat: Thoroughly mix and apply 7870 at a rate of 55 sf/gal (1.8 gal/100 sf or 28 wet mils) to yield 25 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75° F/23° C
Primer	7710	NA	200 sf/gal (TPO) 100 sf/gal (PVC)	NA	1.5 hours
Single Coat	7870	White or Gray	55 sf/gal	28 WFT/25 DFT	NA

15-Year Warranty System (two application options):

3. Single Coat: Thoroughly mix and apply 7870 at a rate of 45 sf/gal (2.2 gal/100 sf or 34 wet mils) to yield 30 dry mils. Allow to cure.

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Two Coats:

3. First Coat: Thoroughly mix and apply 7870 at a rate of 90 sf/gal (1.1 gal/100 sf or 17 wet mils) to yield 15 dry mils. Allow to cure.
4. Second Coat: Thoroughly mix and apply 7870 at a rate of 90 sf/gal (1.1 gal/100 sf or 17 wet mils) to yield 15 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7710	NA	200 sf/gal (TPO) 100 sf/gal (PVC)	NA	1.5 hours
Single Coat	7870	White or Gray	45 sf/gal	34 WTF/30 DFT	NA
or					
First Coat	7870	White or Gray	90 sf/gal	17 WFT/15 DFT	1–4 hours
Second Coat	7870	White or Gray	90 sf/gal	17 WFT/15 DFT	NA

20-Year Warranty System:

3. First Coat: Thoroughly mix and apply 7870 at a rate of 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 17.5 dry mils. Allow to cure.
4. Second Coat: Thoroughly mix and apply 7870 at a rate of 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 17.5 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7710	NA	200 sf/gal (TPO) 100 sf/gal (PVC)	NA	1.5 hours
First Coat	7870	White or Gray	80 sf/gal	20 WFT/17.5 DFT	1–4 hours
Second Coat	7870	White or Gray	80 sf/gal	20 WFT/17.5 DFT	NA

Silicone C

Structural Concrete Substrate

Materials (Hempel product numbers in parentheses)

- Primer: 7797/7798 (254JB) urethane primer.
- Protective 7860-LO (47FJB) series low odor RTV silicone coating, gray, dark gray, tan or white in color.

Dry Film Thickness

10-Year Warranty System: 30 dry mils.

15-Year Warranty System: 35 dry mils.

20-Year Warranty System: 40 dry mils.

Application Instructions

1. Primer: Apply 7797/7798 urethane primer at a rate of 0.33 gallon per 100 square feet (300 sf/gal) and allow to cure until primer will not transfer when touched. If 7860-LO silicone cannot be applied over primer within 24 hours, reprime.

10-Year Warranty System:

2. First Coat: Thoroughly mix and apply 7860-LO at a rate of 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 15 dry mils. Allow to cure.
3. Second Coat: Thoroughly mix and apply 7860-LO at a rate of 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 15 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75 °F/23 °C
Primer	7797/7798	NA	300 sf/gal	NA	1.5 hours
First Coat	7860-LO	White, Gray, Dark Gray, Tan	66 sf/gal	24 WFT/15 DFT	2–4 hours or tack-free
Second Coat	7860-LO	White, Gray, Dark Gray, Tan	66 sf/gal	24 WFT/15 DFT	NA

15-Year Warranty System:

2. First Coat: Thoroughly mix and apply 7860-LO at a rate of 57 sf/gal (1.75 gal/100 sf or 28 wet mils) to yield 17.5 dry mils. Allow to cure.
3. Second Coat: Thoroughly mix and apply 7860-LO at a rate of 57 sf/gal (1.75 gal/100 sf or 28 wet mils) to yield 17.5 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75 °F/23 °C
Primer	7797/7798	NA	300 sf/gal	NA	1.5 hours
First Coat	7860-LO	White, Gray, Dark Gray, Tan	57 sf/gal	28 WFT/17.5 DFT	2–4 hours or tack-free
Second Coat	7860-LO	White, Gray, Dark Gray, Tan	57 sf/gal	28 WFT/17.5 DFT	NA

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20-Year Warranty System:

2. First Coat: Thoroughly mix and apply 7860-LO at a rate of 50 sf/gal (2.0 gal/100 sf or 32 wet mils) to yield 20 dry mils. Allow to cure.
3. Second Coat: Thoroughly mix and apply 7860-LO at a rate of 50 sf/gal (2.0 gal/100 sf or 32 wet mils) to yield 20 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75 °F/23 °C
Primer	7797/7798	NA	300 sf/gal	NA	1.5 hours
First Coat	7860-LO	White, Gray, Dark Gray, Tan	50 sf/gal	32 WFT/20 DFT	2–4 hours or tack-free
Second Coat	7860-LO	White, Gray, Dark Gray, Tan	50 sf/gal	32 WFT/20 DFT	NA

Silicone M

Metal Roof Substrate

Materials (Hempel product numbers in parentheses)

- Primer: 7797/7798 (254JB) urethane primer.
- Mastic: 70695 (874JB) silicone mastic. For seam detail; see *Surface Preparation* for instructions.
- Protective 7860-LO (47FJB) series low odor RTV silicone coating, gray, dark gray, tan or white in color.

Dry Film Thickness

10-Year Warranty System: 20 dry mils.

15-Year Warranty System: 25 dry mils.

20-Year Warranty System: 30 dry mils.

Application Instructions

1. Primer: Apply 7797/7798 urethane primer at a rate of 0.33 gallon per 100 square feet (300 sf/gal) and allow to cure until primer will not transfer when touched. If 7860-LO silicone cannot be applied over primer within 24 hours, reprime.

10-Year Warranty System:

2. First Coat: Thoroughly mix and apply 7860-LO at a rate of 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 10 dry mils. Allow to cure.
3. Second Coat: Thoroughly mix and apply 7860-LO at a rate of 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 10 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75° F/23° C
Primer	7797/7798	NA	300 sf/gal	NA	1.5 hours
First Coat	7860-LO	White, Gray, Dark Gray, Tan	100 sf/gal	16 WFT/10 DFT	2–4 hours or tack-free
Second Coat	7860-LO	White, Gray, Dark Gray, Tan	100 sf/gal	16 WFT/10 DFT	NA

15-Year Warranty System:

2. First Coat: Thoroughly mix and apply 7860-LO at a rate of 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 12.5 dry mils. Allow to cure.
3. Second Coat: Thoroughly mix and apply 7860-LO at a rate of 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 12.5 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75° F/23° C
Primer	7797/7798	NA	300 sf/gal	NA	1.5 hours
First Coat	7860-LO	White, Gray, Dark Gray, Tan	80 sf/gal	20 WFT/12.5 DFT	2–4 hours or tack-free
Second Coat	7860-LO	White, Gray, Dark Gray, Tan	80 sf/gal	20 WFT/12.5 DFT	NA

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20-Year Warranty System:

2. First Coat: Thoroughly mix and apply 7860-LO at a rate of 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 15 dry mils. Allow to cure.
3. Second Coat: Thoroughly mix and apply 7860-LO at a rate of 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 15 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75 °F/23 °C
Primer	7797/7798	NA	300 sf/gal	NA	1.5 hours
First Coat	7860-LO	White, Gray, Dark Gray, Tan	66 sf/gal	24 WFT/15 DFT	2–4 hours or tack-free
Second Coat	7860-LO	White, Gray, Dark Gray, Tan	66 sf/gal	24 WFT/15 DFT	NA

Silicone MB

Modified Bitumen Roof Substrate

Materials (Hempel product numbers in parentheses)

- Primer: 7711 (259JB) water-based acrylic bleed-block primer.
- Reinforcing Fabric: 86220 (63BJB) reinforcing fabric (Tietex T-272).
- Mastic: 70695 (874JB) silicone mastic.
- Protective 7860-LO (47FJB) series low odor RTV silicone coating, gray, dark gray, tan or white in color.

Dry Film Thickness

10-Year Warranty System: 30 dry mils.

15-Year Warranty System: 35 dry mils.

20-Year Warranty System: 40 dry mils.

Application Instructions

All systems include Steps 1 and 2.

1. Primer: Apply 7711 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 primer over base coat material used for detailing.
 - If 7860-LO silicone cannot be applied over primer within 24 hours, reprime.
2. Seam Detail: All capsheet seams on the roof must be sealed. Treatment options:
 - Silicone Mastic: Apply 70695 silicone mastic to the seam at a rate sufficient to create a smooth transition, minimum 65 wet mils. Taper the edges to the existing substrate.
 - 7860-LO with Tietex Fabric: Apply 7860-LO silicone at 35 wet mils, 10" wide, over seam. Apply and center 6" wide Tietex fabric over wet 7860-LO. Work fabric into wet 7860-LO using a brush or roller to eliminate air pockets, wrinkles and gaps. Apply additional 22 wet mils of 7860-LO over the entire seam detail and allow to cure.

