

# SYSTEM APPLICATION GUIDELINES

## StressPly® SA System



### DESCRIPTION

Garland's Self-Adhering (SA) system is a SBS (Styrene-Butadiene-Styrene), dual fiberglass reinforced, self-adhered, modified system incorporating a fire retardant compound and a mineral surface. The SA roof system incorporates the latest in asphalt adhesive technology. The SA system is self contained, eliminating the need for a torch, cold adhesives or hot asphalt. Simply position the membrane, remove the release backing and press into place.

StressPly SA FR Mineral is the top ply of a multi-ply roof system consisting of SA Primer, self-adhering base sheet underlayments and the mineral surfaced self-adhering membrane.

### MATERIALS

The materials used in the system may include SA Primer™, HPR® SA FR Base Sheet, StressPly SA FR Mineral and Garla-Flex® or Flashing Bond®.

### APPLICATION EQUIPMENT

Every professional roofer is familiar with the tools needed to complete a roof installation, but just as a recap, among the specific tools you'll need to install Garland's SA are:

- Heavy, weighted roller for pressing the membrane into place
- 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" (3-6mm) nap for applying primer: 1/8" (3mm) nap for smooth surfaces, 1/4"(6mm) nap for more porous surfaces
- Hand-held hot air welding gun such as the Leister Triac (110 volt power required) or Primus Sievert PNS-4 Hot Air Kit
- Seam probing tool to check for small voids
- Trowel for flashings

### WEATHER CONDITIONS

Do not attempt application if ice, snow, moisture or dew is present. Bonding substrates must be clean, dry and free of dust or other inhibitors of proper adhesion. Ambient temperature must be 50°F (10°C) or above and rising through the day, but not above 95°F (35°C) Cooler temperatures will negatively impact the self-adhering properties or the dry time of the primer and adhesion of the self-adhering membrane system.

### STORAGE

Store HPR SA FR Base Sheet and/or StressPly SA FR Mineral cap sheet rolls in their original boxes, indoors on pallets, protected from the elements. Rolls that are improperly stored or have been warehoused for prolonged periods of time will potentially negatively impact the self-adhering properties. Store pails in their original container, indoors on pallets protected from the elements. SA Primer and any mastics used need to be kept at 70° F (21° C) for at least 24 hours prior to application.

## PRIMER APPLICATION OVER APPROVED ROOF BOARDS (Optional Step)

**Approved Roof Boards:** 1/4" (6mm) GP Gypsum DensDeck® Prime, DensDeck® DuraGuard or Securock®

1. Sweep or blow away any dust, dirt or sand particles that could interfere with adhesion.
2. After the cover boards are cleaned, apply the SA Primer at 0.50 gal./100 sq. ft.
3. The SA Primer will dry in 2 hours at 77° F (25° C) and be ready to install the HPR SA FR Base Sheet over the primed surface.

**NOTE:** Do not leave the SA Primer exposed for more than 48 hours without covering it with the HPR SA FR Base sheet.

4. Start HPR SA FR Base Sheet application at the low point of the roof with appropriate roll width to offset side laps 18"(457mm) from side laps of base sheet. Install flush to roof edge if over base sheet, otherwise turn the HPR SA FR Base Sheet over the fascia minimum 2"(50mm), but must cover the wood blocking seam and nail 8" (230mm) o.c. for perimeter flashing details, you must extend the HPR SA FR Base Sheet up a minimum of 8"(203mm). Design layout so that no side laps are against the flow of water.
5. Fold the membrane back halfway lengthwise to remove the split release film. Press membrane securely into place, and repeat with the opposite half of the membrane. Use a heavy, weighted roller over the entire surface of the HPR SA FR Base Sheet membrane to secure the membrane. Work outwards to eliminate voids. When working with full rolls on large roofs, you can leave the membrane in position and remove the split release film from underneath the membrane. (This technique requires two workers to prevent shifting.)

**NOTE:** On smaller roofs, cut rolls into manageable lengths.

6. Overlap side laps of subsequent HPR SA FR Base Sheet membrane lengths 4"(100mm) and end laps 8"(203mm). Offset (stagger) end laps minimum 3 feet (0.9m). Cut end laps at opposing diagonal corners at a 45° angle approx. 3"(76mm) from the corners to minimize "T"- seams. Apply a bead or small trowel dab (quarter size) of Garla-Flex or Flashing Bond, trowel grade at the edge of the angled cut to avoid a capillary.
7. Use of a hand-held hot air gun at the joint area prior to rolling the membrane will maximize adhesion. It is recommended to apply a bead of Garla-Flex or Flashing Bond, at all HPR SA FR Base Sheet side and end laps to eliminate a capillary.
8. Use a heavy, weighted roller over the entire surface of the HPR SA FR Base Sheet to secure it in place and prevent voids, working outward from the center of the sheet.

