TORCH-APPLIED TWO-PLY APPLICATION GUIDELINES

DESCRIPTION

Garland's 2-ply torch applied systems incorporate asphalt-based membranes and base sheets containing the latest SBS (styrene-butadiene-styrene) and fire retardant compounds, and scrims from fiberglass and polyester reinforcements. Garland's torch membranes are manufactured with a burnable polypropylene backer that melts when the proper torching temperature is applied to the back of the membrane. The 2-ply torch systems eliminate the use of a kettle and can be installed with just one ply of underlayment.

MATERIALS

The materials used in the system may include, HPR® Torch Base Sheet, StressPly® IV membranes, Stressply® IV Plus membranes, and approved mastics for specific needs; Flashing Bond®, Garl-Flex®, Green-Lock® Flashing Adhesive, and Weatherking® Flashing Adhesive.

APPLICATION EQUIPMENT

Every professional roofer is familiar with the tools needed to complete a cold process roof installation, but just as a recap, here are some specific tools you'll need to install Garland's two-ply torch-applied system:

- Suitable trowel for applying adhesive to flashing details if necessary
- Roofer's knife with hooked blade
- Long-handled (standing) roller with 1/8"-1/4" (3-6 mm) nap for applying primer 1/8" (3 mm) nap for smooth surfaces; 1/4" (6 mm) nap for more porous surfaces
- Long-handled (standing) squeegee that has a 12"-16" (304-406 mm) flat blade for applying cold adhesive
- Handheld propane torch
- Propane tank with pressure gauge
- Roofing torch kit CSA approved
- ABC-rated fire extinguisher
- Seam probing tool to check for small voids on endlaps
- Heavy weighted roller for pressing membrane into place

APPLICATION CONSIDERATIONS

- Refer to OSHA regulations for torch roofing equipment and safety regulations.
- A fire watch for at least two hours after the last torch is turned off is recommended; this includes also checking the roof's underside for smoldering.
- Do not install in inappropriate weather... when the chance of rain or snow is in the forecast >30%. If temperatures are lower than 50˚ F (10˚C), refer to the cold weather guidelines by the NRCA or The Garland Company.
- Store all roofing materials in a protected area prior to application
- Do not apply roofing materials that have been improperly stored or exposed to moisture. IF THE MATERIAL ISN'T BONDING…STOP THE APPLICATION!
- Refer to the 2-ply torch roof system's specification for complete requirements
- Substrates must be free of dust, dirt, oil, debris and moisture
- Primer, if used, must be applied at the specified rate and must be allowed to thoroughly dry
- Work with manageable lengths of base and cap for the particular job. Where appropriate, cut rolls into 1/3 or 1/2 roll lengths and allow material to relax prior to installation

Guidelines continued...

INSTALLATION

(A) Base Sheet Installation Over Nailable Substrate

1. Beginning at the low point of the roof, fasten one-ply of approved base sheet to the nailable substrate.
2. Start with an appropriate roll width (1/3 or 1/2 roll width) to accommodate off-setting of side laps of subsequent layers of base sheet. Install so that no side laps are against the flow of water.
3. Fasten base sheet with a fastening pattern provided through a wind uplift calculation. (check specification for exact fastening pattern)
4. Overlap base sheet side laps 4" (0.101 m) and end laps 8" (0.203 m). Offset end laps a minimum of 3' (0.914 m).
5. Additional plies of base sheet are to be installed as specified in the section below.

Note: Do not leave fastened base exposed; cover in the same day with the base sheet and/or cap sheet.

(B) Installation Over Approved Roof Board

Approved Roof Boards: 1/2" (8 mm) min. G-P Gypsum DensDeck Prime®, DensDeck DuraGuard®, or SecuRock®.

1. Sweep or blow away any dust, dirt or sand particles that could interfere with adhesion.
2. Relax base sheet prior to application (until sheet lies flat) and work with no more than 18' (5.5 m) lengths.
3. Snap chalk lines for area of application to prevent material from drying out in areas that material will not be applied immediately.
4. Start base sheet application at the low point of the roof with appropriate roll width to offset side laps 18" (457 mm) from side laps of base sheet. Install flush to roof edge if over coverboard, otherwise turn the base sheet over the fascia minimum 2" (50 mm) and nail 6" (152 mm) o.c. For perimeter flashing details, you must extend the base sheet up to a minimum of 8" (203 mm). Design layout so that no side laps are against the flow of water.

Note: On smaller roofs, cut rolls into manageable lengths.

5. Lay out the roll in the course to be followed and unroll 6 feet (1.8 m).
6. Using a roofing torch, heat the surface of the coiled portion until the burn-off backer melts away. At this point, the material is hot enough to lay into the substrate.
7. Progressively unroll the sheet while heating and press down with your foot to insure a proper bond.
8. After the major portion of the roll is bonded, re-roll the first 6 feet (1.8 m) and bond it in a similar fashion.
9. Repeat this operation with subsequent rolls with side laps of 4 inches (101 mm) and end laps of 8 inches (203 mm).
10. Give each lap a finishing touch by passing the torch along the joint and spreading the melted bitumen evenly with a rounded trowel to insure a smooth, tight seal.
11. Extend underlayment 2 inches (50 mm) beyond top edges of cants at wall and projection bases.