10-Year Warranty System:

3. First Coat: Thoroughly mix and apply 7860-LO at a rate of 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 15 dry mils. Allow to cure.
4. Second Coat: Thoroughly mix and apply 7860-LO at a rate of 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 15 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75 °F/23 °C
Primer	7711	NA	300 sf/gal	NA	1.5 hours
First Coat	7860-LO	White, Gray, Dark Gray, Tan	66 sf/gal	24 WFT/15 DFT	2–4 hours or tack-free
Second Coat	7860-LO	White, Gray, Dark Gray, Tan	66 sf/gal	24 WFT/15 DFT	NA

15-Year Warranty System:

3. First Coat: Thoroughly mix and apply 7860-LO at a rate of 57 sf/gal (1.75 gal/100 sf or 28 wet mils) to yield 17.5 dry mils. Allow to cure.

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4. Second Coat: Thoroughly mix and apply 7860-LO at a rate of 57 sf/gal (1.75 gal/100 sf or 28 wet mils) to yield 17.5 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75° F/23° C
Primer	7711	NA	300 sf/gal	NA	1.5 hours
First Coat	7860-LO	White, Gray, Dark Gray, Tan	57 sf/gal	28 WFT/17.5 DFT	2–4 hours or tack-free
Second Coat	7860-LO	White, Gray, Dark Gray, Tan	57 sf/gal	28 WFT/17.5 DFT	NA

20-Year Warranty System:

3. First Coat: Thoroughly mix and apply 7860-LO at a rate of 50 sf/gal (2.0 gal/100 sf or 32 wet mils) to yield 20 dry mils. Allow to cure.
4. Second Coat: Thoroughly mix and apply 7860-LO at a rate of 50 sf/gal (2.0 gal/100 sf or 32 wet mils) to yield 20 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75° F/23° C
Primer	7711	NA	300 sf/gal	NA	1.5 hours
First Coat	7860-LO	White, Gray, Dark Gray, Tan	50 sf/gal	32 WFT/20 DFT	2–4 hours or tack-free
Second Coat	7860-LO	White, Gray, Dark Gray, Tan	50 sf/gal	32 WFT/20 DFT	NA

Silicone SP

Materials (Hempel product numbers in parentheses)

- Primer: 7710 (258JB) water-based acrylic primer.
- Protective Coating: 7860-LO series low odor RTV silicone coating, gray, dark gray, tan or white in color.

Dry Film Thickness

10-Year Warranty System: 25 dry mils.

15-Year Warranty System: 30 dry mils.

20-Year Warranty System: 35 dry mils.

Application Instructions

1. Primer: Apply 7710 primer at a rate of 300–400 sf/gal (TPO) (0.33–0.25 gal/100 sf) or 100 sf/gal (PVC) (1 gal/100 sf) and allow to cure until primer will not transfer when touched.
 - Do not apply acrylic primer over base coat material used for detailing.
 - If base coat cannot be applied over primer within 24 hours, reprime.

10-Year Warranty System:

2. First Coat: Thoroughly mix and apply 7860-LO at a rate of 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 12.5 dry mils. Allow to cure.
3. Second Coat: Thoroughly mix and apply 7860-LO at a rate of 80 sf/gal (1.25 gal/100 sf or 20 wet mils) to yield 12.5 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7710	NA	200 sf/gal (TPO) 100 sf/gal (PVC)	NA	1.5 hours
First Coat	7860-LO	White, Gray, Dark Gray, Tan	80 sf/gal	20 WFT/12.5 DFT	2–4 hours or tack-free
Second Coat	7860-LO	White, Gray, Dark Gray, Tan	80 sf/gal	20 WFT/12.5 DFT	NA

15-Year Warranty System:

3. First Coat: Thoroughly mix and apply 7860-LO at a rate of 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 15 dry mils. Allow to cure.
4. Second Coat: Thoroughly mix and apply 7860-LO at a rate of 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 15 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75°F/23°C
Primer	7710	NA	200 sf/gal (TPO) 100 sf/gal (PVC)	NA	1.5 hours
First Coat	7860-LO	White, Gray, Dark Gray, Tan	66 sf/gal	24 WFT/15 DFT	2–4 hours or tack-free
Second Coat	7860-LO	White, Gray, Dark Gray, Tan	66 sf/gal	24 WFT/15 DFT	NA

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20-Year Warranty System:

3. First Coat: Thoroughly mix and apply 7860-LO at a rate of 57 sf/gal (1.75 gal/100 sf or 28 wet mils) to yield 17.5 dry mils. Allow to cure.
4. Second Coat: Thoroughly mix and apply 7860-LO at a rate of 57 sf/gal (1.75 gal/100 sf or 28 wet mils) to yield 17.5 dry mils. Allow to cure.

Summary Application Table

Coat	Product	Color	Coverage Rate	Mils WFT/DFT	Approx. Recoat Time at 75 °F/23 °C
Primer	7710	NA	200 sf/gal (TPO) 100 sf/gal (PVC)	NA	1.5 hours
First Coat	7860-LO	White, Gray, Dark Gray, Tan	57 sf/gal	28 WFT/17.5 DFT	2–4 hours or tack-free
Second Coat	7860-LO	White, Gray, Dark Gray, Tan	57 sf/gal	28 WFT/17.5 DFT	NA

Metal Roof Coating

Acrylic Urethane for Metal Roof Substrate

Materials (Hempel product numbers, Neogard product numbers where noted)

- Primer Base: 15050 Ureprime HS4, white in color (1505916640 base & 95041 curing agent)
- Topcoat: 57010 Acrylithane HS2, clear or tinted (5701900010 base & 95041 curing agent)

Dry Film Thickness

Total: 6–9 dry mils (excluding Clear Coat). Applicator is responsible to meet these requirements and should consider *Factors That Affect Dry Film Thickness* when estimating material requirements.

Application Instructions

5-Year Material-Only Warranty

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 Acrylithane HS2 in desired color at a rate of 250–330 square feet per gallon in a uniform thickness to yield 3–4 mils DFT.

7-Year Colorfast Warranty

3. Clear Coat: For higher gloss and durability, apply 57010 Acrylithane HS2 clear at a rate of 650–1,000 square feet per gallon in a uniform thickness to yield 1–1.5 mils DFT.

Summary Application Table

Coat	Product	Color	Coverage Rate (sf/gal)	Mils WFT/DFT	Approx. Recoat Time at 75° F/23° C
Primer	15050 Ureprime HS4	White	200–300	4.5 WFT/3 DFT to 8 WFT/5 DFT	4 hours or tack-free
Topcoat	57010 Acrylithane HS2	Various	250–330	4.5 WFT/3 DFT to 6.25 WFT/4 DFT	4 hours or tack-free
Clear Coat (optional)	57010 Acrylithane HS2	Clear (57019)	650–1,000	1.5 WFT/1 DFT to 2.5 WFT/1.5 DFT	NA

Recoat Guidelines

Inspection

Neogard recommends a general inspection of the existing roof conditions prior to establishing and/or recommending a repair and recoat procedure. The purpose for the inspection is to check for physical damage, delamination, exposed substrate, cracks, spongy or water saturated roof materials, coating blisters and areas of thin coating.

Make contact with the building owner to discuss any existing roof leaks. Inspect the roof surface and try to establish point of entry. Probe the existing roofing system for moisture content. Identify the problem before deciding on corrective action. In many instances, the sources of leaks are from skylights, vents, air conditioning equipment, ducts, flashing and expansion joints.

Roof surfaces may be damaged by constant physical abuse. Check areas of high traffic such as around vent fans, air conditioner units, roof hatches, exit doors, and other access points.

Moisture Survey

Determine if there is moisture within the existing roof assembly, requiring removal and replacement prior to recoat. Refer to the Moisture Detection Survey section in this Application Manual.

Adhesion Test

Neogard strongly recommends adhesion tests, both with and without primer, on all recoat projects. Refer to the Field Adhesion Testing section of this Application Manual.

Coating and/or Substrate Repair

If the substrate must be exposed, always clean the exposed area, apply primer if necessary, and apply Base Coat and Topcoat material.