**NOTE:** Repeat the above steps to properly build one (1) to two (2) plies of the HPR SA FR Base Sheet as specified. Don't leave the installed HPR SA FR Base Sheet exposed to the weather; cover with StressPly SA FR Mineral cap sheet the same day.

## BASE SHEET APPLICATION OVER NAILABLE SUBSTRATE

1. Sweep or blow away any dust, dirt or sand particles that could interfere with adhesion.
2. Beginning at the low point of the roof, install one ply of HPR SA FR Base Sheet with the white release film facing upwards.
3. Start with an appropriate roll width (1/3 or 1/2 roll width) to accommodate offsetting of sidelaps of subsequent layers of HPR SA FR Base Sheet and/or StressPly SA FR Mineral cap sheet. Install so that no sidelaps are against the flow of water.
4. Fasten HPR SA FR Base Sheet with a minimum fastening pattern of every 9" (230mm) o.c. on sidelaps and every 18"(457mm) o.c. in two staggered rows in the field of the sheet. Make sure to confirm this fastening pattern with Engineering Services.
5. Overlap base sheet sidelaps 4"(100 mm) and end laps 8"(203 mm). Offset end laps a minimum of 3 feet.
6. Prior to installing additional plies HPR SA FR Base Sheet remove the white release film.
7. Additional plies HPR SA FR Base Sheet are to be installed as specified in the section above.

**NOTE:** Do not leave installed base exposed; cover in the same day with HPR SA FR Base Sheet and/or StressPly SA FR Mineral cap sheet.

## CAP SHEET APPLICATION

1. Before installing StressPly SA FR Mineral, you must sweep or blow away any dust, dirt or sand particles, on the HPR SA FR Base Sheet that could interfere with adhesion.
2. To install StressPly SA FR Mineral, start at the low point of the roof with an appropriate roll width to offset sidelaps from the underlying membrane a minimum of 18”(457mm). Work with manageable lengths for proper handling. Position StressPly SA FR Mineral with salvage edge release strip at high side of roof. Install in shingle fashion, with no laps against the flow of water.
3. Once positioned, lift and fold back lengthwise the lower half of the membrane, remove the split release film, and press firmly into place. Then repeat with the other (high side of the roof) half of the membrane. Follow the same layout and split release film procedures as for HPR SA FR Base Sheet, but overlap sidelaps 4”(100mm) and endlaps 8”(203 mm).
4. Use a heavy, weighted roller over the entire surface of the StressPly SA FR Mineral sheet to secure it in place and prevent voids, working outward from the center of the sheet.

As subsequent membrane lengths are installed, remove the selvage edge release strip just prior to overlapping (to keep the adhesive area protected and clean). Cut endlaps at opposing diagonal corners at a 45° angle approx. 4”(100mm) from the corners to minimize “T”- seams. Use Garla-Flex or Flashing Bond, trowel grade, the full 8”(203 mm) width of each endlap prior to overlapping. Apply a uniform 1/8-1/4”(3-6mm) troweling of the Garla-Flex or Flashing Bond the full width of the endlaps to the underlying membrane; then install the overlapping sheet. Always apply Garla-Flex or Flashing Bond the width of any overlap when applying the StressPly SA FR Mineral cap over another mineral surface such as the StressPly SA FR Mineral endlap.

## FLASHING APPLICATION

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

1. At all vertical and other flashing details, install HPR SA FR Base Sheet and StressPly SA FR Mineral over the already installed StressPly SA FR Mineral field plies.
2. Prime the horizontal surface with Garland approved primer and allow to dry.
3. Over the existing installed StressPly SA FR Mineral field plies apply a 3’(0.9m) wide HPR SA FR Base Sheet extending min.10”(254mm) onto the field of the roof. Apply a uniform 1/8-1/4”(3-6mm) thick troweling of Garla-Flex or Flashing Bond, on to the existing StressPly SA FR Mineral field cap.

**NOTE:** If adhesion is not sufficient on the laps, apply Garla-Flex or Flashing Bond at a 1/8-1/4”(3-6mm) thick to fully seal laps before application of StressPly SA FR Mineral.