(C) Cap Sheet Installation

1. Sweep or blow away any dust, dirt or sand particles that could interfere with adhesion.
2. Relax cap sheet prior to application (until sheet lies flat) and work with no more than 18' (5.5 m) lengths. This will allow the sheet to lay flat.
3. Snap chalk lines for area of application to prevent material from drying out in areas that material will not be applied immediately.
4. To install cap sheet, start application at the low point of the roof with appropriate roll width to offset side laps 18" (457 mm) from side laps of cap sheet. Install flush to roof edge if over base sheet, otherwise turn the cap sheet over the fascia minimum 2" (50 mm) and nail 9" (228 mm) o.c. For perimeter flashing details, you must extend the cap sheet up to a minimum of 8" (203 mm). Design layout so that no side laps are against the flow of water.

Note: On smaller roofs, cut rolls into manageable lengths.

5. Lay out the roll in the course to be followed and unroll 6 feet (1.8 m).
6. Using a roofing torch, heat the surface of the coiled portion until the burn-off backer melts away. At this point, the material is hot enough to lay into the substrate.
7. Progressively unroll the sheet while heating and press down with your foot to insure a proper bond.
8. After the major portion of the roll is bonded, re-roll the first 6 feet (1.8 m) and bond it in a similar fashion.
9. Repeat this operation with subsequent rolls with side laps of 4 inches (101 mm) and end laps of 8 inches (203 mm).
10. Give each lap a finishing touch by passing the torch along the joint and spreading the melted bitumen evenly with a rounded trowel to insure a smooth, tight seal.
11. Extend underlayment 2 inches (50 mm) beyond top edges of cants at wall and projection bases

Note: Once the membrane has had a chance to bond, check all laps and joints for full adhesion. If the membrane can be lifted at any area it is not properly adhered. A seam probing tool can be helpful to check for small voids at laps. If necessary, use handheld heat welding gun to seal any small un-bonded areas if they exist.

(D) Flashing Application

Application below is designed as a reference. Applicator needs to follow specific details contained in the approved project specifications.

(a) Torch Applied Flashing

1. At all vertical and other flashing details, install the HPR Torch Base sheet followed by one of the Stressply IV smooth or mineral cap sheets over the already installed field plies.
2. Prime the horizontal surface with Garland approved (ASTM D 41) primer and allow to dry.
3. Over the existing installed field cap, apply a 3' (0.9 m) wide HPR Torch Base sheet extending min. 6" (152 mm) onto the field of the roof.
4. Apply a 3'(0.9m) wide StressPly IV membrane over base flashing ply extending min. 9"(228mm) onto the field of the roof, being sure to cover the base ply.

Note: Once the membrane has had a chance to bond, check all laps and joints for full adhesion. If the membrane can be lifted at any area it is not properly adhered. Use handheld heat welding gun to seal any small unbonded areas if they exist.

(b) Cold Applied Flashing

1. At all vertical and other flashing details, install one of the approved base sheets followed by one of the approved smooth or mineral cap sheets over the already installed field plies.
2. Prime the horizontal surface with Garland approved (ASTM D 41) primer and allow to dry.
3. Over the existing installed field cap, apply a 3' (0.9 m) wide approved base sheet extending min. 6" (152.4 mm) onto the field of the roof. Apply a uniform 1/8"-1/4" (3-6 mm) thick troweling of a Flashing Bond, Garla-Flex or ap¬proved mastic onto the existing field plies.
4. Before installing the Garland approved cap sheet to the mineral surfaced field ply, apply Flashing Bond, Garla-Flex or approved mastic wherever the membrane overlaps onto mineral surfacing. Proceed with the approved cap sheet installation. Apply a 3' (0.9 m) wide smooth or mineral extending min. 9" (228.6 mm) onto the field of the roof, being sure to cover the base ply.

Note: Once the membrane has had a chance to bond, check all laps and joints for full adhesion. If the membrane can be lifted at any area, it is not properly adhered. A seam probing tool can be helpful to check for small voids at laps. If necessary, apply Flashing Bond, Garla-Flex or approved mastic to seal any un-bonded areas if they exist.

5. On all vertical laps, apply a minimum three course application of Silver-Flash, Flashing

WEATHER CONDITIONS

Do not attempt application if ice, snow, moisture or dew is present. Torch drying substrates is not an acceptable method to dry the surface of a substrate. Bonding substrates must be clean, dry and free of dust or other inhibitors of proper adhesion. Cooler temperatures will negatively impact the properties of the system. Contact your Garland Sales Representative for proper cold weather applications.

STORAGE

Store roll goods and pails in their original packaging, indoors on pallets protected from the elements. If stored on the roof, all product needs to be under a tarp at all times. Rolls and containers that are improperly stored or have been warehoused for prolonged periods of time could potentially be damaged.