- **Delamination/Peeling:** Remove any poorly adhered material. Clean affected area with Neogard 8500 BioDegradable Cleaner at the rate of 1 part concentrate to 10 parts water, or solvent wipe, extending 6–8" beyond the affected area. Apply Base Coat over primed areas, extending the coating application 6" beyond the repair area. Apply Topcoat over Base Coat and extend Topcoat at least 4" beyond the repair area.
- **Coating Blisters:** Remove all poorly adhered material. Clean affected area with Neogard 8500 BioDegradable Cleaner at the rate of 1 part concentrate to 10 parts water, or solvent wipe, extending 6–8" beyond the affected area. As needed prime any exposed substrate. Apply Base Coat, extending the coating application 6" beyond the repair area. Apply Topcoat over Base Coat and extend Topcoat at least 4" beyond the repair area.
- **Pinholes:** Clean affected area with Neogard 8500 BioDegradable Cleaner at the rate of 1 part concentrate to 10 parts water, or solvent wipe, extending 6"–8" beyond the affected area. Recoat the area with Topcoat material, after the heat of the day, adding fine sand at 1–3 pounds/100 sq. ft. Sand may also be added to material in the bucket. Work the wet coating and sand with additional backrolling to displace air entrapped in voids. Repeat if needed. Apply additional Topcoat material to yield 24 dry mils to repair area and allow to cure.

- Wrinkling: Remove any poorly adhered or spongy material. Clean affected area with Neogard 8500 BioDegradable Cleaner at the rate of 1 part concentrate to 10 parts water, or solvent wipe, extending 6”–8” beyond the affected area. As needed, prime any exposed substrate. Apply Base Coat. Apply Topcoat over Base Coat, extending Topcoat application 4” beyond the repair area.
- Seam Detail: If not previously treated, all capsheet seams require 70690 Roofing Mastic or 86220 reinforcing fabric (Tietex T-272) and Base Coat material.
- Spray Polyurethane Foam Blisters: Refer to SPFA Technical Document AY-107, *Spray Polyurethane Foam Blisters*, for foam blister type identification and repair procedures.

Note: Do not cut out blisters and fill with elastomeric roof coating. This procedure will result in either a depression in the surface which will hold water, or an unacceptably thick coating which may itself blister. To correctly repair a blister, cut out the blister and repair it with a froth pack of 2.7 lb density foam, then reapply the coating system.

Upon completion of repairs, all roof surfaces shall be cleaned using Neogard 8500 BioDegradable Cleaner at the rate of 1 part concentrate to 10 parts water. Apply the diluted cleaning solution 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 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. If algae is present on the surface, the cleaning must include bleach in the washing of the substrate. Follow local ordinances regarding runoff from this procedure.

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

Coating Application

All Topcoats should be installed in a minimum of two coats. Each coat should be installed perpendicular to the previous coat. Minimum Topcoat thickness shall be required (see system minimum dry film thickness requirements in the Recoat Guidelines table). When adding granules to the roof coating, apply additional 16 dry mils of Topcoat material to the coating system requirements.

Recoat Guidelines: DFT Requirements

System	Topcoat Material	Coverage Rate (sf/gal)	Mils WFT/DFT	Minimum Mils
Elasta-Gard Aliphatic series	7490-CA	2 coats at 133 each	24/18	18
Permathane Aliphatic II	7490-CA	2 coats at 133 each	24/18	18
Elastacryl FR	7251/7261	2 coats at 100 each	32/16	24
Silicone FR	7860-LO series	2 coats at 100 each	32/20	20
Silicone HS	7870	70	23/20	20

Recoat Guidelines Summary

- All coverage rates are based on glass smooth surface.
- Topcoats are applied in a minimum of two coats, each perpendicular to the previous coat.
- Adding granules to recoat systems requires an additional 12 mils DFT.
- All systems require power wash with Neogard 8500 BioDegradable Cleaner.
- All systems require an adhesion tests with and without primer, 10 each, using an ASTM standard.
- **Important:** When recoating granulated surfaces, an additional coat—Leveling Coat—of 12 mils DFT is required.

Field Adhesion Testing

Conduct field adhesion tests to confirm the proper procedure for recoating an existing coating system as well as system compatibility. Neogard recommends performing one of the following adhesion tests. Conduct adhesion testing in the field, as it represents actual job conditions. The following are summaries of adhesions tests. For further information please refer to ASTM standards.

ASTM D903

Standard Test Method for Peel or Stripping of Adhesive Bonds. This test is also known as the “Adhesion in Peel” or “Peel Adhesion” test and results in a quantitative value stated in lbs./linear inch or PLI.

Items Needed

- Solvent/Cleaner
- Clean Rags
- Primer (if applicable)
- Coating Material
- 4” Roller/Cover or 3” Brush
- Fabric test strips cut to 1” x 18”-24”
- Painter’s Tape
- Utility Knife
- Spring Scale/Fish Scale (calibrated to pounds and ounces)

Procedure

1. Clean and prepare substrate as required by relevant specification.
2. If applicable, apply primer and allow to cure.
3. Apply coating at 16 wet mils. Coating is applied to an area 4” X 14” minimum.
4. Work fabric strips into wet coating, allowing 6” of fabric to remain free of coating. Adhere the loose end of fabric to the substrate utilizing painter’s tape.
5. Allow coating to cure.
6. Apply topcoat to test area at 16 wet mils.
7. Allow coating to cure 7–10 days.



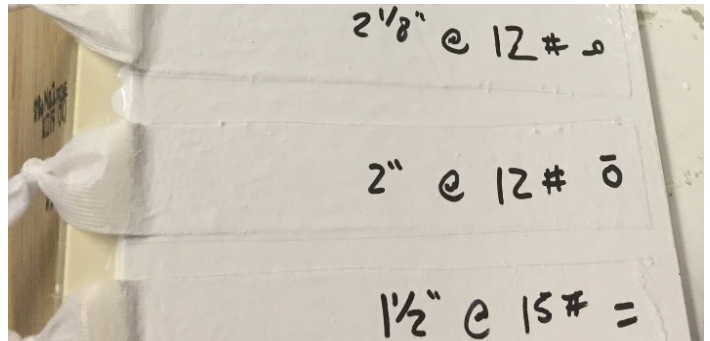
8. Remove painter's tape and tie a knot in the dry end of the fabric.
9. With the knife, score coating along the perimeter of the fabric.



10. Using a calibrated spring scale, hook the knot and pull back 180 degrees, parallel to the fabric.



11. Record the pounds per inch that separation occurred, making sure to divide the pounds of the pull by the width of fabric.
 - Test values of 4 to 5 pounds/inch for urethanes and silicones are acceptable for recoats.
 - Test values of 2 pounds/inch for acrylics are acceptable for recoat situations.



Rag Test

This test gives an indication of bond strength without numeric value. It is typically the recommended procedure for field adhesion tests. In these photos, the substrate is shown as white, primer is green and the coating is charcoal.

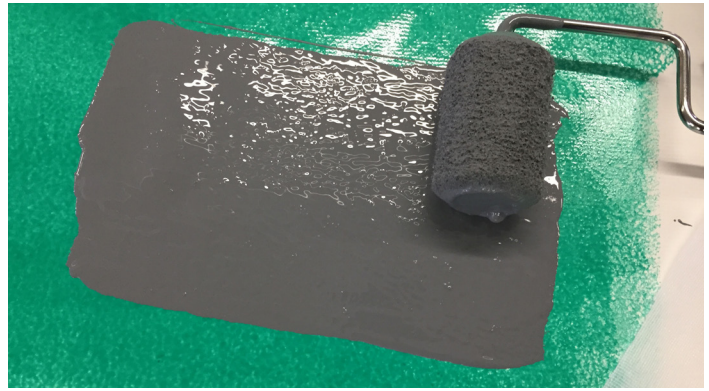
Items Needed

- Solvent/Cleaner
- Clean Rags
- Primer (if applicable)
- Coating
- Roller or Brush
- Polyester Fabric

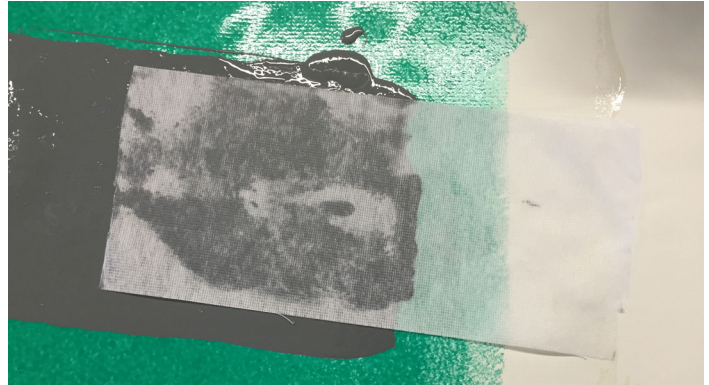


Procedure

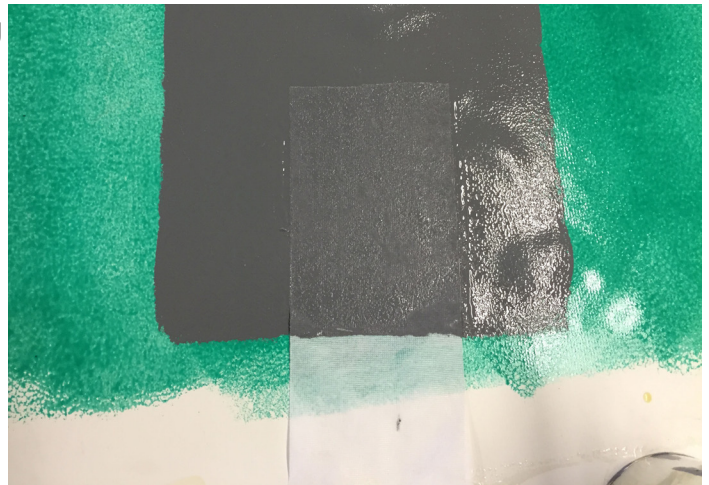
1. The substrate is prepared as required by the relevant specification.
2. If applicable, apply primer and allow to cure.
3. Apply coating with roller or brush..



