

# HiMod® FlatSeal™ 30 & 31

The intelligent  
problem solvers



**Your Partner for Sealing Technology**

## A range of gaskets to meet market needs

The HiMod® flat gasket range consists of products that will satisfy the requirements of the majority of gasket applications within aerospace, chemical and processing industries. It offers compliance with virtually all relevant standards including FDA, blowout and fugitive emissions.

## HiMod® FlatSeal™ 30 and 31

A combination of expanded graphite and expanded flat metal inlay makes these seals intelligent problem solvers, adapting to any flanges they are fitted to.

## Applications

- Saturated and superheated steam
- Systems using heat transfer fluids
- Chemical and petrochemical industry
- Power generation
- Corrugating machines
- Large diesel engines
- Marine equipment

## Standards

HiMod® FlatSeal™ 30: DVGW, Firesafe, BAM  
HiMod® FlatSeal™ 31: DVGW, TA Luft, Firesafe, BAM

## Features and benefits

- Manufactured from expanded graphite with an expanded metal inlay
- Available in very slim profiles
- Outstanding oxidation values
- High resistance to superheated steam
- Practically no creep at high temperatures
- Insensitive to changing loads
- Optimal surface pressure distribution
- Suitable for temperatures between -200 °C and +550 °C
- Universal chemical resistance
- Maximum adaptability to flange unevenness
- Can be used at internal pressure levels up to 250 bar
- HMF31 complies with TA Luft

## Good for people and the environment

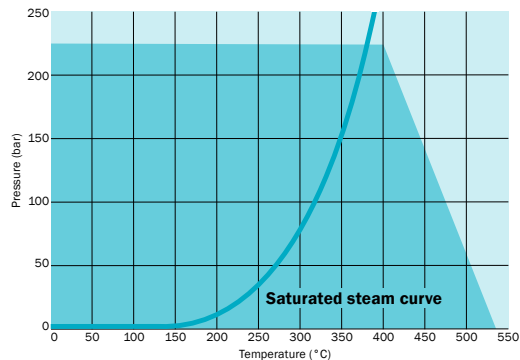
HiMod® FlatSeal™ 30 and 31 are manufactured in facilities that comply with ISO/TS 16949 and ISO 14001. This means complete transparency in all areas of production and a high degree of security for our customers.

# Technical information about HiMod® FlatSeal™ 30 & 31

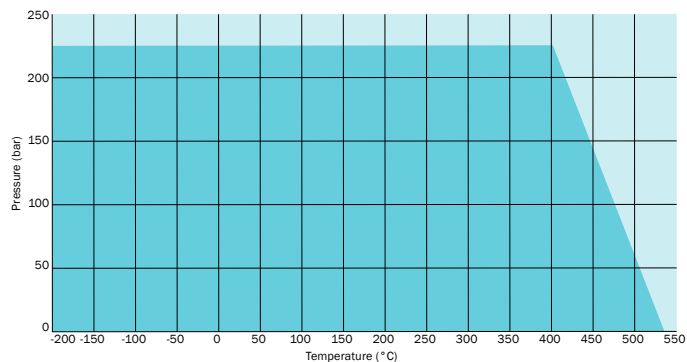
## Recommendations for use

### HiMod® FlatSeal™ 30 & 31

#### Water/steam



#### Other Media



The temperature and pressure recommendations in the graphs apply to gaskets with a thickness of 2.0 mm and smooth flanges. Higher stresses are possible when thinner gaskets are used.

## Material data

General data	HMF30	HMF31
<b>Elements</b>	Expanded graphite (purity of at least 99%) with an insert from acid-proof stainless and expanded steel (1.4404, AISI 316L)	Expanded graphite (purity of at least 99%) with an internal impregnation and an insert from acid-proof stainless and expanded steel (1.4404, AISI 316L)
<b>Approvals</b>	DVGW, Firesafe, BAM	DVGW, TA Luft, Firesafe, BAM
<b>Color</b>	graphite gray with black label	graphite gray with platinum gray label
<b>Thickness in mm</b>	Thicknesses available HMF30: 1.0/ 1.5/ 2.0/ 3.0 HMF31: 1.0/ 1.5/ 2.0/ 3.0 Other thicknesses are available on request	

Physical parameters	Test standard	Unit	Value* HMF30	Value* HMF31
Sample thickness 2.0 mm				
<b>Identification</b>	DIN 28 091-4		GR-10-I-1M-Cr	GR-10-I-1M-Cr
<b>Density</b>	DIN 28 090-2	[g/cm <sup>3</sup> ]	1.35	1.30
<b>Tensile strength</b>	DIN 52 910	[N/mm <sup>2</sup> ]	17	20
<b>Residual stress</b> $\sigma_{dE/16}$ at 300 °C	DIN 52 913	[N/mm <sup>2</sup> ]	≥45	≥45
<b>Compressibility</b>	ASTM F 36 J	[%]	40	35
<b>Recovery</b>	ASTM F 36 J	[%]	15	18
<b>Cold compressibility</b> $\epsilon_{kSW}$	DIN 28 090-2	[%]	39	35
<b>Cold recovery</b> $\epsilon_{kRW}$	DIN 28 090-2	[%]	4.0	4.0
<b>Hot creep</b> $\epsilon_{WSW/150}$	DIN 28 090-2	[%]	2.0	3.0
<b>Hot recovery</b> $\epsilon_{WRW/150}$	DIN 28 090-2	[%]	3.5	3.0
<b>Leakage</b>	DIN 3535-6	[mg/(m <sup>2</sup> s)]	≤ 0.100	≤ 0.010
<b>Leakage TA Luft</b> Component testing 30 MPa, 300 °C, 1 bar Helium	VDI 2200	[mbar/(m <sup>2</sup> s)]	–	≤ 0.0001

\* Mode (typical value)

For further information on the entire HiMod® FlatSeal™ range please contact your local Trelleborg Sealing Solutions marketing company.

[www.tss.trelleborg.com](http://www.tss.trelleborg.com)