

Firestone
BUILDING PRODUCTS
NOBODY COVERS YOU BETTER.™



Firestone Asphalt Roofing Systems

DURABLE. RELIABLE. EXCEPTIONAL PERFORMANCE.



Acres of Roofing. Decades of Performance.

For more than 25 years, Firestone Building Products has manufactured thousands of versatile, economical, high-quality, built-up and modified bitumen roofing systems. These time-tested roofs are durable, reliable, and deliver exceptional performance in even the most extreme climates and applications. And in keeping with today's environmental concerns, our UltraWhite™ membrane's unique bright white granule surface features the ruggedness of a modified bitumen system and the high reflectivity you need for enhanced energy savings.

Firestone Asphalt Roofing Systems

Firestone is dedicated to advancing roofing technology, and invests heavily into the innovation of new roofing solutions to significantly strengthen and extend the lifespan of traditional asphalt roofing.

Our state-of-the-art technical center in Fishers, Indiana is the operations center for the chemists, engineers, and technicians who develop and test the latest roofing advancements in both SBS (styrene-butadiene-styrene) and APP (atactic polypropylene) modified bitumen products.

This commitment results in stronger, better performing roofs which exhibit high elongation and elastic recovery as well as enhanced resistance to cyclic fatigue, weathering and punctures. Our modified products feature exceptional resistance to wear for a longer lasting, water-resistant roof.

- **Firestone SBS Modified Bitumen Roofing Systems** incorporate a synthetic rubber-based polymer technology which yields exceptional flexibility, even in extremely low temperatures. SBS membranes can be installed with hot asphalt, cold adhesive or they may be heat welded.
- **Firestone APP Modified Bitumen Roofing Systems** feature a thermoplastic bitumen blend with excellent resistance to UV and higher temperatures. APP membranes can be heat welded or applied in cold adhesive.

Superior Compound Formulation

Setting our modified products apart from conventional asphalt technology, Firestone has developed proprietary elastomeric blends of polymers combined with select grades of refined asphalt for exceptional durability, flexibility, and strength. Its elongation properties and cold-temperature flexibility allow Firestone modified bitumen roofing systems to resist thermal and structural movement – even in temperatures below 0°F.



Innovative Reinforcement Technology

At the core of our modified bitumen roofing systems are high-quality single reinforcing fabrics based on non-woven glass fiber mats or non-woven polyester mats enhanced with continuous glass fiber in the machine direction. The fiberglass lends exceptional strength and dimensional stability to the membrane while the polyester mat provides elongation and superior resistance to punctures and tears.

Firestone base sheets typically feature either a glass fiber mat or a polyester mat enhanced with glass fiber. Our SBS Premium Base features a glass fiber mat / glass scrim composite reinforcement. (See brochure item #1223, Base Sheet Comparison Guide, for a complete listing.)

Our APP Premium FR, features a tri-laminate mat which uses a high-tensile fiberglass scrim interwoven between two non-woven polyester mats. Needle-punching mechanically binds the three layers together, eliminating the risk of mat delamination.

NOBODY COVERS YOU BETTER™





UltraWhite Modified Bitumen Cap Sheet

This one-step solution is the ideal way to get the advantages of reflective cool roofing in a modified bitumen system – without the need for liquid coatings immediately after the roof has been installed. Firestone UltraWhite granules are applied to the cap sheet during the manufacturing process to create a highly reflective surface for enhanced energy efficiency consistent with the Cool Roof Rating Council (CRRC) programs.

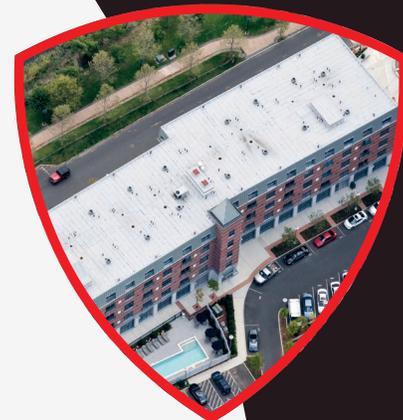
Benefits Include:

- Factory-applied reflective granule surface
- Available on all Firestone APP and SBS cap sheets
- May help reduce heat island effects
- Outstanding resistance to abrasion and punctures
- Application methods include heat welding, hot asphalt, and cold adhesive
- Cleaner application without the need for coatings
- Eligible for Firestone RedShield™ warranties up to 25 years, and Platinum™ warranties up to 30 years (depending on the system used)

LEGENDARY WARRANTIES



Why Cool Roofs Matter in Southern Climates



Firestone's modified bitumen membranes with UltraWhite granules provide greater light reflectivity and lower heat emissivity than standard white cap sheets, which means the roof's surface stays cooler, with resulting lower building energy consumption and reduced demand for electricity in warmer weather.

| Reflectivity | Emissivity | SRI (Initial) |
|--------------|------------|---------------|
| 0.71 | 0.87 | 87 |

Definitions

Reflectivity (Solar Reflectance) – The fraction of solar energy that is reflected by the roof. Our current value for UW membranes is .71. The standard test method for determining this is found in ASTM C1549-09 (2014).

Emissivity (Thermal Emittance) – The relative ability of the roof surface to radiate absorbed heat. Our current value for UW membranes is .87. The standard test method for determining this is found in ASTM C1371-04a (2010).

SRI (Solar Reflectance Index) – Determination of solar reflectance and thermal emittance, and subsequent calculation of the relative temperature of the surfaces with respect to black and white reference temperature (defined as Solar Reflectance Index, SRI). This index may help designers and consumers to choose the proper materials to make their buildings and communities energy efficient. The method described here gives the SRI of surfaces based on measured solar reflectances and thermal emissivities of the surfaces. Our current value for UW membranes is 87. The standard test method for determining this is found in ASTM E1980-11.

Long-Term Performance

Greater durability. Easy choice.

Firestone Modified Bitumen Roofing Systems provide the architect, contractor, and building owner with the ability to design new or re-roof systems that fit a variety of climates, environments, and applications. The material's intrinsic flexibility easily adapts to building movement while simple, economical installation options help save time and money.

FIRESTONE BUILT-UP ROOFING (BUR) AND HYBRID SYSTEMS

Firestone offers durable Ply IV (4) and Ply VI (6) asphalt-impregnated, glass fiber mat reinforced roofing felts that can be installed in multiple layers with a flood coat and aggregate or used in combination with modified bitumen in hybrid systems.

SELF-ADHERED BASE SYSTEMS

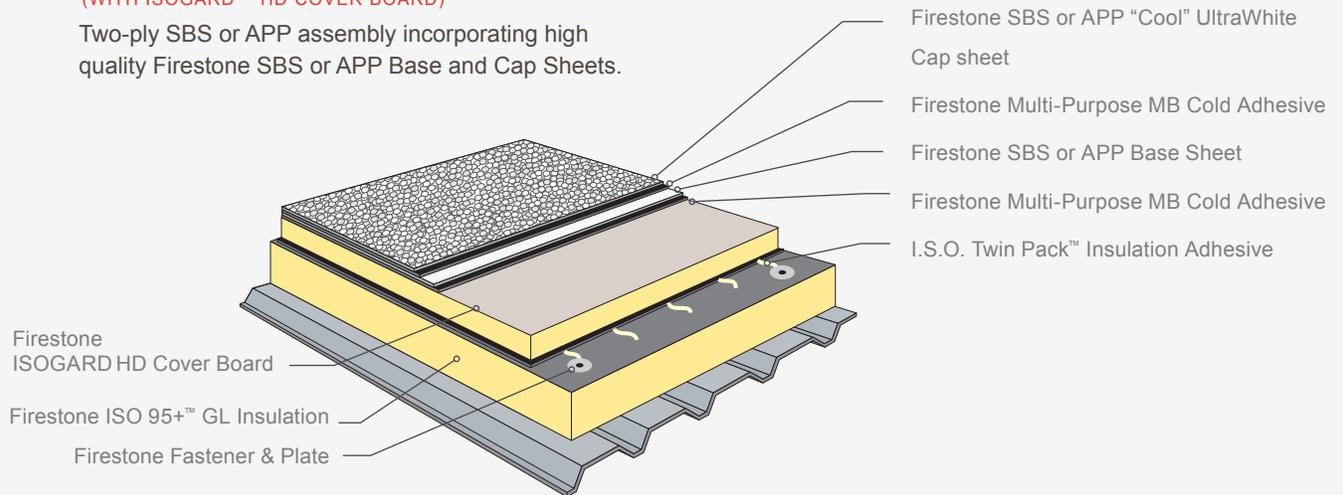
The 2-ply Firestone Self-Adhered Base System combines Firestone BASEGARD™ SA Base Sheet with either an APP or SBS cap sheet torch-applied directly over the base sheet. The system's flexibility allows specifiers to select the cap sheet best suited to job conditions and local installation practices. During torch application of the cap sheet, the fiberglass-reinforced base sheet serves as an effective work platform and thermal barrier. The base sheet also achieves complete fusion with the cap sheet, assuring that the BASEGARD SA Base Sheet works as a redundant monolithic waterproofing layer beneath the cap.