4. Work fabric into wet coating.



5. Apply additional coating to embed fabric, allowing a minimum of 6" in length to remain free of the coating.



6. When coating has fully cured, generally allowing 7–10 days, pull the free end of the fabric back toward the test area for an indication of bond strength.



ASTM D7234 (Concrete Substrates)

This is a standard test method for determining pull-off strength of coatings using portable pull-off adhesion testers and was developed for concrete substrates. The following is a summary of the test procedure. For further instruction, please see the ASTM standard as well as directions provided by manufacturer of the portable pull-off adhesion tester.

Items Needed

- Solvent/Cleaner
- Clean Rags
- Utility Knife
- Adhesive
- Portable pull-off adhesion tester
- Puck or Dolly (loading apparatus)



Procedure

1. Score through coating down to concrete substrate at a diameter equal to diameter of the puck (dolly). Secure the puck (dolly) to the face of the coating with an adhesive.



2. Once the adhesive has cured, the portable pull-off adhesion tester is attached to the puck (dolly) and aligned to apply tension normal to the test surface.
3. The force applied to the puck (dolly) is then increased and monitored until a plug of material is detached.
 - When a plug of material is detached, the exposed surface shows the point of failure.
 - The nature of the failure is qualified in accordance with the percent of adhesive and cohesive failures, and the interfaces and layers.
 - Pull-off adhesion strength is based on the maximum indicated load, instrument calibration data, and surface area stressed. Strength results using different portable pull-off adhesion testers may vary.
 - Test values above 150 psi are acceptable for new and recoat applications.



ASTM D4541 (Metal Substrates)

This is a standard test method for determining pull off strength of coatings using portable pull-off adhesion testers and was developed for metal substrates. The following is a summary of the test procedure. For further instruction, please see ASTM standard as well as directions provided by manufacturer of the portable pull-off adhesion tester.

Items Needed

- Solvent/Cleaner
- Clean Rags
- Utility Knife
- Adhesive
- Portable pull-off adhesion tester
- Puck or Dolly (loading apparatus)



Procedure

1. Score through coating down to metal substrate at a diameter equal to diameter of the puck (dolly). Secure the puck (dolly) to the face of the coating with an adhesive.



2. Once the adhesive has cured, the portable pull-off adhesion tester is attached to the puck (dolly) and aligned to apply tension normal to the test surface.
3. The force applied to the puck (dolly) is then increased and monitored until a plug of material is detached.
 - When a plug of material is detached, the exposed surface shows the point of failure.
 - The nature of the failure is qualified in accordance with the percent of adhesive and cohesive failures, and the interfaces and layers.
 - Pull-off adhesion strength is based on the maximum indicated load, instrument calibration data, and surface area stressed. Strength results using different portable pull-off adhesion testers may vary.
 - Test values above 150 psi are acceptable for new and recoat applications.



Support Information

Coverage Rates

Theoretical vs Actual

Theoretical coverages are those calculated for glass-smooth surfaces with no allowances made for loss. Manufacturers publish theoretical coverages instead of actual coverages because they cannot anticipate job or surface conditions. Therefore, published coverage rates should only be used as a guide for estimating material requirements for a given job.

Actual coverage will be less than theoretical coverage. When coatings are applied over concrete, many factors, such as the surface texture, overspray loss, container residue, equipment characteristics, applicator technique, etc. will directly affect the amount of coating material required to meet the designed in-place dry film thickness (DFT). Therefore, it is very important that additional material be added to the theoretical quantities to ensure that the proper coating thickness is applied. Items to consider are:

- Shot-blasted Concrete—Even though the surface texture appears to be fairly smooth, this surface can require 5% to 15% additional material to the theoretical amount.
- Wind Loss—In spray applications, up to 30% of the coating may be lost due to wind. Consider using wind screens and add wind loss to your coating calculations.
- Miscellaneous Loss—A miscellaneous factor must be added to the theoretical coverage rate to cover losses due to material left in containers, equipment problems, etc. Use a percentage factor of between 3% to 10%, depending on the contractor's experience and efficiency.

Calculating Theoretical Coverage

Any liquid, when applied at a thickness of one mil (1/1000 inch) will cover 1604 square feet per gallon. Another way to state this is that one gallon of any liquid, applied over a 100 square foot surface, will be 16 mils thick when wet. To determine dry mils (or how much is left when the solvents are gone), multiply 16 (wet mils) times the solids content (by volume) of the particular liquid. Solids by weight should not be used in this formula.

Example:

- 50% solids by volume = 16 (wet mils) x 0.5 (50% solids by volume) = 8 dry mils.

To determine how much total material is required to cover 100 square feet, divide the total system thickness (expressed in mils) by the number of dry mils per gallon.

Example:

1. System = 32 dry mils total
2. Material (50% solids by volume) = 8 dry mils per gallon
3. 32 divided by 8 = 4 gallons per 100 square feet
4. % Solids by Volume X 1604 ÷ Desired Dry Mils = Coverage Rate

Calculating Actual Coverage

To determine total material requirements for a job, add estimated losses due to field conditions to theoretical coverages. Depending on jobsite conditions, up to 50% additional material may be required to meet the designed in-place dry film thickness (DFT).

Thinning and Cleaning Solvents

General Practices

Neogard products are formulated to be installed as manufactured, without thinning. However, if thinning is required:

- Always consult the Neogard Product Data Sheet prior to thinning the material.
- Use only Neogard manufactured or other commercial grade solvents with Neogard products.
- Be sure there is no moisture contamination in solvents, as it can produce adverse reactions.
- When thinning materials, always be aware of local VOC restrictions for coating applications before thinning.
- When thinning CA-formulated coatings, use acetone as the solvent.
- Never exceed recommended thinning rates (typically no greater than 10%). Excessive thinning may affect physical properties of coating.
- Never use solvents that contain alcohol in Neogard urethane products. Alcohols react with polyurethane hardeners creating a permanent liquid state, or under-cured membrane.
- Thin and clean only with recommended products. Consult Neogard for questions regarding solvents.
- Any thinning of materials should occur after materials are mixed.

Recommended Solvents

Product	Type	Thinning	Cleaning
7710	Acrylic	Water	Water
7711	Acrylic	Water	Water
7720		Do Not Thin	08080 Xylene Thinner
7780/7781	Epoxy	Do Not Thin	Water
7797/7798	Urethane	Do Not Thin	20653 Xylene
7251/7261 series	Acrylic	Water	Water
70611 series	Urethane	7055 Odorless Reducer, 08080 Xylene	7055 Odorless Reducer, 08080 Xylene
70613-CA	Urethane	Acetone	Acetone
70620	Urethane	7055 Odorless Reducer, 08080 Xylene	7055 Odorless Reducer, 08080 Xylene
70620-CA	Urethane	Acetone	Acetone
70630	Urethane	7055 Odorless Reducer, 08080 Xylene	7055 Odorless Reducer, 08080 Xylene
7490	Urethane	7055 Odorless Reducer, 08080 Xylene	7055 Odorless Reducer, 08080 Xylene
7490-CA	Urethane	Acetone	Acetone
7860-LO	Silicone	Virgin mineral spirits	Virgin mineral spirits, VM&P naphtha
7870	Silicone	Virgin mineral spirits	Virgin mineral spirits

Primers

7710

- Plasticizer free, single-component, water-based acrylic primer. Applied over aged single-ply TPO and PVC roofing membranes to improve adhesion of silicone roof coatings.
- Container Size: 5- and 55-gallon
- Note: Water must completely evaporate for full cure.

7711

- Plasticizer-free, single-component, water-based acrylic primer. Applied over smooth asphalt roof surfaces to improve adhesion of silicone roof coatings. Acts as a barrier between the asphalt and the silicone roof coating, preventing yellowing of the silicone coating due to chemicals bleeding out from the asphalt.
- Container Size: 5- and 55-gallon
- Cure/Recoat Time: Must cure for at least 24 hours. Water must completely evaporate for full cure. Cool temperatures and high humidity will retard cure. Not recommended for constant water immersion or ponding roof areas. Apply only to roofs with adequate slope.
- Note: Blistering will occur if top coat is applied over base coat that is not completely dry.

