

DuraFlex® TG SBS

PREMIUM MODIFIED MEMBRANE

APPLICATION SPECIFICATIONS

ABOUT DURAFLEX® TG SBS

DURAFLEX® TG SBS 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 DURAFLEX® TG SBS (Styrene-Butadiene-Styrene) heat welded modified bitumen membranes to meet or exceed the industry standards for high performance membranes.

DURAFLEX® TG SBS modified bitumen membranes are specifically designed to be heat-welded and cannot be adhered with hot asphalt or 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 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.

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.

ABOUT U.S. PLY, INC.

U.S. PLY, INC. entered the commercial roofing industry in 1985, utilizing the company's 35+ 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. 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:

Green Standards Information: DuraFlex® SBS contains up to 30% recycled materials. The recycled post-consumer materials are derived from 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 in landfills or commercial dumps. (See individual product data for details).

DuraFlex® TG SBS modified bitumen membranes are FM Approved, FBC Approved, UL Classified and listed with Texas Windstorm (TDI) Insurance. DuraFlex® 190FRTG SBS and G4FRTG SBS are available in ULTRA WHITE reflective granule option. CRRC Rated, initial SRI = 106, Weathered SRI = 68, initial reflectivity = 0.84, Weathered reflectivity = .57, initial emissivity = 0.90, Weathered Emissivity = .91.



Product Specifications

DURAFLEX® TG SBS Membrane	60TG SBS Base	90TG SBS Base	190STG SBS	250STG SBS
ASTM Designation	D6163, Type I, S	D6163, Type I, S	D6164, Type I, S	D6164, Type II, S
Nominal Size of Roll	1.5 Squares	1 Square	1 Square	1 Square
Nominal Roll Weight	88 lb/roll (40 kg/m2)	88 lb/roll (40 kg/m2)	88 lb/roll (40 kg/m2)	88 lb/roll (40 kg/m2)
Dimensions	39 3/8" x 49' 1"	39 3/8" x 32' 9"	39 3/8" x 32' 9"	39 3/8" x 32' 9"
Membrane Thickness	2.3 mm (90 mils)	3.0 mm (120 mils)	3.0 mm (120 mils)	3.0 mm (120 mils)
Application Method	Heat Welding	Heat Welding	Heat Welding	Heat Welding
Surfacing	Smooth	Smooth	Smooth	Smooth
Function	Base / Interply	Base / Interply	Base / Interply	Base / Interply
Post-Consumer Recycled %	0 %	0%	2.8%	3.8%
Post-Industrial Recycled %	13.3%	9.0%	9.1%	9.1%

The sizes and weights listed are approximate, and are for unapplied rolls.

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MADE IN THE U.S.A.
BY U.S. PLY, INC.

Product Specifications (cont.)

DURAFLEX® TG SBS Membrane	ALUM SBS	G4TG SBS	G4FRTG	190TG SBS	190FRTG SBS	250FRTG
ASTM Designation	D6298	D6163, Type I, G	D6163, Type I, G	D6164, Type I, G	D6164, Type I, G	D6164, Type II, G
Nominal Size of Roll	1 Square	1 Square	1 Square	1 Square	1 Square	1 Square
Nominal Roll Weight	103 lb/roll (47 kg/m ²)	105 lb/roll (48 kg/m ²)	105 lb/roll (48 kg/m ²)	105 lb/roll (48 kg/m ²)	105 lb/roll (48 kg/m ²)	105 lb/roll (48 kg/m ²)
Dimensions	39 3/8" x 33' 4"	39 3/8" x 32' 9"	39 3/8" x 32' 9"	39 3/8" x 32' 9"	39 3/8" x 32' 9"	39 3/8" x 32' 9"
Membrane Thickness	3.5 mm (140 mils)	3.8 mm (150 mils)	3.8 mm (150 mils)	3.8 mm (150 mils)	3.8 mm (150 mils)	3.8 mm (150 mils)
Application Method	Heat Welding	Heat Welding	Heat Welding	Heat Welding	Heat Welding	Heat Welding
Surfacing	Aluminum Clad	Granule	Granule	Granule	Granule	Granule
Function	Flashing	Cap	Fire Rated Cap	Cap	Fire Rated Cap	Fire Rated Cap
Post-Consumer Recycled %	0%	0%	0%	2.4%	2.4%	3.2%
Post-Industrial Recycled %	0%	6.4%	6.5%	0%	0%	0%

The sizes and weights listed are approximate, and are for unapplied rolls.

DURAFLEX® TG SBS MEMBRANE APPLICATION:

- 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.
- 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 DURAFLEX® TG SBS membranes directly to a fresh asphalt glaze or flood coat or over base plies with excessive asphalt mopping bleed out at laps.
- Do not install DURAFLEX® TG SBS membranes over base plies or materials installed with solvent based cold adhesives or mastics.
- For slopes 3/4" per foot (6.2 cm per meter) and over, DURAFLEX® TG 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.
- 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.
- Interply sheet application: Install full width base/interply sheets, lapping 4" (10cm) 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.
- 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.
- Never apply DURAFLEX® TG SBS membranes by any method except welding with a propane torch or other equipment specifically designed for application of torch grade SBS modified bitumen.
- 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.
- 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.
- 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.
- Matching granules may be broadcast into the modified bitumen bleed out at seams while hot to enhance the finished appearance of the membrane.
- 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. End laps, flashing sheets and other seams formed over granule surfaces require pre-heating of the top surface of the underlying granule surface membrane to a point where the granules just begin to sink into, and the modified bitumen compound comes up through the granules to ensure proper seam construction and adhesion.
- All laps must be parallel or perpendicular to the slope of the roof so that water is never flowing against the lap.
- DURAFLEX® TG SBS membranes must not be applied during adverse weather or without precautionary measures in temperatures below 45°F (7.2°C). Refer to Part 15 for additional information on Cold Weather Precautions.

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 contact with the torch flame. Follow U.S. Ply's current roofing safety requirements, procedures, and specifications, which are available from Technical Services at 817-413-0103. 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.

