DURA*STAR*™ SBS

PREMIUM HIGH REFLECTIVITY MODIFIED BITUMEN MEMBRANE

"Pioneered With Performance In Mind... Engineered To Stand The Test Of Time."

ABOUT DURA*STAR*™ SBS

Dura*STAR*™ SBS premium high reflectivity modified bitumen membranes are manufactured from exclusive formulas using the highest quality materials available in the market today and are one of the principle waterproofing components in U.S. Ply roof systems. U.S. Ply has engineered and developed Dura*STAR*™ SBS (Styrene-Butadiene-Styrene) modified bitumen membranes to meet or exceed the industry standards for high performance membranes.

Dura*STAR*™ SBS modified bitumen membranes are specifically designed to be either heat welded or be adhered with hot asphalt or solvent free cold adhesive.

U.S. Ply begins with prime grades of asphalt which are then modified with elastomeric (SBS) polymers. The result is a modified bitumen compound that demonstrates revolutionary waterproofing characteristics, extreme heat resistance, low temperature flexibility and excellent elongation properties. U.S. Ply then strategically adds reinforcements of polyester or composite fibers in the modified bitumen compound to incorporate additional performance characteristics into the membrane.

ROOFING DESIGN

U.S. Ply offers a variety of applications such as cold applied, hot asphalt applied and torch applied systems. Always check product labels for proper application methods. The choice of installation method is influenced by specific project conditions including size, height, roof slope, roof deck construction, accessibility, fire/safety/code considerations and site sensitivity and climatic conditions. Not every published specification is suitable for every project condition; therefore, proper consideration must be given before selecting a particular roofing product, specification and/or installation method for each individual project.

Contact the U.S. Ply Technical Services at 1(866) PUSH-PLY *(866-787-4759)* for design assistance in choosing the right system for your roof.

SAFETY PRECAUTIONS

Installation of a roof system is a construction process. As with any construction process safety is a key element; therefore, U.S. Ply recommends that all applicable safety standards and good roofing practices be followed. Fire prevention is the applicator's responsibility.

ABOUT U.S. PLY, INC.

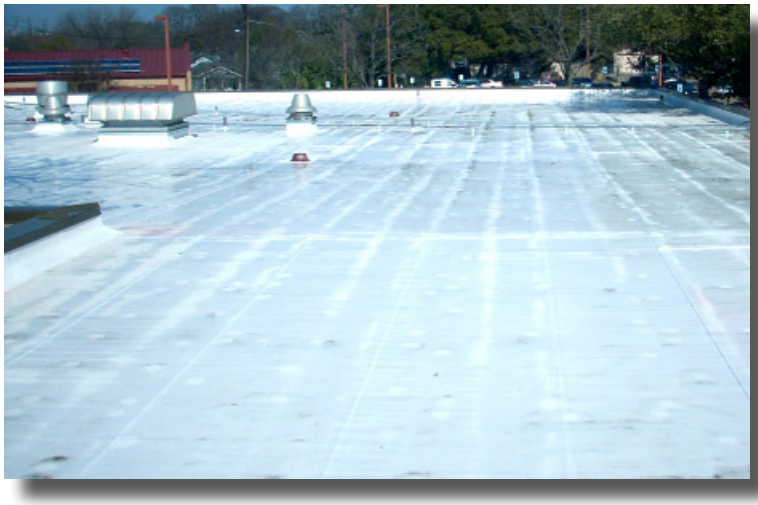
U.S. PLY, INC. entered the commercial roofing industry in 1985, utilizing the company's 30 years as a pioneering leader in the development of APP modified bitumen technology. We offer high quality components and roofing systems that are designed to be durable and the right choice to help your roof stand up to the most extreme environmental elements for years to come.

Our roofing products are produced using only the highest quality and standard of raw materials and manufacturing processes to ensure long term performance. Our systems can meet a variety of code approvals. U.S. PLY, INC. offers only high quality membrane and components and the systems are designed and tested for weathering, durability and compatibility. They can be specified, installed and maintained with confidence.

Green Standards Information: DuraSTAR™ SBS contains up to 13% recycled materials. The post consumer recycled materials are derived from recycled post consumer plastics which averts disposal of plastics in landfills or commercial dumps. The post industrial recycled materials are derived from reclaimed non-hazardous coal combustion by-product waste which averts disposal of coal by-product waste in landfills or commercial dumps. (See individual product data for details).