7720

- Single component, low VOC primer. Used with standard cure elastomeric coatings over hard-to-adhere TPO surfaces.
- Container Size: 1 gallon
- Pot Life: 37 minutes at 77°F/25°C
- Cure/Recoat Time: Coating may be applied when primer is tacky but not transferable, approximately 1 hour at 75°F/23°C, 50% relative humidity. Apply coating within 3 hours of primer application.

7797/7798

- Two-component, high-solids, low-odor urethane. Used as a rebond or recoat primer over existing urethane coatings or as a general-purpose primer for use on concrete and most metal substrates.
- Mix Ratio: 2:1
- Kit Size: 3 gallons
- Pot Life: Approximately 30–40 minutes
- Cure Time: 6 hours at 75°F/23°C

7780/7781

- Two-component, water-borne epoxy primer. Low odor and low VOC.
- Do not apply if temperatures are 40°F or below during curing process.
- Mix Ratio: 4:1
- Kit Size: 5 gallons
- Pot Life: Approximately 6 hours

Note: Do not use mixed material after 6 hours.

- Cure Time: 1.5 hours at 75°F/23°C

7760/7761

- Two-component, solvent-borne epoxy primer. Used where odor and low VOC are not a concern.
- Mix Ratio: 1:1
- Kit Size: 2 or 10 gallons
- Pot Life: 3–4 hours
- Cure Time: 1.5 hours at 75°F/23°C.

Ureprime HS4

- For previously coated or factory-finished metal roofs.
- Mix Ratio: 4:1
- Pot Life: Approximately 2.5 hours
- Recoat time: 4 hours at 75°F/23°C and 50% relative humidity.

70714/70715

- High-performance, 100% solids epoxy. Low odor, moisture tolerant, low VOC. May be applied in high humidity environments.
- Mix Ratio: 2:1
- Kit Size: 3 or 15 gallons
- Pot Life: Approximately 30 minutes
- Cure Time: 8–9 hours at 75°F/23°C

Additives

Accelerator

7931: Low humidity accelerator for single component, solvent-borne, aromatic and aliphatic urethanes.

Vertical Additive

7922: Enhances the sag resistant properties of single component, solvent-borne, aromatic urethane coatings only, with a 30 minute induction time. Common applications are parapets or other vertical or high slope areas. 7922 creates an accelerator effect reducing pot life dramatically.

Olfactory Additive/Odor Mask

7986 Vanilla-Scented Odor Mask: A liquid additive used to mask offensive odors in urethane and silicone coatings. Mix ratio: 3 oz/5 gallon pail, 32 oz/55 gallon drum

7987 Orange-Scented Odor Mask: A liquid additive used to mask offensive odors in urethane and silicone coatings. 7987 is a bio-based/biodegradable solvent and is rated, per FDA guidelines, as being GRAS (Generally Recognized As Safe). Mix ratio: 3 oz/5 gallon pail, 32 oz/55 gallon drum

Thinning Agents

7055 Odorless Reducer: A mineral spirits-based thinner used to clean equipment and to thin coating. Follow guidelines for thinning on material Product Data Sheets and in the Thinning and Cleaning section of this Application Manual.

08080 Xylene Thinner: A colorless blend of solvents used to clean equipment and to thin coating. Follow guidelines for thinning on material Product Data Sheets and in the Thinning and Cleaning section of this Application Manual.

Weather Impact on Coating Materials

Neogard single- and two-component polyurethanes are designed to be applied through an ambient temperature range of 70°–90°F (21°–32°C) to provide ideal handling and application characteristics. However, substrate temperatures can affect the cure of the polyurethane materials as much as or more than ambient temperatures and roof surface temperatures may far exceed ambient temperatures.

Cold Weather Impact

Note: Application of heated material to a cold substrate will not reduce curing time.

As material component temperatures drop below 60°F (16°C), material viscosity increases. An increase in material viscosity increases the material's resistance to flow and can result in the following:

- Single component systems that utilize accelerators become difficult to mix. If the accelerator is not thoroughly mixed with the polyurethane, the cure of the material will slow.
- Two component systems become more difficult to mix. If a thorough mix is not obtained, the off-ratio mixture can cause improper curing.
- Polyurethanes become more difficult to spray, producing erratic spray pressures, poor atomization, fingering at the spray tip or a complete loss of the spray pattern. Added solvent in the polyurethane material will slow the cure time, change the thixotropy, and change the dry film thickness. This can lead to material puddles, uneven coating coverage and an added expense to job cost due to downtime.
- Accelerators and catalysts are designed to provide good pot life and reasonable cure of materials at 70°F–90°F/21°C–32°C. As material temperatures become colder and start to drop below 60°F/15°C, the pot life of the material is increased and the cure is slowed. If the material is applied at 60°F/15°C and the air temperature drops to 40°F/4°C or below, the cure is significantly slowed, particularly in windy conditions. The cure is further slowed due to poor solvent evaporation at cold temperatures. Materials that normally cure at a rate of 8–12 hours can be extended to 14–24 hours or more.

Recommendations: Keep enough material at 70°F–80°F/21°C–27°C for about 2 days of production. When possible, apply the coatings earlier in the day, making sure the substrate is dry, and stop early enough to allow several hours of cure from the sun. If the application area is enclosed with no exchange of air over the membrane, the relative humidity (moisture) may be severely reduced, resulting in a slow curing time.

Hot Weather Impact

High substrate, ambient, and material temperatures can impact material viscosity and accelerate the curing process. Single component, solvent based products cure from the top down. If the surface of the coating skins over too quickly, the solvents that are released during the curing process become trapped, resulting in blisters and/or bubbles in the coating. Two component products are also affected by high temperatures as the chemical reaction between the two components is accelerated. Pot life and working time can be reduced significantly. To minimize the impact of high temperatures during coating application:

- Store material in a cool, dry place; never in direct sunlight or in areas of high temperatures. The mixing station should also be in a shaded area.
- Consider coating in the evening as the substrate cools, or if applicable, on the shady side of the building. This will help to minimize outgassing as the material cures and extend working time of the material.
- As the material viscosity decreases, the sag resistant properties will also be affected. In sloped areas, it may be necessary to apply the specified system in thinner coats, increasing the number of coats required to apply the full system. Neogard's 7922 Vertical Additive is compatible with most Neogard single component, solvent based coatings and will enhance the sag resistant properties of the coating material. Contact Neogard Technical Service for specifics.

The Neogard Technical Guide Troubleshooting Manual can be found at www.Neogard.com, and offers additional solutions for the challenges presented by both weather impact and project conditions.

Dew Point of Moist Air

Dew Point is the temperature at which moisture will condense on a surface. No coatings should be applied unless surface temperature is a minimum of 5°F/3°C above this point. Temperature must be maintained during curing.

The following table illustrates how to determine the dew point:

(continued on next page)

		Ambient Air Temperature										
		20°F -7°C	30°F -1°C	40°F 4°C	50°F 10°C	60°F 16°C	70°F 21°C	80°F 27°C	90°F 32°C	100°F 38°C	110°F 43°C	120°F 49°C
Relative Humidity	90%	18°F	28°F	37°F	47°F	57°F	67°F	77°F	87°F	97°F	107°F	117°F
	85%	17°F	26°F	36°F	45°F	55°F	65°F	75°F	84°F	95°F	104°F	113°F
	80%	16°F	25°F	34°F	44°F	54°F	63°F	73°F	82°F	93°F	102°F	110°F
	75%	15°F	24°F	33°F	42°F	52°F	62°F	71°F	80°F	91°F	100°F	106°F
	70%	13°F	22°F	31°F	40°F	50°F	60°F	68°F	78°F	88°F	96°F	105°F
	65%	12°F	20°F	29°F	36°F	47°F	57°F	66°F	76°F	85°F	93°F	103°F
	60%	11°F	19°F	27°F	36°F	45°F	55°F	64°F	73°F	83°F	92°F	101°F
	55%	9°F	17°F	25°F	34°F	43°F	53°F	61°F	70°F	80°F	89°F	96°F
	50%	6°F	15°F	23°F	31°F	40°F	50°F	59°F	67°F	77°F	86°F	94°F
	45%	4°F	13°F	21°F	29°F	37°F	47°F	58°F	64°F	73°F	82°F	91°F
	40%	1°F	11°F	18°F	26°F	35°F	43°F	52°F	61°F	69°F	78°F	87°F
	35%	-2°F	8°F	16°F	23°F	31°F	40°F	48°F	57°F	65°F	74°F	83°F
30%	-6°F	4°F	13°F	20°F	28°F	36°F	44°F	52°F	61°F	69°F	77°F	

Example: If ambient air temperature is 70°F (21°C) and relative humidity is 65%, the dew point is 57°F (14°C). No coating should be applied unless the surface temperature is 62°F (17°C) minimum (57°F + 5°F = 62°F, or 14°C + 3°C = 17°C).