Typical Asphalt Roofing Assemblies

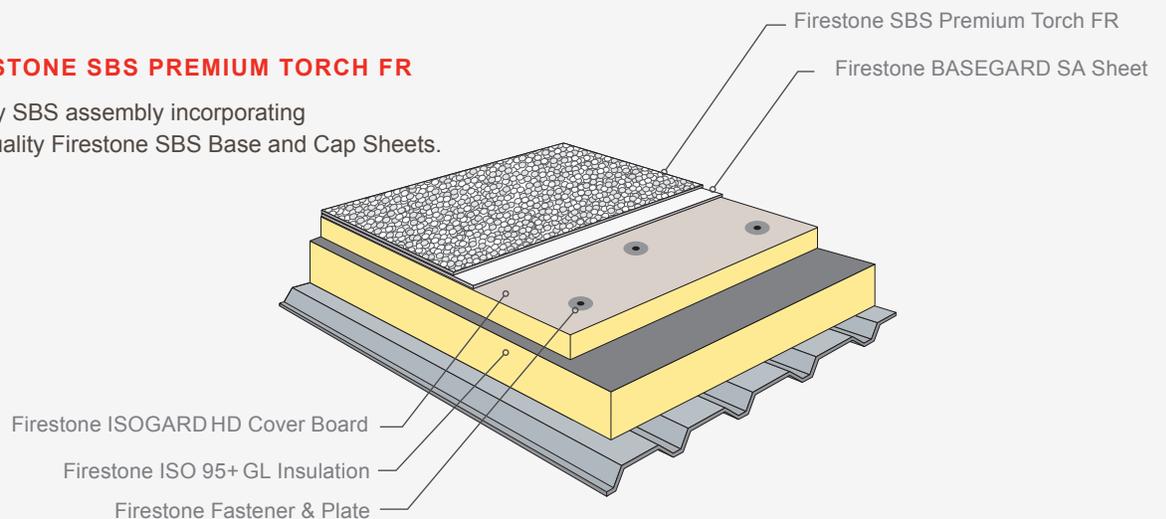
TWO-PLY SBS OR APP IN COLD ADHESIVE (WITH ISOGARD™ HD COVER BOARD)

Two-ply SBS or APP assembly incorporating high quality Firestone SBS or APP Base and Cap Sheets.



FIRESTONE SBS PREMIUM TORCH FR

Two-ply SBS assembly incorporating high-quality Firestone SBS Base and Cap Sheets.



Multiple Products, Features and Easy Installation



FIRESTONE ULTRAFLASH™ LIQUID FLASHINGS AND ULTRAFLASH FABRIC

Firestone Building Products UltraFlash Liquid Flashings provide easy liquid flashing solutions for asphaltic roofing systems.

UltraFlash One-Part Liquid Flashing is a single component polyurethane bitumen resin that comes ready-to-use on SBS, APP and BUR systems after stirring. UltraFlash Two-Part Liquid Flashing is a two-part urethane elastomer liquid flashing that can be used on both SBS and BUR systems, and is also eligible for the 30 year Red Shield™ Platinum™ Warranty.

UltraFlash Liquid Flashings, in either variety, are especially useful for flashing difficult or unusually shaped penetrations. They can also be used for any vertical flashing detail. When properly installed with UltraFlash Fabric, UltraFlash Liquid Flashings form an impermeable, monolithic and seamless membrane.

