FlatSeal™ HMF15

ENGINEERED FOR USE WITH OILS, FUELS, HYDROCARBONS AND STEAM

Demonstrating extremely high mechanical strength, FlatSeal™ HMF15 is suitable for use with a wide range of media.

Manufactured using a unique processing technology, FlatSeal™ HMF15 incorporates a high proportion of glass fibers into the material compound. This unique material composition gives FlatSeal™ HMF15 special properties:

- Outstanding mechanical strength
- Excellent hot creep behavior
- Wide ranging media compatibility

Applications

- Aircraft gear boxes, pumps, hydraulic systems and actuators
- Pumps, valves, compressors, drives and engines
- Pipework
- Machine tools and manufacturing equipment

Features and benefits

- Suitable for use in operating environments with moderate to high temperatures and pressures
- Extremely high mechanical strength
- Satisfies leakage limits specified in DIN 3535-6
- Exceptional media compatibility, can be used in applications with steam, oils, fuels and hydrocarbons
- WRAS approved for use in hot and cold potable water applications
- Anti-stick coating on one side
- Approvals and tests: BS7531-X, DVGW, BAM, WRAS

Ensuring the highest quality every step of the way

Using a state-of-the-art calendaring process, 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.

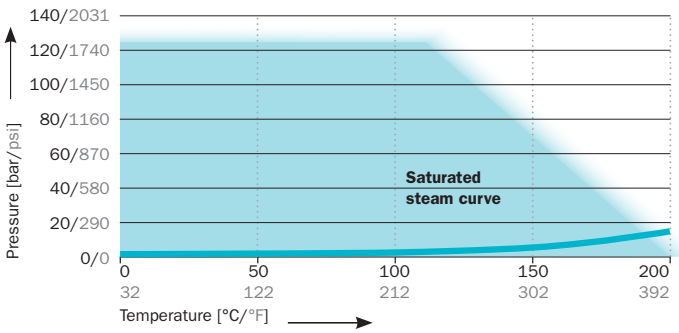
To guarantee consistent high quality at all steps, a process control system monitors and controls the preparation of formulations, their blending operation, and the calendaring process that forms the material sheet from which a FlatSeal™ is formed.

TECHNICAL INFORMATION ABOUT FLATSEAL™ HMF15

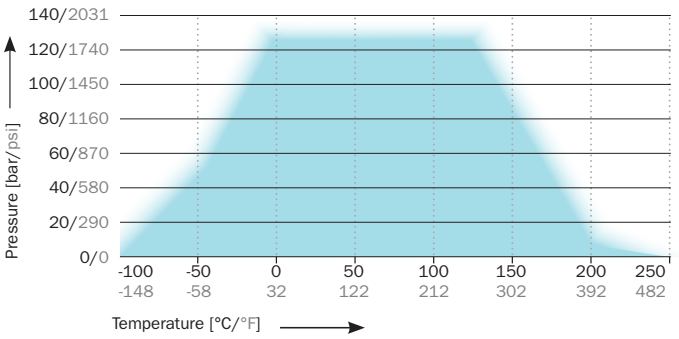
Recommendations for use

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.

Water/water vapor

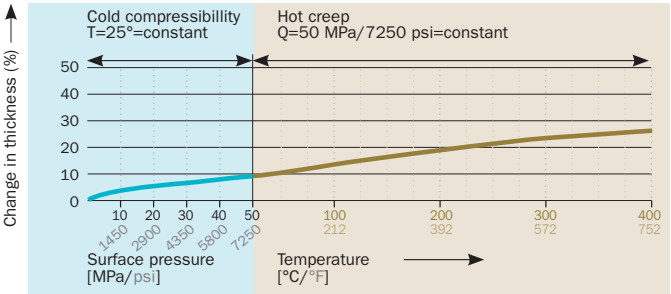


Other Media*



* Other media refers to other media commonly used in gasket applications that is not chemically critical.

Temperature Test
at 50 MPa - sample thickness: 2.0 mm



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

General Data	
Elements	Glass fibers, functional fillers and NBR (Nitrile Butadiene Rubber)
Approvals / Tests	BS7531 -X, DVGW, BAM, WRAS
Color	Gray
Anti-stick coating	On one side
Thickness in mm	0.5 / 1.0 / 1.5 / 2.0 / 3.0 Further thicknesses are available on request
Thickness tolerance	According to DIN 28 091-1

* Details concerning approvals and tests can be found in the Declaration of Compliance which can be requested from your local Customer Solution Center.

Physical Properties Gasket thickness 2.0 mm	Standard	Unity	Modal Value
Density	DIN 28090-2	[g/cm³]	1.80
Tensile strength longitudinal transverse	DIN 52910	 [N/mm²] [N/mm²]	 21 9
Residual stress $\sigma_{dE/16}$ 175°C 300°C	DIN 52913	 [N/mm2] [N/mm2]	 38 28
Compressibility	ASTM F 36 J	[%]	7
Recovery	ASTM F 36 J	[%]	62
Cold compressibility σ_{KSW}	DIN 28090-2	[%]	5.5
Cold recovery σ_{KRW}	DIN 28090-2	[%]	3
Hot creep $\sigma_{WSW/200}$	DIN 28090-2	[%]	12
Hot recovery $\sigma_{WRW/200}$	DIN 28090-2	[%]	1.5
Specific leakage rate	DIN 3535-6	[mg/(s*m)]	≤ 0.100
Fluid resistance	ASTM F 146		
ASTM IRM 903 Weight change Thickness increase	5h/150°C	 [%] [%]	 7 2
ASTM Fuel B Weight change Thickness increase	5h/23°C	 [%] [%]	 9 4
Leachable chloride content	FZT PV-001-1330	[ppm]	≤ 150

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