Spray Equipment

Neogard coating materials are single component, acrylic, silicone and high solids polyurethanes that can be applied by the use of high pressure airless coating equipment. The following components address pump ratios, hose length, hose lining and size, orifice and spray tip sizes and should be used as a guide only. High pressure rated fittings must be used to connect these components.

Note: Job site conditions, weather, temperature, etc. have a direct impact on the handling and application characteristics when using airless coating equipment.

Transfer System

The high-pressure airless coating pump should be fed from the drum by a transfer pump such as 2:1 or 5:1 drum pump. The transfer hose should be a minimum 3/4" to 1" in diameter, nylon or teflon lined, and no more that fifteen feet in length. Five to 10 feet is the standard length. A gravity or siphon feed can result in cavitation at the pump and is not recommended.

Airless Coating Pump

The single component coating materials require a single component high pressure, airless coating pump, capable of maintaining 2,700–3,000 psi fluid pressure at the gun. Although a 45:1 ratio pump is acceptable, a higher ratio pump is preferred to accommodate variances in application parameters. Factors such as material temperature, ambient temperature, hose length, etc. influence sprayability and the equipment required.

Fluid Hose

The high-pressure fluid hose should be nylon or teflon lined and rated for the maximum pump pressure. The specific hose parameters are as follows: For hose lengths up to a total of 200 feet, the first 100 feet of hose from the pump should be 3/4" I.D. and the last 100 feet, to the gun should be 1/2" I.D. For hose lengths to a total of 250 feet, the first 150 feet should be 3/4" I.D. followed by 1/2" I.D. to the gun. These

combinations are necessary to minimize the pressure drop through the hose. Keep total hose length to the minimum necessary and no longer than 250 feet.

Spray Gun

The gun should be an airless type designed for use with viscous materials, and pressure rated for the maximum system pressure. A reverse-a-clean style tip with a 0.017 to 0.037 orifice and 12"–14" fan width should be used.

Airless Coating Pump



Fluid Hose



Spray Gun



Safety and Storage

This section covers safety and storage of Neogard coating materials. Failure to follow these instructions may result in bodily injury or property damage.

General Guidelines

SDS must be on jobsite at all times.

Neogard produces three basic material types: 100% solids epoxies; cement-based, water-dispersed urethanes; and solvent borne urethanes. Each type has specific hazard potentials and storage requirements. Urethane coatings have hazards associated with fire, solvent toxicity, and chemical toxicity. 100% solids epoxies have low fire risk but may require special care because of chemical toxicity. Everyone on the jobsite must know how to protect against fire, explosion, and toxicity. Refer to SDS, product labels, product data sheets and application specifications which describe specific hazards content, proper use, and storage procedures.

Provide ventilation at all times, especially when working indoors or in confined areas. When natural air movement is insufficient, forced air ventilation is required. Use equipment which exhausts the air from near floor level, since solvent vapors are heavier than air and collect in low areas. A competent, properly equipped person must be stationed outside confined areas during work to assist in case of emergency.

Fire and Explosion Prevention

Neogard lists flash points for products containing solvents on the product's Product Data Sheet (PDS). The flash point is the lowest temperature at which a coating gives off sufficient solvent vapor to form an ignitable mixture with air. This mixture of solvent vapor and air can then be ignited by an outside source such as sparks, flame, lit cigarettes, and others.

Open flame, welding, smoking or other ignition sources shall not be allowed in a building, overhead, or near a building where coating is being applied or was recently applied. Keep ignition sources downwind of a coating operation. No smoking, welding or open flame shall be allowed near areas where air with solvent vapor is being discharged.

All electrical equipment and outlets must be grounded, including switches, connectors, lights and motors. Lights must have a protective enclosure to prevent physical damage. Whenever solvent vapors are present, all electrical equipment must be explosion proof. Contractor and applicator personnel are responsible for these precautions; a contractor or applicator employee must be appointed this duty.

Any equipment—such as spray guns and compressed air nozzles—that can produce a static charge must be grounded. All hand tools used in solvent vapor areas must not produce sparks. When non-complying tools must be used, move equipment to an area free of solvent vapor or thoroughly exhaust solvent-laden air before beginning work.

Work clothes must be of a material which does not generate static charges. Beware of synthetic materials. Shoes shall not have metal sole plates since these cause sparking.

Have fire extinguishers as prescribed by the Occupational Safety and Health Administration (OSHA) within easy access of work areas where solvent coatings are being applied. Dry chemical and CO₂ (carbon dioxide) extinguishers are effective in controlling small solvent fires.

Ventilation shall be provided to coated areas not only during application, but also for sufficient time after application to assure complete evaporation of solvents.

Toxicity and Health Considerations

Inhalation of solvent vapors in high concentration, above 200 parts per million, can induce narcosis, a physiological effect similar to intoxication by alcohol. Continued exposure to high concentration can cause loss of consciousness and ultimately death. The maximum allowable concentration of solvent vapors on a weighted eight hour working day is limited to 100 parts per million as published by OSHA. This is a concentration at which nearly all workers can be repeatedly exposed without adverse effects.

Small, portable air sampling equipment is available to measure the content of some solvents in the air. Applicators must measure solvent content in the air when people are working in an enclosed area.

Approved respirator masks (chemical cartridge vapor masks) may be used to protect against low concentrations of solvent vapor (below 200 PPM). At higher vapor concentrations, this type of mask will not provide adequate protection. Replace mask cartridges on a regular basis.

Note: Proper selection of respirators shall be made according to the guidance of *American National Standard Practices for Respiratory Protection Z88.2-1992*.

An approved fresh air supplied respirator with approved source of respirable air must be used for protection when solvent vapor concentrations are high (above 200 PPM). Use of fresh air supplied respirators does not reduce the necessity for good ventilation to reduce fire hazards and ensure proper drying of coatings.

- Air quality: Compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration shall be of high purity. Oxygen shall meet the requirements of the United States Pharmacopeia for medical or breathing oxygen. Breathing air shall meet at least the requirements of the specification for Grade D breathing air as described in *Compressed Gas Association Commodity Specification G-7.1-1966*. Compressed oxygen shall not be used in supplied-air respirators or in open circuit self-contained breathing apparatus that have previously used compressed air. Oxygen must never be used with air line respirators.
- Breathing air may be supplied to respirators from cylinders or air compressors.
- Cylinders shall be tested and maintained as prescribed in the *Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 178, Subpart C)*. Compressors for supplying air shall be equipped with necessary safety and standby devices. A breathing air-type compressor shall be used. Compressors shall be constructed and situated so as to avoid entry of contaminated air into the system and suitable in-line air purifying sorbent beds and filters installed to further assure breathing air quality. A receiver of sufficient capacity to enable the respirator wearer to escape from a contaminated atmosphere in event of compressor failure, and alarms to indicate compressor failure and overheating shall be installed in the system. If an oil-lubricated compressor is used, it shall have a high-temperature or carbon monoxide alarm, or both. If only a high-temperature alarm is used the air from the compressor shall be frequently tested for carbon monoxide to ensure that it meets the specifications noted in air quality above. Air line couplings shall be incompatible with outlets for other gas systems to prevent inadvertent servicing of air line respirators with non respirable gases or oxygen.

Any time a worker feels discomfort or irritation to the eyes, nose, or throat, the concentration of solvent vapor is too high for steady exposure. If a person feels light headed, giddy, dizzy, or exhilarated, the solvent vapor concentration is also too high and must be reduced by better ventilation. Anyone affected must go to an area with fresh air.

Effective ventilation depends on the physical barriers which restrict air flow. Open exterior areas on decks ventilate normally by natural air movement. Confined areas in rooms, pits or ponded areas, and decks surrounded by walls or high parapets require forced air ventilation.

Most people do not find solvent vapors irritating to the skin, even in high concentrations. Contact with liquid solvent has a drying effect on the skin; however, most people find no lasting effects. Special hand creams can be used to protect people who handle Neogard solvents or coatings frequently. Protect the sensitive

areas of the face, armpits and groin from contact with solvent. These areas can suffer an astringent burn and should be washed with soap and water immediately if exposed to liquid solvents.

Some people have a very low resistance to irritants. Should a person develop respiratory problems or skin rash, have him or her consult a physician. Particularly sensitive individuals may have to be assigned to work free of exposure to solvents or, in some cases, certain chemicals.

Should solvent or solvented coatings be splashed in the eye, flush immediately with water; then consult a physician.