GENERAL SAFETY

Safety: See reverse. DO NOT BEGIN INSTALLATION UNTIL THIS INFORMATION IS READ, UNDERSTOOD AND IMPLEMENTED.
The manufacturer's safety and operating instructions provided with the torch system must be followed strictly. Inspect all torching equipment, fittings, LP gas cylinders, valve regulators, hoses, and all connections for damage and leaks. Never use a flame to check fittings and other equipment.



Product Specifications

DURA*STAR*™ Membrane	G4 TGW SBS	G4 MOP SBS
ASTM Designation	**D6163 Type I, S**	**D6163 Type I, S**
Nominal Size of Roll	One (1) Square	One (1) Square
Nominal Roll Weight	100 lb (41 kg)	90 lb (40.8 kg)
Dimensions	39-3/8" x 32'9" (1m x 10m)	39-3/8" x 32'9" (1m x 10m)
Membrane Thickness	3.5	3.5
Application Method	Heat Welding	Hot Asphalt, Solvent Free Membrane Adhesive
Surfacing	Factory applied white reflective laminate film	Factory applied white reflective laminate film
Function	Cap/Flashing Cap	Cap/Flashing Cap
The sizes and weights listed are approximate, and are for unapplied rolls.		

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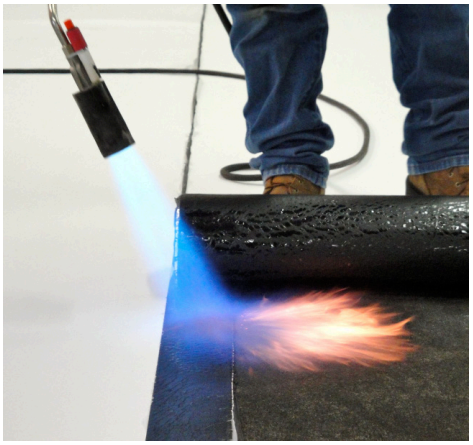
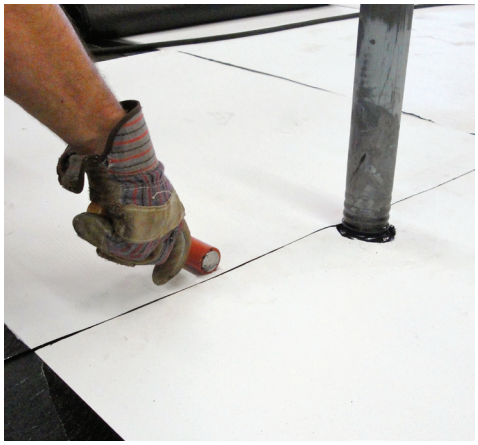
Proudly Made in the U.S.A.

DURA*STAR*™ SBS

PREMIUM HIGH REFLECTIVITY MODIFIED BITUMEN MEMBRANE

Application Specifications





GENERAL SAFETY

Use soapy water only to check for leaks. Torches shall be equipped with a shutoff valve, pressure release trigger and support stand or legs. Equipment shall be compatible with LP gas withdrawal system and shall be maintained in good operating condition. Contractor/user should consult equipment manufacturer for specific recommendation on specifications and usage. Do not allow torching devices to come in contact with flammable materials. The roofing surface, walls, abutments and all surrounding surfaces must be inspected prior to utilization of the torching device so that necessary precautionary measures may be taken. Keep torch flame moving at all times; failure to do so may result in ignition of surface and/or underlying materials. Avoid prolonged contact with heat sensitive metals such as lead, as overheating of these metal surfaces could ignite underlying flammable surfaces. Always use the base sheet as recommended by U.S. Ply specifications manual. Failure to do so is extremely hazardous as the base sheet provides an additional protective covering for underlying combustibles. Cant strips used at the roof/wall abutment must be composed of fire retardant material or protected from direct contract with the torch flame. Follow U.S. Ply's current roofing safety requirements, procedures, and specifications, which are available from Technical Services at 1-866-PUSH-PLY (866-787-4759). Application personnel must remain on the job site for a minimum of one (1) hour after completion of installation to inspect for any possible smoldering combustible material. Since fires can result hours after completion of work, periodical inspection thereafter must be made; the time and nature of which will vary depending on the size of the job; the nature of the application surface and abutments, and local code requirements. Note: U.S. Ply recommends the use of infra-red thermometers, and a thorough inspection of areas where torching equipment has been utilized. Prior to leaving the job site the contractor must be certain that all chance of fire, including smoldering fire, has been eliminated. Never place a hot torching device on the roof surface, insulation or any other surface or object other than an acceptable stand or holder or fireproof surface. Never leave a lit torching device unattended. Never use a torching device to apply any material other than APP modified bituminous membranes and/or SBS modified bituminous membranes that are designed to be torch applied. Allow torching devices to cool completely to room temperature before removing from the roof.

