



PRODUCTS FOR OUR ENVIRONMENT

## TECHNICAL DATA SHEET

### ERS-535 T/T

P/N: 045-0065

For Professional Use Only



#### PRODUCT DESCRIPTION:

ERS-535 T/T is 120 mils (3.0 mm) thick and is composed of selected SBS modified bitumen applied onto a fiberglass composite reinforcement and is produced with a plastic burn-off film on the underside and topside as a field base membrane ply. The plastic burn-off film surfaced base membrane ply is adhered to a properly prepared and primed (where required) substrate by using heat welding. The plastic burn-off film surface on the base membrane ply topside allows for inner ply or cap sheet membranes to be bonded by heat welding application method. ERS-535 T/T meets ASTM D 6162, Type III, Grade S.

#### RECOMMENDED USES:

ERS-535 T/T can be used as part of a high performance modified bitumen roof system utilizing torch welding methods. It can also be used as a base flashing membrane for new construction and remedial or maintenance applications. Must be covered with a suitable finishing top sheet or properly coated.

#### ADVANTAGES:

- Applied by torch welding methods.
- Weather resistant for long-term performance.
- Excellent cold weather performance.
- Contains no asbestos.
- Uniform layer of protection provided by quality control during manufacture.
- Meets or exceeds ASTM D 6162, Type III, Grade (S) requirements.
- Meets requirements of Factory Mutual Research Corporation® Standard 4470.
- Classified by Underwriters Laboratories, Inc.® as to an external fire exposure.

#### APPROVALS:



**INSTALLATION:** Caution – if your torch experience has been with APP membranes only, be advised that torch grade (TG) SBS membranes require less heat to reach proper application temperature. Practice on scrap membrane before installing.

**Surface Preparation:** The surface over which the sheet is to be installed must be firm, dry, smooth and compatible with the membrane and application method and free of debris and loose material. All surfaces must be designed and installed in accordance with proper specifications. Positive drainage is required.

**Application:** Apply ERS-301 (asphalt primer) to all metal, concrete, and other porous surfaces and allow to dry prior to installation of the roofing membrane and flashing. **Never weld directly to combustible materials.**

Roofing shall commence at the lowest point of the roof (running rolls perpendicular to the slope) with laps installed so that water flows over, rather than against, the lap. On inclines exceeding 1" per foot, the membrane may be installed with side laps running parallel to the direction of the roof slope (strapping method).

At walls and vertical surfaces, the roofing membrane field sheet shall extend over the full width of the cant strip and a minimum of 4" onto the vertical surfaces. The membrane is adhered to the vertical surface, but should remain unattached to the face of the cant strip to maximize elongation characteristics of the material and eliminate the need to apply heat direct to the cant material. The base ply should always extend over the cant by 2" above and below.

Side laps shall be 3" and end laps a minimum of 6" (embed granules with light torching to form end lap). End laps must be staggered a minimum of 3' or, if aligned, must be capped with a full width of roof membrane.

Set the membrane and unroll to position. Align the membrane to have 3" side laps and 6" end laps. Stand on the membrane and re-roll one half. Apply the propane torch to the exposed outer surface of the re-rolled portion until the compound reaches the correct application temperature.

Slowly heat and unroll the membrane, taking care to retain the proper alignment, and heat-weld the membrane to the substrate. **Do not walk on the roll during installation.** A small 3/8" to 1/2" bead or bleedout of molten (not running liquid) asphalt is desirable and must be done to create a proper lap. When this section of the membrane is heat-welded, re-roll the unbounded section and heat-weld. As you unroll the membrane, torch evenly and thoroughly in an "L" shaped motion across the surface of the roll and about a foot down the lower sheet side lap or selvage. If roll runs out of line, try changing torching method to install the field membrane first, then seal laps as a separate operation. **The use of a multi-burner wagon is not recommended.**

When applying rolls and creating side and end laps, both membrane surfaces at the overlap section must be heated to assure good bonding and adhesion. At first, the weight of the roll itself will press the bitumen down in place at the lap. By the end of the roll, you'll have to press it down yourself.

Check all seam laps after the full roll has been applied. Finish troweling is not required when the proper compound flow out has been achieved.

**T-Joints: To prevent bridging of the top ply at T-joints, the bottom ply selvage of all end laps should be cut on at 45° angle.**