Additional features and benefits include:

- Seamless flashing application.
- Provides superior moisture protection and suitable for ponding water conditions.
- Able to conform to any irregular shapes.
- Abrasion, chemical and UV resistant.
- Eliminates the burn hazards of torch-applied or hot-asphalt flashings.
- Can be painted with Firestone-recommended coating or embedded with granules to match the roof surface.
- Covered by Red Shield Warranty up to 30 years.

FIRESTONE LIQUIGARD™ ADHESIVE

LiquiGard Adhesive is a liquid-applied 2-part polyurethane adhesive which chemically cures to form exceptionally strong bonds with SBS and BUR membranes, Polyiso, and most clean and dry construction surfaces.

Since it has no odor and no VOCs, LiquiGard Adhesive is ideal for schools, hospitals, apartment buildings, and anywhere else odors would be objectionable.

Additional features include:

- Durable, watertight bond
- High wind uplift ratings
- Easily applied with a squeegee
- Eligible for Firestone's Red Shield 25 year guarantee, depending on system used



Durable and Reflective

FIRESTONE ACRYLITOP™ PC-100 ROOF COATING

Firestone AcryliTop PC-100 Roof Coating can be applied to all APP, SBS, and smooth BUR roof systems. Available in white, tan, and grey, AcryliTop coatings provide significant solar reflectivity, help extend roof life, and save energy.

A roof properly coated with AcryliTop reflects at least 66% of the sun's energy after three years – that's 30% higher than the minimum aged reflectance requirements of the Environmental Protection Agency's ENERGY STAR® program.

| AcryliTop PC-100 | Solar Reflectance | | Thermal Emittance | |
|------------------|-------------------|-------|-------------------|-------|
| | Initial | 3-yr. | Initial | 3-yr. |
| White | 0.82 | 0.73 | 0.87 | 0.84 |
| Tan | 0.53 | 0.48 | 0.88 | 0.83 |
| Gray | 0.32 | 0.34 | 0.88 | 0.82 |

AcryliTop PC-100 coating can be spray- or roller-applied. When dry, it forms a monolithic coating and resists degradation from ozone and ultraviolet radiation, and provides excellent resistance to weathering and temperature extremes. Firestone Acrylic Base Coat for asphalt must be used when applying AcryliTop PC-100 to asphalt roof membrane systems.

BEFORE Acrylic Roof Coating System



AFTER



Firestone Multi-Purpose MB Cold Adhesive and Flashing Cement

Firestone Multi-Purpose MB Cold Adhesive and Flashing Cement are modified with SBS, increasing adhesion to insulation and between plies and offering impressive wind uplift resistance. These products may be used to adhere select Firestone Base Sheets, SBS Cap Sheets, APP Cool Cap Sheets, and as a lap adhesive. Multi-Purpose MB Cold Adhesive is intended for horizontal application while MB Flashing Cement is ideal for vertical applications.

Other Available Accessories

- SEBS Mopping Asphalt – Features excellent elasticity, low temperature flexibility and toughness not found in conventional oxidized mopping asphalt
- Pourable Sealer (S-10) – Two-part sealer for penetration pockets, packaged in cans
- Water Block Seal (S-20) – Compression sealant for use at drains, termination bars, and elsewhere as recommended by Firestone
- Ceramic Coated Roofing Granules (in white and black) and UltraWhite Granules
- Firestone Aluminum Fibered Roof Coating – A blend of asphalt, reinforcing fillers and aluminum pigments used as a protective agent and to enhance the solar reflectance

