FlatSeal™ HMF66

ENGINEERED FOR THE HIGHEST TEMPERATURES



FlatSeal™ HMF66 phlogopite mica gaskets with a stainless steel layer offer superior performance in the most challenging applications.

Specially engineered for use in the most demanding operating environments, FlatSeal™ HMF66 consists of a phlogopite mica composite with an expanded metal inlay, combining superior sealing performance with enhanced strength. The unique layered material demonstrates:

- Outstanding high temperature performance
- Wide ranging media compatibility
- Electrical insulation properties, preventing the flow of electric current

FlatSeal™ HMF66 is manufactured using advanced techniques to fully bond the phlogopite mica to the expanded stainless steel metal (grade 1.4404) layer. This produces a robust gasket, from which even complex gasket geometries can be formed using all common methods, such as punching and cutting.

Applications

FlatSeal™ HMF66 is suitable for a wide range of high temperature applications including:

- Energy applications, such as power stations, solar power and exhaust gas tracts
- Glass production
- Furnace manufacturing
- Automotive applications, including combustion engine, exhaust systems, turbochargers and compressors
- Electrical insulation
- Temperature resistant damping element

Features and benefits

- Reliable performance at extremely high temperatures, up to + 1000 °C / 1832 °F
- Outstanding media compatibility, including aggressive and corrosive chemicals
- Excellent gasket stability for optimized handling and assembly
- Extended service life
- Can be effectively combined with an inner eyelet, if required.

Ensuring the highest quality every step of the way

Using a state-of-the-art processes, HMF FlatSeal™ gaskets are manufactured with the highest quality raw materials. Every batch of material must match precise specifications and is subjected to rigorous inspection to ensure that only approved materials are used in production.

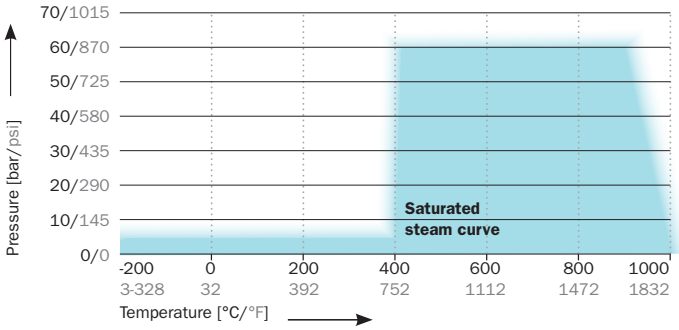
To guarantee consistent high quality at all steps, a process control system monitors and controls the preparation of formulations, their blending operation, and the process that forms the material sheet from which a FlatSeal™ is formed.

TECHNICAL INFORMATION ABOUT FLATSEAL™ HMF66

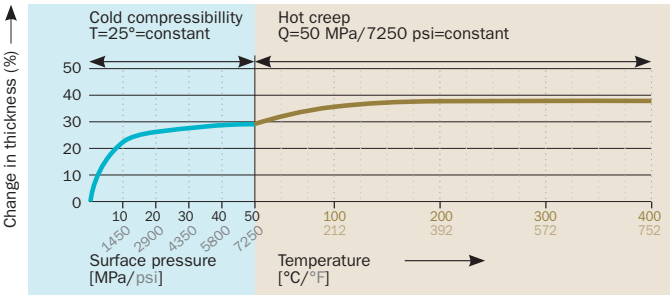
Recommendations for application

The temperature and pressure recommendations in the graphs apply to gaskets 2.0 mm / 0.08 inch thick that are used with raised face flanges. Higher stresses are possible when thinner gaskets are used. The recommendations are based on material characteristics and installation conditions. The information provided should therefore be considered cautious estimates rather than specific operational limits.

Gaseous Media



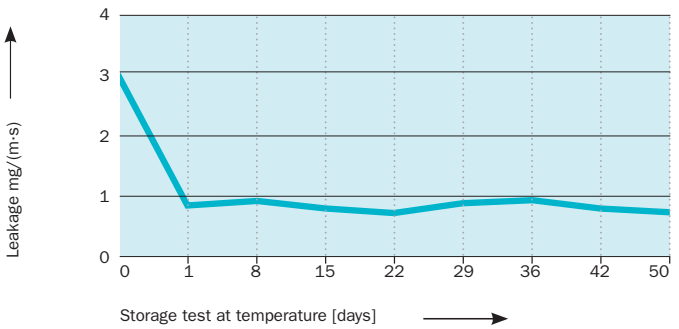
Deformation under temperature 2.0 mm



A precise description of the temperature test can be found in FlatSeal™ Guide 10.

Long-term leakage at + 500 °C / 1022 °F

5 bar nitrogen according to DIN 28 090-1



General Data	
Elements	Phlogopite mica with an expanded stainless steel metal insert (grade 1.4404 / 316L)
Color	Green-gold (typical mica color)
Thickness in mm	1.0 / 1.5 / 2.0 / 3.0 mm; further thicknesses are available on request
Sheet tolerances	According to DIN 28 091-1

Physical Properties Gasket thickness 2.0 mm	Standard	Unity	Modal Value
Density	DIN 28090-2	[g/cm³]	1.8
Tensile strength transverse	DIN 52910	[N/mm²]	25
Residual stress $\sigma_{dE/16}$ 300°C	DIN 52913	[N/mm²]	32
Compressibility	ASTM F 36 J	[%]	20
Recovery	ASTM F 36 J	[%]	40
Cold compressibility σ_{KSW}	DIN 28090-2	[%]	15
Cold recovery σ_{KRW}	DIN 28090-2	[%]	5
Hot creep $\sigma_{WSW/150}$	DIN 28090-2	[%]	10
Hot recovery $\sigma_{WRW/150}$	DIN 28090-2	[%]	2
Thermal conductivity (perpendicular)		W/(m·K)	0.09
Specific leakage rate 20 °C / 5 bar 500 °C / 5 bar	DIN 28 090-2	 mg/(m·s) mg/(m·s)	 3 0.8

FlatSeal™ HMF66 offers effective sealing performance after initial temperature exposure in the application. Tightness tests at room temperature without previous temperature increase are not indicative of actual performance.

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Version no: 9900085ENGI0622