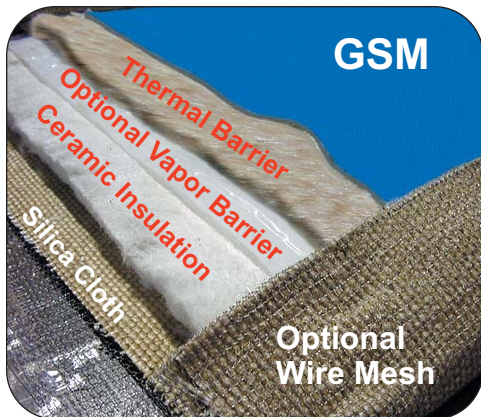


KLFC Flexible Membrane

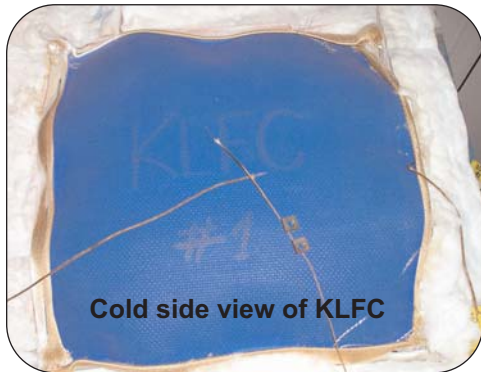


KLFCW Flexible Membrane with optional vapor barrier and wire mesh



Hot side view of KLFC

Hot surface performance test for 96 hours @ 2000°F (1094°C) as per ASTM C-411



Cold side view of KLFC

3rd party lab performed temperature tests on Thorburn's KLFC with a minimum stand alone thermal barrier 1.5" (38mm) consisting of a 13mm laminated fiberglass and 25mm high density ceramic insulation. The hot side temperature of 2000°F the cold side temperature was 364°F (184°C). The 2nd test with a hot side temperature of 1200°F (648°C) the cold side temperature was 211°F (99°C).

Thorburn's KLFC composite flexible membrane is designed to withstand a maximum continuous operating temperature (MCOT) of 2000°F (1094°C), without additional cavity insulation. Inferior designs make the belt dependent upon the cavity insulation for their survival at high temperatures.

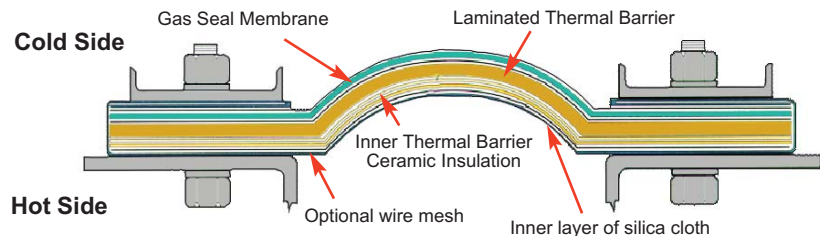
Construction:

- 1) A load bearing PTFE coated fiberglass fabric.
- 2) A gas side corrosion barrier made from non-porous multi-directional laminated PTFE film. (optional skin side)
- 3) Inner thermal barrier made of 1/2" (13mm) laminated, non-woven fiberglass insulation.
- 4) Additional thermal barrier made from ceramic Fiber blanket attached on the gas side and supported by an outside layer of silica fiber.

KLFC Advantage:

The multi-directional corrosion liner is a 100% PTFE material that is capable of resisting the stress cracking caused by flexing as per ASTM D-2176 flexing test and severe temperature fluctuation. The thermal barrier is achieved through a laminated 1/2" thick fiberglass and ceramic fiber insulation blanket (thickness and density to meet stand alone temperature requirements). Optional vapor barriers are used to prevent dew point condensation from attacking the insulation barriers. The thermal barrier is enveloped with a silica cloth, optional stainless steel or Inconel wire mesh may be added to increase the tensile strength.

Typical KLFC Composite Build-Up



Thorburn's KLFC Minimum Design Specifications:

*Tensile strength of 1" (25.4 mm) width sample

Overall Weight	264 oz/yd ² (8935 gm/m ²)	PTFE Resin Content Barrier:	9.6 oz/yd ² (325 g/m ²)
Min. Overall Thickness	1.5" (38 mm)	Thickness of Laminated Insulation:	0.5" (13 mm)
Chemical Barrier Description	Multi-Directional PTFE	Tensile Strength-Warp : As per ASTM D-751	1200 lbs/in (5338N/25.4 mm)
Chemical Barrier Thickness	0.006" (0.15 mm)	Tensile Strength-Fill: As per ASTM D-751	1200 lbs/in (5338N/25.4 mm)
Coating Description	PTFE	Temperature Rating (MCOT):	2000°F (1094°C)
PTFE Resin Content Coating	18 oz/yd ² (610 g/m ²)	Minimum Ceramic Insulation: Density 6lbs/cu.ft	1" (25 mm)

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