Asphalt Product Information

| Product | ASTM Designation | Compound | Reinforcement | Top Surfacing | Bottom Surfacing | Thickness (mils.) | Net Coverage (sq. ft.) | Weight per Roll (lbs.) |
|---|----------------------|-------------------------------------|---|-------------------|--------------------|-------------------|------------------------|------------------------|
| SBS - Standard colors are UltraWhite, white and black. Other colors are available through special orders with minimum purchase required. | | | | | | | | |
| BaseGard SA | 1970 | SBS Modified Asphalt | 1.8 lb/100 ft ² fiberglass mat | Sand | Release Film | 70 | 196 | 87 |
| SBS Base Sheet | 6163 Type I Grade S | SBS Modified Asphalt | 1.9 lb/100 ft ² fiberglass mat | Sand | Sand | 88 | 150 | 85 |
| SBS Premium Base | 6163 Type II Grade S | SBS Modified Asphalt | Fiberglass/Mat Scrim Laminate | Sand | Sand | 85 | 150 | 87 |
| SBS Premium Poly Base | 6164 Type II Grade S | SBS Modified Asphalt | 265 g/m ² polyester with continuous fiberglass filaments | Sand | Sand | 160 | 101 | 120 |
| SBS Poly Base | 6164 Type I Grade S | SBS Modified Asphalt | 190 g/m ² polyester with continuous fiberglass filaments | Sand | Sand | 88 | 150 | 90 |
| SBS Glass Torch Base | 6163 Type I Grade S | SBS Modified Asphalt | 1.9 lb/100 ft ² fiberglass mat | Sand | Poly Burn-off Film | 115 | 100 | 85 |
| SBS Glass Torch Base 1.5 Square | 6163 Type I Grade S | SBS Modified Asphalt | 1.9 lb/100 ft ² fiberglass mat | Sand | Poly Burn-off Film | 90 | 151 | 93 |
| SBS Poly Torch Base | 6164 Type I Grade S | SBS Modified Asphalt | 190 g/m ² polyester with continuous fiberglass filaments | Sand | Poly Burn-off Film | 115 | 100 | 85 |
| SBS Smooth | 6164 Type I Grade S | SBS Modified Asphalt | 190 g/m ² polyester with continuous fiberglass filaments | Sand | Sand | 135 | 100 | 93 |
| SBS Cap (UltraWhite, White, Black) | 6164 Type I Grade G | SBS Modified Asphalt | 190 g/m ² polyester with continuous fiberglass filaments | Granules | Sand | 150 | 100 | 97 |
| SBS Torch (UltraWhite, White, Black) | 6164 Type I Grade G | SBS Modified Asphalt | 190 g/m ² polyester with continuous fiberglass filaments | Granules | Poly Burn-off Film | 145 | 100 | 99 |
| SBS FR (UltraWhite, White, Black) | 6164 Type I Grade G | Fire Retardant SBS Modified Asphalt | 190 g/m ² polyester with continuous fiberglass filaments | Granules | Sand | 145 | 100 | 98 |
| SBS FR Torch (UltraWhite, White, Black) | 6164 Type I Grade G | Fire Retardant SBS Modified Asphalt | 190 g/m ² polyester with continuous fiberglass filaments | Granules | Poly Burn-off Film | 155 | 100 | 106 |
| SBS Glass (UltraWhite, White, Black) | 6163 Type I Grade G | SBS Modified Asphalt | 1.9 lb/100 ft ² fiberglass mat | Granules | Sand | 150 | 100 | 101 |
| SBS Glass FR (UltraWhite, White, Black) | 6163 Type I Grade G | Fire Retardant SBS Modified Asphalt | 1.9 lb/100 ft ² fiberglass mat | Granules | Sand | 145 | 100 | 101 |
| SBS Glass FR Torch (UltraWhite, White, Black) | 6163 Type I Grade G | Fire Retardant SBS Modified Asphalt | 1.9 lb/100 ft ² fiberglass mat | Granules | Poly Burn-off Film | 145 | 100 | 101 |
| SBS Premium (UltraWhite, White, Black) | 6164 Type II Grade G | SBS Modified Asphalt | 265 g/m ² polyester with continuous fiberglass filaments | Granules | Sand | 155 | 100 | 101 |
| SBS Premium Torch (UltraWhite, White, Black) | 6164 Type II Grade G | SBS Modified Asphalt | 265 g/m ² polyester with continuous fiberglass filaments | Granules | Poly Burn-off Film | 155 | 100 | 101 |
| SBS Premium FR (UltraWhite, White, Black) | 6164 Type II Grade G | Fire Retardant SBS Modified Asphalt | 265 g/m ² polyester with continuous fiberglass filaments | Granules | Sand | 155 | 100 | 103 |
| SBS Premium FR Torch (UltraWhite, White, Black) | 6164 Type II Grade G | Fire Retardant SBS Modified Asphalt | 265 g/m ² polyester with continuous fiberglass filaments | Granules | Poly Burn-off Film | 155 | 100 | 103 |
| SBS Metal Flash-AL | 6298 | SBS Modified Asphalt | 120 g/m ² glass mat / glass scrim combination | Embossed Aluminum | Poly Burn-off Film | 150 | 100 | 100 |