Other Health Considerations

Safety shoes with steel toe protection must be worn. The sole should be of a soft, resilient material to give best traction without damaging coated areas. Fifty-five-gallon drums of coating are very heavy and can cause considerable damage if set on an unprotected foot.

Use extreme caution when working on sloped areas. Use lifelines. Wet coatings are very slippery.

When working in bright sun with light color coating, wear dark glasses to prevent damage to the eyes.

Property Precautions

Consider possible damage to property. Overspray can ruin finishes on vehicles and other surfaces (brick, paint, plastic, and others). Solvent vapors in confined areas can damage plants and pets, including tropical fish and birds. Food, even stored in freezers, can pick up a solvent taste and should be protected.

Storage

Avoid storing material in direct sunlight. All material should be stored in a cool shaded place, preferably at a temperature of 75°F/23°C. Higher storage temperature for extended periods can cause thickening or gelation of elastomeric coatings.

Whenever work is stopped for the day, all coatings and thinner should be stored in tightly sealed factory containers to prevent evaporation and fire hazard. Materials left on unsupervised job sites may attract the curious or the malicious. Protect your materials properly and avoid potential harm to others. Contractors are responsible for the safety and proper handling of material.

Do not keep open containers in confined places.

Protect emulsion (water borne) coatings from freezing.

Volatile Organic Compounds (VOCs) and Health

Worker Safety and Public Health

VOCs as solvents in paint coatings are regulated by EPA because of their public health hazard. VOCs are one class of chemicals which when released into the air will begin chemical reactions in the atmosphere that result in smog, which is a health hazard to people, especially the young, old, and those with respiratory problems. Some solvents are legally not VOCs, but are still hazardous.

VOCs as solvents in paint coatings are regulated by OSHA because of the occupational exposure hazards to workers in the industries of construction, shipbuilding, and general trades.

Besides VOCs, there are often other hazardous ingredients in coatings that may be regulated by OSHA. These ingredients include heavy metals in pigments, isocyanates in urethane binders, and several other chemical ingredients.

Zero VOC versus VOC Compliant

Under the EPA's Clean Air Act regulations, use of low-VOC coatings—typically where VOCs are less than 2.1 pounds per gallon (lbs/gal) of paint—is one of the best ways to reduce hazardous air pollutants (actual VOC restrictions vary by area and coating type). Alternative coatings are now available that are

essentially “Zero VOCs.” These include waterborne coatings (80% water) and powder coatings (100% solids). These alternative coatings eliminate the VOC problem and are “EPA-friendly,” but they have their own disadvantages in application limitations and they can still contain chemical ingredients that may be hazardous to workers and are regulated by OSHA.

VOCs and Odor

Most, if not all, VOCs have some odor. Some VOC-exempt solvents have odor. Certain binders and pigments can also have odor. However, the amount or type of odor is not the best measure of the health hazard or toxicity from breathing a certain chemical or compound. Odors are subjective to different people, and some chemicals can saturate the nose, thereby reducing the apparent smell.

The best way to measure the toxicity of a chemical is by laboratory testing. The best way to measure a person’s exposure to a chemical is by using air sampling and laboratory analysis. When this air sampling is for a worker in an occupational setting, it is part of the OSHA-recognized practice of *industrial hygiene*.

Odor cannot be ignored, as it is often the most difficult issue that a building owner or employer using chemicals has to deal with, regardless of the toxicity. In some cases, a so-called “VOC-free” paint coating can be more odorous than a “low-odor” coating that contains small amounts of VOCs. The mere perception of irritating odors is enough to warrant an owner to consider sacrifices in cost and product performance just to buy some “peace of mind” and reduce the risk of complaints or lawsuits from the building occupants and neighbors. On the other hand, some product specifiers may insist on “VOC-free” coatings, whereas the “low-odor” coating with small amounts of VOCs would perform better as a coating and may even have a less irritating odor than the “VOC-free” coating.

Air Testing Needed For Coating Applications

Air testing is driven by the owner’s concerns and the employer’s responsibilities. Relatively few chemicals and substances are used in paint coatings for which OSHA requires the employer to collect air samples during the paint application. An example of where OSHA sampling is required is when coatings contain the heavy metals of lead or chromium.

If conditions of the application are extreme—such as a confined area with no ventilation—it’s best to take extra measures to reduce exposures (e.g., safer paints, added ventilation, and respirators) for workers. Air sampling can verify the adequacy of these control measures. The owner often requires air sampling to address concerns that nearby occupied areas are not being contaminated by the coating application. VOCs are often the target of air sampling, but some other constituents of coatings are hazardous and should have their exposures evaluated.

An industrial hygienist typically makes a judgement on what and when to air sample, considering all of the above factors and issues. The hygienist first identifies the paint coating ingredients as listed on the manufacturer’s SDS. This document lists hazardous ingredients, known hazards and health effects, and known exposure limits, as established by OSHA or recommended by a professional body, such as the American Conference of Government Industrial Hygienists (ACGIH).

Conclusion

The above information is based on standard industrial practices and is meant to outline the hazards, but is not necessarily all inclusive. Local conditions on specific jobs may require other precautions. Common sense and care in evaluating the possibility of hazards is essential.

Nothing contained herein should supersede local laws, codes, ordinances or regulations, or the instructions of other manufacturers for the use of their products.

Glossary

1K & 2K: 1K is a term used to describe a coating that has only one component and does not require a hardener, catalyst or activator. 2K describes a coating that has two components in that the resin side needs to be mixed with a hardener, catalyst or activator.

Accelerator: A chemical typically mixed in small quantities with coating that increases the speed of the chemical reaction thereby hastening the curing of the coating system.

Additive: Product added to coating during mixing that enhances physical or chemical properties.

Activator: The curing agent/hardener of a two component coating system.

Adhesion: The degree of attachment between a coating film and the underlying substrate. There are several test methods to measure the amount of adhesion.

Aggregate: Hard material typically comprised of stone, sand, glass or synthetic material that is added to a coating system to provide build and skid resistance to the final system.

Aliphatic Coating: Type of hydrocarbon that displays aliphatic straight chains or branches as part of its chemistry. Aliphatic polyurethanes have certain improvements in characteristics over aromatics, such as less chalking effect and better color retention, but typically require longer cure times.

Ambient Temperature: Room temperature or the existing temperature of the surrounding air.

Aromatic Coating: Type of hydrocarbon that displays an aromatic (benzene) ring as part of its chemistry. Aromatic polyurethanes are commonly used in moisture cured coating systems.

Base Coat: The first layer of coating applied to the primed surface of a coating system. The Base Coat typically provides the waterproofing capability of a liquid applied coating system.

Below Grade: Part of the structure below ground level. Usually these areas have to be designed to resist the passage of water under hydrostatic head pressure.

Bird Bath: The National Roofing Contractors Association (NRCA) defines a bird bath as random, inconsequential amounts of residual water on a roof membrane.

Blast Cleaning: The cleaning and roughing of a surface by the use of sand, artificial grit, or fine metal shot which is projected at a surface by compressed air or mechanical means.

Boxing: The process of combining all the coating you will be using as the topcoat into one large container. This is especially important when coating a large surface area or if there is insufficient coating from a single batch, where a color variation from one batch to another is likely.

Broadcasting: Evenly distributing over an area (ie. to evenly broadcast aggregate).

Broom Finish: A finishing profile of concrete in which concrete surface is given a final textured finish by dragging a stiff bristled broom over it as it starts to cure.

CA Formulated Coating: Coatings that Neogard has formulated to meet the VOC content requirements for coatings established by South Coast Air Quality Management District (SCAQMD), the air pollution control agency for all of Orange County and the urban portions of Los Angeles, Riverside and San Bernadino counties.

Catalyst: An accelerator, activator, or curing agent which chemically increases the rate of reaction in a coating.

CSP (Concrete Surface Profile): CSP is a measurement of roughness of the surface of concrete as determined by set guidelines provided by ICRI (International Concrete Repair Institute). CSP's measure from smooth/flat (CSP 1) to very rough (CSP 9).

Cure: The process of development of fluid applied coatings through the stages of polymerisation. In the application of Neogard coating systems we describe four phases: initial cure, tack-free, traffic cured and fully cured.

Degreaser: A chemical solution or compound designed to remove grease, oil, and similar contaminants.

Dew Point: The temperature of air at which condensation of moisture will occur.

DFT (Dry Film Thickness): Thickness of coating measured in Mills after coating has fully cured and thus taken its solid form. DFT is always equal to or less than WFT depending on the percent of solids contained within the coating.

Direct Bond: Neogard roof coating systems designed to be applied directly to existing non-ballasted single-ply membranes, granulated cap sheet, modified bitumen, concrete, metal and smooth surface BUR roof substrates.

Elastomeric: Products that are "elastic" in nature and are capable of withstanding significant movement as seen in some building structures.

