

SAFEWELD™ APP

Cold Applied/Heat Welded Seams
PREMIUM MODIFIED BITUMEN MEMBRANE

*“Pioneered With Performance In Mind...
Engineered To Stand The Test Of Time.”*

ABOUT SAFEWELD™ APP

With insurance regulations becoming more stringent concerning torch use, U.S. Ply has engineered and developed SAFEWELD™ APP (Atactic Polypropylene), cold applied/heat welded seams, modified bitumen membrane to meet or exceed the industry standards for high performance membranes.

SAFEWELD™ APP Modified Bitumen membranes are manufactured from the exclusive “DuraWeld™” formulas using the highest quality materials available in the market today which have been the principle waterproofing components in U.S. Ply roof systems for over 25 years.

U.S. Ply begins with prime grades of asphalt which are then modified with thermoplastic (APP) 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.

SAFEWELD™ PREMIUM APP MODIFIED ADHESIVE

SAFEWELD™ APP Modified Bitumen membranes are designed to be installed in conjunction with SAFEWELD™ Premium APP Modified Adhesive, a high performance, high solids, asphalt based polymer modified adhesive that contains a unique blend of custom formulated components that enhance elasticity, adhesion, and waterproofing characteristics of the adhesive. The seams are then heat-welded using a state-of-the-art hot air welder to consistently heat fuse the seams forming an excellent seam bond that will perform in the most extreme climate conditions while providing one of the best and safest modified bitumen roofing systems available for your roof.

PLYFAST™ GRIP-ACTION

SAFEWELD™ Premium APP Modified Adhesive contains PLYFAST™ “GRIP-ACTION” a select blend of ingredients that produces a “fast-grabbing” bond as it enhances the tack time of the compound even before gelling. While some adhesives tend to become runny and migrate to low spots leaving thin spots before membrane application, SAFEWELD™ Premium APP Modified Adhesive’s “GRIP-ACTION” feature ensures that the adhesive will stay in place during application yet remain elastic during the life of your roof.

ABOUT U.S. PLY, INC.

U.S. PLY, INC. entered the commercial roofing industry in 1985, utilizing the company’s 25 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, making them 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 100% AMERICAN MADE raw materials. This means we use 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; Factory Mutual (FM), Underwriters Laboratories (UL), Florida Building Code (FBC), and Texas Department of Insurance (TDI) to name a few. U.S. PLY, INC. offers only high quality membranes and components. The systems are designed and tested for weathering, durability and compatibility. They can be specified, installed and maintained with confidence.

GREEN STANDARDS INFORMATION:

SAFEWELD™ APP contains a total of 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).

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.



Product Specifications

SAFEWELD™ APP Membrane	APPBASE	180S APP	180M APP	180FR APP	X4S APP	X4M APP	X4FR APP
ASTM Designation	D6509	D6222 Type I, S	D6222 Type I, G	D6222 Type I, G	D6223 Type II, S	D6223 Type II, G	D6223 Type II, G
Nominal Size of Roll	One and one-half (1.5) Squares	One (1) Square	One (1) Square	One (1) Square	One (1) Square	One (1) Square	One (1) Square
Nominal Roll Weight	80 lb (36.2 kg)	90 lb (41 kg)	105 lb (48 kg)	105 lb (48 kg)	90 lb (41 kg)	105 lb (48 kg)	105 lb (48 kg)
Dimensions	39-3/8" x 49'1" (1m x 15m)	39-3/8" x 32'9" (1m x 10m)	39-3/8" x 32'9" (1m x 10m)	39-3/8" x 32'9" (1m x 10m)	39-3/8" x 32'9" (1m x 10m)	39-3/8" x 32'9" (1m x 10m)	39-3/8" x 32'9" (1m x 10m)
Membrane Thickness	2.4 mm	3.8 mm	4.3 mm	4.3 mm	4.0 mm	4.5 mm	4.5 mm
Application Method	Cold Applied/Mechanical	Cold Applied/Heat Welded Seams	Cold Applied/Heat Welded Seams	Cold Applied/Heat Welded Seams	Cold Applied/Heat Welded Seams	Cold Applied/Heat Welded Seams	Cold Applied/Heat Welded Seams
Surfacing	Smooth	Smooth	Granule	Granule	Smooth	Granule	Granule
Function	Base/Interply	Base/Interply/Cap	Cap	Fire Rated Cap	Base/Interply/Cap	Cap	Fire Rated Cap
Post Consumer Recycled %	0%	3.7%	3.2%	3.2%	0%	0%	0%
Post Industrial Recycled %	4.7%	4.7%	9.5%	9.5%	4.8%	9.6%	9.6%