#### DETAILS:

1. Formed Metal Edge – Extend the base sheet at least 2" over the edge, turning it down on the fascia board. Install balance of membrane to outer edge of blocking. Install minimum 24 gauge primed metal edging, lapping ends 4" with end laps set in a bed of ERS-300 (asphalt mastic). Nail end laps and flange staggered 3" on center. Install 8" and 12" strips of flashing membrane over all metal edges.
2. Vents (Soil Stacks) – Once the lead flashing is in place, position the projection on a piece of ERS-535 T/T membrane approximately 24" x 24". Cut a hole into the membrane so that the vent pipe will fit snugly through the hole. The flashing membrane itself should extend no less than 4" beyond the edge of the primed flange and out onto the roof. Apply heat from the torch to the underside of the membrane until it is shiny, while also applying heat to surface of the lower membrane. Press firmly into place with the trowel or your gloved hands. Apply pressure to flashing collar that extends a minimum of 4" beyond the first, being sure to embed granules where appropriate.
3. Base Flashing – Cant strips are required at the junction between the roof deck and vertical surface to be flashed. Cant strips shall be firmly attached to angle between roof deck and vertical surface. Cant strips and nailers shall be covered with base sheet and be made from fire-retardant material. Apply base flashing that has been pre-cut to fit cant area. Extend the flashing about 8" above the canted area or as high as needed for the field conditions. Pre-flash with smooth surface flashing membrane, above cant, across cant, and 6" onto roof, then finishing ply membrane should extend over preflash to 8" minimum over roof surface. When installing mineral surface flashings, cut pieces from roll in the cross machine direction. Install in roll width section, mineral edge to selvage. In other words, the finished installation utilizes the selvage and there is a vertical lap every 39". Embed granules on field sheet where flashing will tie-in.

When working with sections of membrane, it is recommended that they be heated adjacent to the detail and flopped into place while the bitumen remains molten. Do not apply heat to flammable wall or cant products.

4. Surfacing – ERS-535 T/T is manufactured with a burn-off film surface and cannot be coated. A surfacing ply must be torch welded into place over these membranes.

#### COVERAGE:

Lapping width determines actual coverage of roll – i.e., 3" side and 6" end laps provide approximate coverage of .975 squares.

#### PACKAGING:

ERS-535 T/T comes in a 39" x 33' roll; 30 rolls per pallet.

#### STORAGE:

One (1) year from date of shipment when stored in a cool, dry place, preferably indoors.

#### PRECAUTIONS:

- If your torch experience has been with APP membranes only, be advised that torch grade SBS membranes require less heat to reach proper application temperature.
- Protect all components of Ecology's assemblies from discharges such as petroleum products, grease, oil (petroleum and vegetable) and constant contact with water in excess of 140°F (60°C).
- Do not apply with hot-applied bitumens or cold-applied adhesive.
- The use of a multi-burner wagon is NOT recommended.
- Do not apply directly to previously coated surfaces or existing mineral surface roofs. The use of a mechanically attached insulation or base sheet separator is required.
- Do not torch directly to isocyanurate, styrene, fiberglass, phenolic, fiberboard or foam glass insulations, or any combustible material.
- When ambient temperatures are below 50°F (10°C), material should be kept in a warm area (60°F (15.6°C) or higher) and brought to the roof no more than one hour prior to the application.

- When seaming to granule surfaces such as wall flashings, the granules must be embedded into the sheet so as to provide a smooth and relatively granule-free surface within the seam. The trowel should be used to direct the torch flame to the areas where granules are to be embedded, and then the area should be smoothed with the face of the heated trowel to embed granules.
- Do not apply directly to the following surfaces unless they are primed with ERS-301 (asphalt primer): Gypsum, Stucco, Textured Masonry, any Metal.
- Flashing membranes shall be cut, properly heated and flopped (torch and flop) into place. Where angles occur, the torch and flop method may create a void at the angle change unless carefully smoothed in with a gloved hand.
- Copper flanges may be weathered or coated with an anti-tarnish lacquer, which impair adhesion. Clean with acetone and clean rags. Prime with ERS-301 (asphalt primer) before applying flashing membrane.
- Do not use mastic behind Ecology's torch grade membranes.
- Do not apply flashing membranes directly to fresh mopping asphalt, as poor adhesion will result.
- T-joints must be notched and carefully inspected after the installation.
- Do not walk on roll during installation.

**PHYSICAL PROPERTIES: (Typical Value)**

| Physical Property per ASTM D 6162,<br>Type III, Grade S     | MD    | XD   |
|-------------------------------------------------------------|-------|------|
| Tensile – Max Load at $0 \pm 3.6^{\circ}\text{F}$ lbf/in    | 608   | 585  |
| Elongation at $0 \pm 3.6^{\circ}\text{F}$ %                 | 12    | 6    |
| Tensile – Max Load at $73.4 \pm 3.6^{\circ}\text{F}$ lbf/in | 555   | 387  |
| Elongation at $73.4 \pm 3.6^{\circ}\text{F}$ %              | 20    | 11   |
| Tear Strength at $73.4 \pm 3.6^{\circ}\text{F}$ lbf         | 1,020 | 706  |
| Low Temperature Flex $^{\circ}\text{F}$ max                 | -13   | -13  |
| Dimensional Stability % max                                 | <0.5  | <0.5 |
| Compound Stability Temp $^{\circ}\text{F}$                  | 250   | 250  |
| Granule Embedment g/max                                     | NA    | NA   |

Minimum values before and after heat conditioning.

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