

## OVERVIEW & FEATURES

KEE-Stone FB 60, a thermoplastic cap sheet modified with Ketone Ethylene Ester (KEE), is designed for use as the top component in a multi-ply hybrid system incorporating Garland-approved modified bitumen base sheets. This unique sheet incorporates a high quality KEE for superior flexibility and strength.

This membrane is reinforced with a unique polymer-coated high tensile strength polyester scrim. This distinctive composition provides exceptional puncture, tensile and tear resistance while preserving the flexibility of the membrane. Polyester fleece (6.5 oz. per sq. yd.) is heat bonded to the backside for superior adhesion in hot or cold adhesives.

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

**Long Lasting & Durable** – KEE-Stone exceeds standard weathering tests, standing up against even the harshest weather and UV radiation. In accelerated weathering tests, KEE-Stone shows no signs of cracking or cratering even at 100x magnification, which is 10 times more than the ASTM standard requires. In heat aging tests, KEE-Stone retains more than 90% of its breaking strength, elongation and flexibility.

**Superior Chemistry & Manufacturing** – Garland's KEE-Stone thermoplastic chemistry uses a high-quality KEE compound, for the longest-lasting weatherability. This formula exhibits superior heat resistance while retaining its low-temperature flexibility. While some thermoplastic sheets only add quality KEE above the scrim, KEE-Stone is formulated with KEE throughout the entire sheet because the sheet is only as strong as its weakest point.

**Strong & Flexible** – KEE-Stone is formulated using ELVALOY™ KEE the unique scrim design provides superior sheet strength for a longer lasting roof that is tough enough to resist damaging elements like hail as well as general wear and tear on the roof's surface.

**UV Resistant & Energy Saving** – KEE-Stone is available in both bright white and medium gray. The white surfacing is designed to reflect damaging UV rays, protecting your building from solar heat gain. The medium gray color offers moderate reflectance, ideal for northern climates where retaining some solar heat is beneficial, and also helps to hide dirt and debris. For both colors, the KEE formula locks in the plasticizer within the membrane to prevent the damaging migration that causes lesser materials to dry and crack under UV exposure.

## APPLICATION

### Hot Application

KEE-Stone FB 60 can be installed over Garland-approved modified base sheets; see the KEE-Stone 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, Garland's HPR® All-Temp Asphalt or Garlastic® KM Plus modified asphalt at a rate of 25 lbs. per 100 sq. ft. Once the KEE-Stone FB 60 is adhered, heat-weld seams to seal the membranes together. All end laps shall be butted up to one another. Once end laps are adjoined, heat weld KEE-Stone 6" Reinforced Utility Roll over joint to seal.

### Cold Application

KEE-Stone FB 60 can be installed over Garland-approved modified base sheets; see the KEE-Stone Installation Guide for a list of approved base sheets. Adhere one ply of approved base sheet solidly to the approved substrate. Apply KEE-Stone cap sheet using Garland's KEE-Lock™ Spatter Spray adhesive at 75-80% coverage across the modified base sheet. Once the membrane is in place, roll the membrane with a weighted roller to ensure contact with the adhesive and remove air pockets from under the membrane. Once the KEE-Stone FB 60 is adhered, heat-weld laps to seal the membranes together. All end laps shall be butted up to one another. Once end laps are adjoined, heat weld KEE-Stone 6" Reinforced Utility Roll over joint to seal.

## 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 surface is highly reflective.
- The roof surface can be slippery when wet, take care especially around the roof edge.
- Do not cut open the bags to prevent cutting or piercing the membrane.

Technical Data	KEE-Stone FB 60
<b>Thickness, min.</b> (ASTM D 751)	0.060 in. (1.5 mm)
<b>Thickness over fiber, min.</b>	0.030 in. (0.762 mm)
<b>Breaking Strength</b> (ASTM D 751, proc. B - strip)	375 lbf (1668N)
<b>*Breaking Strength, strip</b>	>90% of original
<b>Elongation at Break</b> (ASTM D 751, proc. B - strip)	40%
<b>*Elongation at Break, strip</b>	>90% of original
<b>Low Temperature Bend after heat aging</b> (ASTM D 2136)	-40°F (-40°C)
<b>Tearing Strength</b> (ASTM D 751)	120 lbf. min. (534N)
<b>Low Temperature Bend</b> (ASTM D 2136)	-40°F (-40 °C)
<b>Static Puncture Resistance</b> (ASTM D 5602)	pass
<b>Puncture Resistance</b> (ASTM D 751)	161 lbs
<b>Factory Seam Strength</b> (ASTM D 751, Grab Method)	620 lbf. min.
<b>Colors</b>	Bright White, Medium Gray

\*Retention of properties after heat aging: ASTM D 3045 176°F (80°C) for 56 days

Membrane	Product Code
<b>KEE-Stone FB 60 Bright White</b>	9500
<b>KEE-Stone FB 60 Medium Gray</b>	9525

Technical Data	KEE-Stone FB 60
<b>Accelerated Weathering Test After 5000-h xenon arc light exposure:</b> (ASTM G 155)	
Cracking (7x magnification)	none
Crazing (7x magnification)	none
<b>Accelerated Weathering Test After 5000-h fluorescent/condensation exposure:</b> (ASTM G 154)	
Cracking (7x magnification)	none
Crazing (7x magnification)	none

Product meets and exceeds ASTM D 6754

Roll Dimensions	KEE-Stone FB 60
<b>Width</b>	8 ft. (2.4 m)
<b>Length</b>	100 ft. (30.5 m)
<b>Weight</b>	0.49 lbs/ft <sup>2</sup> (2.39 kg/m <sup>2</sup> )
<b>Nominal Thickness</b>	60 mils (1,524 microns)
<b>Overall Thickness</b>	105 mils (2,667 microns)
<b>Net Coverage</b>	800 sq. ft. (74.32 m <sup>2</sup> ) per roll
<b>Packaging</b>	6 rolls/pallet (individually bagged)

## ECO-FACTS

	KEE-Stone FB 60 (Bright White)	
Solar Reflectivity	Initial	3-Yr Aged
<b>Reflectance</b>	0.87	0.75
<b>Emittance</b>	0.88	0.88
<b>SRI</b>	110	93



For more information, visit us at: [www.garlandco.com](http://www.garlandco.com)

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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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