

OVERVIEW

KEE-Stone HP is a premium fleece-backed thermoplastic membrane designed for use as the cap sheet in a multi-ply hybrid system incorporating Garland-approved modified bitumen base sheets. The KEE-Stone HP membrane incorporates the industry's highest quality Ketone Ethylene Ester formula, ELVALOY™ HP, for superior flexibility, strength, fire retardance, and UV reflectivity.

KEE-Stone HP is reinforced with a high-performance polymer-coated, high tensile-strength polyester scrim beneath its bright white surface. This distinct composition preserves the membrane's flexibility, provides exceptional tensile strength, and resists punctures and tears. Polyester fleece (6.5 oz. per sq. yd) is heat-bonded to the backside for superior adhesion in hot or cold adhesives.

KEE-Stone HP meets and exceeds ASTM D 6754, the standard specification for KEE-based sheet roofing.

High Performance Quality and Durability – KEE-Stone HP's robust polymer compound and high tensile strength polyester scrim provides superior resistance to the harshest elements like wind, hail, rain and sleet as well as wear and tear on the entire roof surface. KEE-Stone HP uses the industry's highest quality ELVALOY™ KEE HP. This HP ELVALOY™ polymer is formulated throughout the entire membrane, providing superior heat resistance while retaining low-temperature flexibility. KEE-Stone HP is one of the highest quality thermoplastic membranes in the roofing industry and will provide decades long performance and peace of mind.

Superior Fire Resistance – KEE-Stone HP is formulated with a novel blend of fire retardants to increase Garland's fire ratings. Through severe fire testing, KEE-Stone HP achieved a Class A fire rating, which is the preferred rating for any commercial building. KEE-Stone HP has a 2:12 class A fire rating for a combustible deck and a 3:12 Class A rating for a non-combustible deck.

Excellent UV Resistance – KEE-Stone HP's bright white surface, robust polymer compound and advanced chemistry resist damaging effects of the sun to protect the building and its occupants. The bright white finish reflects harmful UV rays away from the building providing a much cooler roof surface, minimizing solar absorption and reducing the amount of energy needed to cool the structure. The HP KEE formula locks the plasticizer within the membrane to prevent damaging migration that causes lesser materials to dry and crack under UV exposure. This membrane's solar radiative properties is among the highest of any membrane listed with the Cool Roof Rating Council (CRRC).

APPLICATION

Hot-Applied - KEE-Stone HP can be installed over Garland-approved modified base sheets; see the KEE-Stone HP Installation Guide for a list of approved base sheets. Adhere one ply of approved base sheet solidly to the approved substrate. Adhere KEE-Stone cap sheet using ASTM D 312, Type III or IV asphalt, or Garlastic® KM Plus modified asphalt at a rate of 25 lbs. per 100 sq. ft. Once the membrane is in place, immediately roll the membrane with a clean, 75 lb. (minimum) weighted roller to ensure proper adhesion and to remove air pockets from under the membrane. Once the KEE-Stone HP is adhered, heat-weld and seal the side and head laps using hot air welding equipment and a clean, 2" silicone roller.

Cold-Applied - KEE-Stone HP can be installed over Garland-approved modified base sheets; see the KEE-Stone HP Installation Guide for a list of approved base sheets. Adhere one ply of approved base sheet to the approved substrate. Apply the KEE-Stone HP cap sheet using Garland's KEE-Lock™ Spatter Spray or KEE-Lock Foam Adhesive (refer to the KEE-Stone HP Application Guide for more information). Once the membrane is in place, immediately roll the membrane with a clean, 75 lb. (minimum) weighted roller to ensure proper adhesion and to remove air pockets from under the membrane. Once the KEE-Stone HP is adhered, heat-weld and seal the side and head laps using hot air welding equipment and a clean, 2" silicone roller.

STORAGE

Keep rolls in their original packaging and store in a cool, dry area until they are ready to be installed. Store rolls on pallets and keep off the ground. Do not store anything on top of the rolls to prevent creasing or damaging the membrane.

PRECAUTIONS

- Wearing sunglasses is recommended when installing this membrane, as the white surface is highly reflective.
- The roof surface can be slippery when wet, take care especially around the roof edge.
- To prevent cutting or piercing the membrane, do not cut open the packaging.
- If KEE-Stone installation utilizes KEE-Lock Foam or KEE-Lock Spatter Spray, ambient and substrate temperatures must be 50°F (10°C) and rising.
- When temperatures are lower than 65°F (18.3°C), canister warmers are required for KEE-Lock Spatter Spray.

Technical Data	KEE-Stone HP
Thickness (ASTM D 751)	0.060 in. (1.524 mm)
Thickness over fiber, min.	0.030 in. (0.762 mm)
Breaking strength (ASTM D 751, proc. B - strip)	MD 375 lbf/in (1668 N) XMD 375 lbf/in (1668 N)
Elongation at Break % (ASTM D 751, proc. B - strip)	MD 40% XMD 40%
Low temperature bend (ASTM D 2136)	-40°F (Pass) (-40°C)
Dynamic Puncture Resistance (ASTM D 751, puncture test)	190 lbs (86.2 kg)
Static Puncture Resistance (ASTM D 5602)	Pass
Tearing Strength, lbf (ASTM D 751)	MD 150 lbf (667 N) XMD 290 lbf (1,290 N)
Factory Seam Strength (ASTM D 751, Grab Method)	645 lbf min
Abrasion Test (ASTM D 3389)	7,410 revolutions
Fungi Resistance (ASTM G 21)	No fungi growth
Hydrostatic Resistance (ASTM D 751, Method A, Procedure 1)	>600 psi
Accelerated weathering test after 5000-h fluorescent / condensation exposure (ASTM G 154)	
Cracking (7x magnification)	none
Crazing (7x magnification)	none

Product meets and exceeds ASTM D 6754.

ECO-FACTS

ECO-FACTS	KEE-Stone HP	
	Initial	3-Yr Aged*
Solar Reflectivity		
Reflectance	0.88	0.76
Emittance	0.90	0.89
SRI	112	94

* Rapid rating values

ROLL DIMENSIONS

Technical Data	KEE-Stone HP
Width	8 ft. (2.4 m)
Length	100 ft. (30.5 m)
Weight	0.49 lbs/ft ² (2.39 kg/m ²)
Nominal thickness	60 mils (1,524 microns)
Overall thickness	105 mils (2,667 microns)
Net coverage	800 sq. ft. (74.32 m ²) per roll
Packaging	6 rolls/pallet (individually bagged)

ACCREDITATIONS



Tests verified by independent laboratories. Actual roof performance specifications will vary depending on test speed and temperature. Data reflects samples randomly collected. ± 10% variation may be experienced. The above data supersedes all previously published information. Consult your local Garland Representative or the home office in your country for more information.



For more information, visit us at: www.garlandco.com/KEE-Stone-HP

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Tests verified by independent laboratories. Actual roof performance specifications will vary depending on test speed and temperature. Data reflects samples randomly collected. A ± 10% variation may be experienced. The above data supersedes all previously published information. Consult your local Garland Representative or Garland Corporate Office for more information.

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