Etching: The treatment of the surface of concrete with an acid in order to dissolve loose particles and laitance and/or provide a profile.

Expansive Concrete: Concrete designed to offset the effects of curing shrinkage.

Film: A monolithic layer of coating.

Film Build: The dry film thickness of a coat.

Flash Point: The flash point of a material is the lowest temperature at which it can vaporize to form an ignitable mixture in the air.

Fully Cured: Describes the fluid applied coatings cure phase at which materials have reached the physical properties required to withstand the traffic, use, and exposures for which they are designed.

Granule: A mineral which may be granite or sand used on the top of some coatings for ultraviolet protection, and fire protection.

Grout Coat: The first coat of epoxy over a trowelled flooring system, designed to lock in or seal the epoxy mortar.

Hardener: A chemical co-reactant that activates and/or accelerates the curing of a product to produce a coating film.

High Build : A term referring to a coating that can produce a thick film in a single coat.

Initial Cure: Describes the fluid applied coating cure phase during which the material is progressing from a liquid or gel to tack free.

Jiffy Mixer: A cylindrical mixing tool used for mixing coatings that does an excellent job of preventing air entrapment. It is manufactured exclusively by the Jiffy Mixer Company.

Laitance: An accumulation of fine particles, loosely bonded, on the surface of fresh concrete, caused by upward migration of moisture through the concrete.

Liquid Applied Membrane: A seamless coating system applied to a substrate that protects the substrate from the environment and/or traffic.

MEK (Methyl Ethyl Ketone): A commonly used solvent which has good solubility for most urethanes and some other coatings.

Mesh (Sieve Size): The size of a particle or aggregate reported in fraction of inch. A number 12 sieve is 1/12th of an inch; a number 60 sieve is 1/60th of an inch.

Mil: A Mil is one thousand of an inch (0.001"). It is a unit typically used in the measurement of coating thickness with the help of a Mil Gauge.

Mil Gauge: A device used to measure the thickness of coating while in a liquid state.

Mortar: A heavy application of coating (50 to 250 Mil thick) typically involving use of aggregate either mixed or broadcast. Mortars can be of three types:

- **Broadcast:** Neat resin over the substrate and where the aggregate is broadcast into the resin while it is still wet.
- **Slurry:** Very fine aggregate (consistency of flour) is mixed into the resin to create a self leveling consistency.
- **Trowel:** A blend of medium to fine aggregates is mixed into the resin to create a paste consistency that can be troweled.

Muriatic Acid: Hydrochloric acid often diluted with water and used for etching concrete.

NRCA: National Roofing Contractors Association.

Odor Mask: Chemical with pleasant/non offensive odor which is mixed into coating to mask the coating's odor.

On-Grade: Part of the structure at ground level.

pH: A measure of acidity and alkalinity; pH 1–7 is acid and pH 7–14 is alkali.

Ponding Water: Neogard defines roofing ponding as "water that remains on a roof surface longer than 48 hours after the termination of the most recent rain event.

Porcupine Roller: Spine quill appearing roller that releases bubbles trapped in the more viscous coatings.

Pot Life: The length of time a coating material is useful after its original package is opened or a catalyst or other curing agent is added. At the end of the pot life the product's viscosity increases so much to make it difficult/impractical to apply.

Primer: The first coat applied to a surface, formulated to have good bonding, wetting and inhibiting properties. Primers act as a bond between the substrate and coating system.

Relative Humidity: The ratio, expressed as a percent, of the quantity of water vapor actually present in the air to the greatest amount possible at a given temperature.

Resin: A class of organic substances used in the making of coating products. Resins are often mixed with smaller quantities of a hardener/activator/catalyst to initiate or speed up the curing process.

Respirator: An apparatus worn over the mouth and nose or the entire face to prevent the inhalation of dust, smoke, or other noxious substances. For coatings products, the Material Safety Data Sheet will outline the need for using a respirator when applying the product.

SDS (Safety Data Sheet): Document available for each product that is intended to provide workers and emergency personnel with procedures for working with and handling that substance in a safe manner.

Seal Coat: The first coating application over a broadcasted flooring system or the final coats over a trowelled flooring system.

Seed and Backroll: A type of coating application method where aggregate is dispersed onto the coating surface and then worked in using a roller. System is then allowed to dry.

Seed and Lock: A type of coating application method where aggregate is dispersed onto the coating surface and allowed to dry. At this point, excess aggregate is blown off the surface and the remaining aggregate is “locked” into the system using additional coating.

Shelf Life: The maximum time interval in which a material may be kept in a usable condition during ideal storage.

Shot-blasting: Abrasive blasting with round iron shot, or any material which retains its spherical shape, for substrate roughening purposes.

Solids By Volume: The percentage of the total volume of substance occupied by nonvolatile compounds.

Solids by Weight: The percentage of the total weight of substance occupied by nonvolatile compounds.

Solvent: A liquid in which another substance may be dissolved, forming a solution.

Spalling: Type of concrete surface erosion in which inverted cones of concrete break away from main body and thereby reveal exposed aggregate.

SPF: Spray Polyurethane Foam, defined by the Spray Polyurethane Foam Alliance is a spray-applied insulating foam plastic that is installed as a liquid and then expands many times its original size.

Spray: A common application method in which a person pressurizes the liquid and releases the liquid through an orifice onto the substrate. Alternate application methods are by using a roller or trowel.

Square: A measurement used frequently in roofing, equal to 100 square feet.

Squeegee: A flat rubber blade typically used to distribute coating evenly on the substrate surface. Squeegees may be flat or notched depending on the type of work being done.

SRI: Solar Reflectivity Index is defined by the U.S. Green Building Council as “a measure of the constructed surface’s ability to stay cool in the sun by reflecting solar radiation and emitting thermal radiation.”

Tack Free: Describes the fluid applied coating cure phase during which the material is progressed beyond initial cure but has not yet reached the cured phase. Tack free material will not displace, print, track, or damage when touched or walked on while continuing the system application, while remaining soft enough to coat without requiring additional surface preparation or priming.

Thinning Agent: A liquid (solvent) added to a coating to improve its viscosity and thus make it easier to apply. Common thinning agents include MEK (Methyl Ethyl Ketone), Xylene and Mineral Spirits.

Topcoat: The final layer/layers of coating applied to a liquid applied coating system. Topcoats typically seal in the system and may provide resistance to wear, UV, chemicals, and traffic.

Traffic Cured: Describes the fluid applied coatings cured phase at which the material has progressed beyond tack free but not yet reached fully cured. The cured material has reached the physical properties required to withstand the various traffic loads progressing from durable to: foot traffic first, light vehicular traffic next, and finally, heavy load traffic.

UV (Ultraviolet) Light: Type of radiation present in sunlight that may have a detrimental effect on some types of coatings causing discoloration/fading and in some cases, premature wearing of the coating system.

Vapor Barrier: A layer which retards the passage of water vapor into a material.

Vapor Drive: The pressure exerted on the underside of a coating system from moisture/water vapor which has migrated through the substrate.

Vapor Transmission Rate: The rate at which moisture passes through a material like concrete or coating system.

Viscosity: A measure of fluidity of a liquid. Easily flowing liquids are low in viscosity and slow flowing liquids are high in viscosity.

VOC (Volatile Organic Compounds): Organic compounds that evaporate from the coating as it cures.

Waterproofing: The use of coating systems for the resistance of the passage of water.

Wear/Intermediate Coat: A layer of coating applied in between the Base Coat and Topcoat of a liquid applied coatings system. Wear/Intermediate coats typically provide build and wear resistance for the coating system.

WFT (Wet Film Thickness): Thickness of coating measured in Mils typically right after the application of the coating product while coating is still in its liquid form.

Xylene Thinner: A common solvent used to dilute certain epoxies and urethanes and also to clean equipment.

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Neogard, A part of Hempel, manufactures high-performance coatings specified and used for structures across the globe for over 60 years. Neogard's coating systems protect the building envelope through vehicular and pedestrian traffic coatings, protective roof coatings, seamless flooring and elastomeric wall coatings.

You can find Neogard coatings in Major Stadiums and Arenas, Office Buildings, Universities, Hospitals, Hotels and Casinos, Airports and Hangers, Government Facilities, Manufacturing Plants and more.

About Hempel

As a world-leading supplier of trusted coating solutions, Hempel is a global company with strong values, working with customers in the protective, marine, decorative, container and yacht industries. Hempel factories, R&D centers and stock points are established in every region.

Across the globe, Hempel's coatings protect surfaces, structures and equipment. They extend asset lifetimes, reduce maintenance costs and make homes and workplaces safer and more colorful. Hempel was founded in Copenhagen, Denmark in 1915. It is proudly owned by the Hempel Foundation, which ensures a solid economic base for the Hempel Group and supports cultural, social, humanitarian and scientific purposes around the world.

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