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

2. When SAFEWELD™ 180S APP and SAFEWELD™ X4S APP is used as a cap membrane, it must be surfaced with an approved roof coating for guarantee eligibility.



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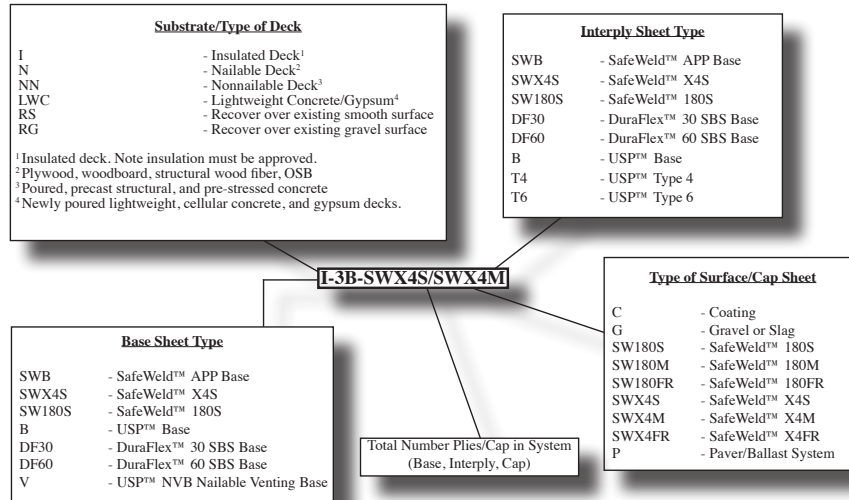


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APPLICATION SPECIFICATIONS



GENERAL

Safety: See below. DO NOT BEGIN INSTALLATION UNTIL THIS INFORMATION IS READ, UNDERSTOOD AND IMPLEMENTED.

INSTALLATION:

Surface Preparation: All surfaces to be adhered must be clean, dry and free from any foreign matter, such as oil, grease, dirt or any debris that could inhibit the bonding capabilities of the adhesive. On existing roofs, inspect roof deck condition – moisture in old roof may require complete removal of existing roof. Check local building codes – local building codes may require complete removal of existing roof. Check with manufacturer for details on cutting out and repairing blisters, buckles and raised edges for a smooth surface. Check all flashings, edges, drains, valleys and vents and repair as needed. **Adhesive Application:** Mechanically mix adhesive before application. Apply adhesive by sprayer, brush/roller or notched squeegee at a rate of 1.5 - 2 gallons per 100 ft² (0.6 - 0.8 L/m²) to structural concrete, approved insulation, Type G2 base sheet or APP modified asphalt membrane. Installation Method: **Spray:** A Graco 45.1 pump, 120H AM Roof Pump or equivalent is recommended. Consult equipment manufacturer for optimum PSI, spray tip size, length of hose, number of spray guns, etc., to achieve uniform application. The adhesive sets by the evaporation of the solvent. **Squeegee:** When using a squeegee, it should have a ¼" (6 mm) serrations to apply a uniform, smooth, even coat without gaps, dry areas or bubbles. **Roller:** No reduction necessary. Use 1/2" to 1-1/2" nap synthetic rollers. Keep a wet edge to avoid ripping which may change appearance. If ripping is a problem, extend lap time to after material has skinned. Avoid rapid rolling which causes bubbling of material.