DURA*STAR*™ SBS MEMBRANE APPLICATION:

1. Careful review and implementation of all relevant safety and fire watch requirements including materials / combustible substrates review, LP-Gas equipment storage and handling guidelines, worker safety precautions and training. See above for additional recommendations and safety precautions.
2. The surface over which the membrane is to be installed must be clean, smooth, and dry and prepared in accordance with this specification manual. Do not apply Dura*STAR*™ SBS membranes directly to a fresh asphalt glaze or flood coat or over base plies with excessive asphalt mopping bleed out at laps.
3. Do not install DuraFlex™ TG SBS membranes over base plies or materials installed with solvent based cold adhesives or mastics.
4. For slopes ¾" per foot (6.2 cm per meter) and over, Dura*STAR*™ SBS membranes must be run vertically, parallel to roof slope and back nailed in accordance with Part 10, "Steep Slope Requirements". For slopes less than 3/4" per foot (6.2 cm per meter), install cap sheet perpendicular to slope.
5. Base sheet application: Install full width base sheets, lapping 4" (10 cm) on the sides and 6" (15.2 cm) on ends. Stagger adjacent end laps a minimum of 18" (45.7 cm) apart.
6. Interply sheet application: Install full width base/interply sheets, lapping 4" (10 cm) on the sides and 6" (15.2 cm) on ends. Stagger adjacent end laps a minimum of 18" (45.7 cm) apart. All side and end laps must be staggered from underlying plies.
7. Cap sheet application: Install full width cap sheets, lapping 4" (10 cm) on the sides and 6" (15.2 cm) on ends. Stagger adjacent end laps a minimum of 18" (45.7 cm) apart. All side and end laps must be staggered from underlying plies.
8. Never apply Dura*STAR*™ SBS membranes by any method except welding with a propane torch or other equipment specifically designed for application of torch grade SBS modified bitumen.
9. SBS torch grade membranes are much more flexible than APP membranes. Overheating of the underside of the membranes will cause excessive softness to the top side. Extreme care should be taken to avoid overheating of the sheet.
10. The coiled membrane must be unrolled approximately 10 ft. (3 meters), aligned, then the propane torch flame applied uniformly across the exposed back surface of the membrane and lap areas until the compound reaches the proper application temperature and exhibits a slight sheen. Be sure that there is complete burn off of release films where present on the underside of the rolls, membrane selvage edges or both surfaces as applicable. Avoid over heating which may result in damage to or improper adhesion of the membrane. (The flame should be moved from side to side in the shape of an "L", applying about 80% of the heat to the membrane and 20% to the substrate or underlying plies including the lap area of the previously installed courses.) The membrane is slowly unrolled as heat is applied to ensure proper adhesion. When complete, re-roll the opposite end of the membrane and install in the same manner.
11. A minimum 1/4" (6.5 mm) asphalt flow-out must be obtained at all seam areas. Dry laps are not acceptable. To ensure the proper 1/4" (6.5 mm) flow of bitumen at the seam areas, a weighted roller may be used. Roller application should follow behind the torch no more than 4 ft. (1.2 m) nor less than 3 ft. (0.91 m) to be sure that the membrane will be at the proper temperature to produce proper flow. Hand rollers or "walking-in the seam" methods are also acceptable. Check all seams for full and uniform adhesion un-adhered seams must be lifted with a heated trowel and resealed by lightly torching the seam area.
12. Matching DuraSTAR™ SEAM KOTE coating applied to asphalt bleed out at seams to enhance the finished appearance of the membrane.
13. To properly mate end laps, measure 6" (15.2 cm) at end of installed roll and light score across width with a knife. Heat area to remove the film from the membrane before installing overlapping membrane to the form the end lap. All end laps must be staggered a minimum of 18" (45.7 cm) so that no adjacent end laps coincide. If end laps fall in line or are not staggered the proper distance, a full width of SBS membrane must be installed over the end laps.
14. All laps must be parallel or perpendicular to the slope of the roof so that water is never flowing against the lap.
15. DuraSTAR™ SBS membranes must not be applied during adverse weather or without precautionary measures in temperatures below 45ºF (7.2ºC). Refer to Section 5, Part 15 of the Specification Manual for additional information on Cold Weather Precautions.

U.S. PLY, INC.

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