4. Before installing StressPly SA FR Mineral flashing to mineral surfaced field ply, apply Garla-Flex or Flashing Bond, wherever the membrane overlaps onto mineral surfacing. Proceed with StressPly SA FR Mineral cap sheet installation. Apply a 3’(0.9m) wide StressPly SA FR mineral extending min. 10”(254mm) 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, use appropriate hand-held hot air welding tool and seam roller to seal small un-bonded areas if they exist.

## IMPORTANT APPLICATION CONSIDERATIONS

- Do not install in inappropriate weather - SA membranes rely on warm, dry conditions for proper adhesion.
- Store HPR SA FR Base Sheet and/or StressPly SA FR Mineral cap sheet rolls in their original boxes, indoors on pallets, protected from the elements.
- All SA material, substrate and ambient temperatures must be 50°F (10°C) and rising through the day for proper adhesion.
- Do not apply membrane that has been improperly stored, exposed to moisture, or has lost its tack. IF THE MATERIAL ISN'T BONDING, STOP THE APPLICATION!
- Refer to the SA Roof Systems 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.

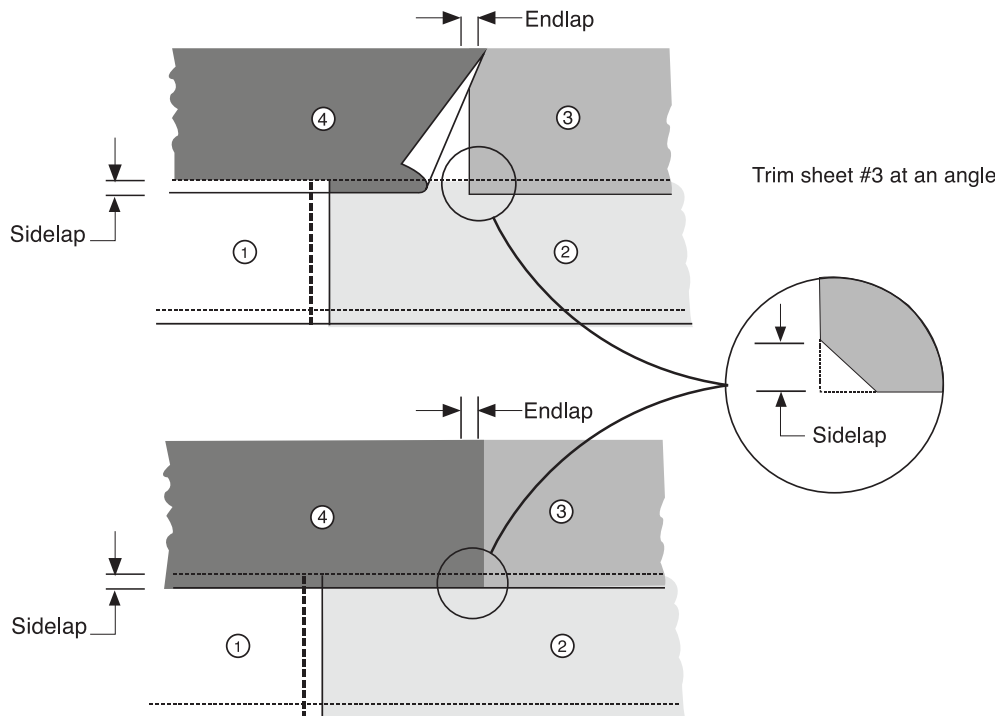
## IMPORTANT APPLICATION CONSIDERATIONS continued...

- 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.
- In cooler weather, a hand held hot air welding gun can be used to warm the side lap areas and improve adhesion (prior to application of the Garla-Flex or Flashing Bond).
- Use caution with the weighted roller at endlap areas; don't squeeze out too much adhesive

## PROPER T-SEAM JOINT DETAIL (see drawing below)

- Before adhering HPR SA FR Base Sheet or StressPly SA FR Mineral cap endlaps, trim the underlying sheet's lower outside corner at the end of the roll. Follow with the overlapping sheet, trimming the upper outside corner. Corners shall be trimmed on a diagonal angle 5-1/2" (140mm) long from end of roll to outside edge.
- Width of trim shall be equal in width to the sidelap specified [4" (100mm) for StressPly SA FR Mineral and HPR SA FR Base Sheet]. Trimmed corners shall be completely covered by application of succeeding courses.

**NOTE:** If HPR SA FR Base Sheet, apply quarter size dab of Garla-Flex or Flashing Bond, trowel grade at T-joint area. If StressPly SA FR Mineral, the endlap is completely set in trowel grade Garla-Flex or Flashing Bond the full 18" lap width.



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