MEMBRANE APPLICATION INSTRUCTIONS

- SAFEWELD™ APP membranes must not be applied during adverse weather or without following all precautionary measures in temperatures 45°F (7.2°C) or below.
- Install SAFEWELD™ APP membrane in full width sheets, lapping 3" (7.6 cm) on the sides and 6" (15.2 cm) on the ends. Stagger adjacent end laps a minimum of 18" apart. Starting at the low point or the drains, apply the SAFEWELD™ Premium APP Adhesive to the substrate per specification.
- Pour the adhesive on the substrate and spread, using a serrated edged squeegee, applied at the rate of 1.5 - 2 gal per square (0.6 - 0.8 L/m²), or spray, using equipment that will apply the adhesive at a rate equal to 1.5 - 2 gal/square (0.6 - 0.8 L/m²).
- End laps and selvage laps of the base sheet or interply membrane which are being lapped and are not intended to be heat welded, must be coated with adhesive so that a visible bead of

WARNING

APPLICATION/USE OF THESE PRODUCTS MAY RESULT IN BURNS, AND/OR OTHER PHYSICAL INJURY. SURFACES WHICH COME IN CONTACT WITH THE MOLTEN PRODUCT MAY BECOME INFLAMED. CONTACT WITH MOLTEN ASPHALT MAY CAUSE BURNS.

STATEMENT OF PRACTICAL TREATMENT

In case of skin contact with molten bitumen, apply ice or other cold liquid compatible with skin. Get medical attention immediately.

GENERAL PRECAUTIONS

Read and understand U.S. Ply's specification manual before starting application. Follow all precautions and directions. Thoroughly train all personnel in the recommended safety procedures for use of kettles, asphalt mopping, propane torches, and for application of product. Fire prevention inspections should be conducted periodically during installation, with a final inspection being conducted upon completion of that day's work. Wear personal protective gear. Always use approved safety hard hat, goggles, heavy duty gloves, snug fitting clothing (long pants and long sleeved shirt) and boots. Thoroughly train all personnel on preventing and extinguishing fires. Thoroughly train all personnel in first aid procedures. Never allow contact between the heated surface of the product, hot asphalt, or open flame with hair, skin or clothing. Always comply with all applicable OSHA safety standards and fire codes. Avoid physical contact with product for at least one hour after application to surface. Never apply built-up or modified bitumen products directly over exposed conduits or pipes laying on the roof deck. Use extreme caution when working around equipment, such as gas lines or HVAC units, which have electrical and/or gas connections. Provide in the immediate work area at least one (1) ABC-rated FIRE EXTINGUISHER for each torching device.



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- adhesive appears. Roll all laps with a steel roller to ensure proper adhesion.
- Allow 5 to 15 minutes for solvents to evaporate from the adhesive (i.e. tack time or open time) before embedding any sheets into newly applied adhesive. (Note: this is only a guide. Tack times depend on such variables as ambient temperatures, humidity, wind, and cloud cover.)
- Cap sheet application: Install full width cap sheets, lapping 3" (7.6 cm) on the sides and 6" (15.2 cm) on ends. Adjacent end laps must be staggered from underlying plies.
- The coiled membrane must be unrolled, placed upside down and allowed to relax for approximately 15 minutes prior to starting the adhesive application. Then reroll to apply. This will allow the membrane to lay flat. After applying the adhesive roll the membrane into the tacky adhesive, making sure that it is laying flat and making full contact with the adhesive. Set the SAFEWELD™ APP membrane immediately into the adhesive while avoiding adhesive contamination into the lap/seam areas. Side and end laps shall be heat welded using APP modified bitumen hot air welding techniques or torch welding techniques. Broom or roll membrane to ensure full contact with adhesive. Note: Do not permit cap sheets to be adhered with adhesive. All cap sheet seams must be heat welded using hot air heat welding techniques or propane torch welding techniques.
- Hot air welding techniques should obtain a continuous 3/8" (10 mm) bead of molten modified bitumen visible at all laps/seams after application. Dry laps are not acceptable. To ensure the proper 3/8" (10 mm) flow of bitumen at the seam areas, a weighted roller may be used. Roller application should follow behind the electric heat welder or propane torch no more than 3 ft (0.91 m) nor less than 11/2 ft. (0.48 m) to ensure that the membrane will be at the proper temperature for proper flow. Hand rollers or "walking-in the seam" 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 heat welding the seam area.
- Matching granules must 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 SAFEWELD™ APP 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 it, and the modified 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.