| Product | ASTM Designation | Compound | Reinforcement | Top Surfacing | Bottom Surfacing | Thickness (mils.) | Net Coverage (sq. ft.) | Weight per Roll (lbs.) |
|---|----------------------|-------------------------------------|---|---------------|--------------------|-------------------|------------------------|------------------------|
| APP - Standard colors are UltraWhite, white and black. Other colors are available through special orders with minimum purchase required. | | | | | | | | |
| APP 80 Glass Base | 6509 | APP Modified Asphalt | 1.9 lb/100 ft2 fiberglass mat | Sand | Poly Burn-off Film | 77 | 194.4 | 100 |
| APP Premium Base | 6509 | APP Modified Asphalt | 1.9 lb/100 ft2 fiberglass mat | Sand | Sand | 80 | 194.4 | 100 |
| APP 160 | 6222 Type I Grade S | APP Modified Asphalt | 190 g/m2 polyester with continuous fiberglass filaments | Sand | Poly Burn-off Film | 156 | 98 | 101 |
| APP 160 Cool | 6222 Type I Grade S | APP Modified Asphalt | 190 g/m2 polyester with continuous fiberglass filaments | Sand | Sand | 150 | 98 | 101 |
| APP 170 | 6222 Type I Grade S | APP Modified Asphalt | 190 g/m2 polyester with continuous fiberglass filaments | Sand | Poly Burn-off Film | 173 | 98 | 113 |
| APP 170 Cool | 6222 Type I Grade S | APP Modified Asphalt | 190 g/m2 polyester with continuous fiberglass filaments | Sand | Sand | 173 | 98 | 113 |
| APP 180 (UltraWhite, White, Black) | 6222 Type I Grade G | APP Modified Asphalt | 190 g/m2 polyester with continuous fiberglass filaments | Granules | Poly Burn-off Film | 160 | 98 | 101 |
| APP 180 Cool (White, Black) | 6222 Type I Grade G | APP Modified Asphalt | 190 g/m2 polyester with continuous fiberglass filaments | Granules | Sand | 160 | 98 | 101 |
| APP 180 FR (UltraWhite, White, Black) | 6222 Type I Grade G | Fire Retardant APP Modified Asphalt | 190 g/m2 polyester with continuous fiberglass filaments | Granules | Poly Burn-off Film | 160 | 98 | 101 |
| APP 180 FR Cool (UltraWhite, White, Black) | 6222 Type I Grade G | Fire Retardant APP Modified Asphalt | 190 g/m2 polyester with continuous fiberglass filaments | Granules | Sand | 160 | 98 | 101 |
| APP Premium FR (UltraWhite, White, Black) | 6223 Type II Grade G | Fire Retardant APP Modified Asphalt | 265 g/m2 polyester with continuous fiberglass filaments | Granules | Sand | 173 | 100 | 117 |
| BUR - Standard colors are UltraWhite, white and black. Other colors are available through special orders with minimum purchase required. | | | | | | | | |
| MB Base M Sheet | 4601 Type II | Oxidized Asphalt | 1.9 lb/100 ft2 fiberglass mat | Sand | Sand | 45 | 300 | 75 |
| Ply IV (4) M Felt | 2178 Type IV | Oxidized Asphalt | 1.7 lb/100 ft2 fiberglass mat | Sand/LPA | Sand/LPA | 30 | 500 | 42 |
| Ply VI (6) M Felt | 2178 Type VI | Oxidized Asphalt | 1.9 lb/100 ft2 fiberglass mat | Sand/LPA | Sand/LPA | 35 | 500 | 49 |
| Channel Venting Base | 4897 Type II | Oxidized Asphalt | 1.7 lb/100 ft2 fiberglass mat | Sand | Sand | 115 | 100 | 67 |

Firestone

BUILDING PRODUCTS

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Partnering with Firestone Building Products means superior support that goes beyond the materials you need for your projects. We look at the big picture with you, taking the entire building envelope into consideration, so we can provide you with a complete solution. For exceptionally performing building materials backed by the services, warranty and expertise you need...

Count on Firestone.



For more information, ask your local Firestone sales rep or visit firestonebpc.com.

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