novaMICA® THERMEX
High-pressure gasket material made from phlogopite mica for extremely high temperatures.

Material profile

Gasket material made from processed phlogopite mica with an expanded stainless steel metal insert (material no. AISI 316L / 1.4404).

Thanks to this profile, the material has excellent properties:

- **Extremely high temperature stability (up to 1000 °C)**
- **Low long-term leakage even at high temperatures due to the expanded metal insert**
- **Reliable handling**
- **Smooth processability by all standard manufacturing processes**

Application areas

novaMICA® THERMEX is the ideal choice for applications in the exhaust systems of all combustion engines and units as well as in turbochargers and compressors. The gasket material is insensitive to changes in temperature loads. In line with the requirements of such applications, novaMICA® THERMEX can be combined very effectively with an inner eyelet.

Good for people and the environment

Frenzelit has obtained certification that the company complies with the requirements of ISO 9001, ISO/TS 16949 and ISO 14001. This means complete transparency in all areas and a high degree of security for our customers.

Do you have any questions about your application? The gasket information service will help you:
gaskets@frenzelit.de

GASKETS

TECHNICAL TEXTILES

EXPANSION JOINTS

INSULATION

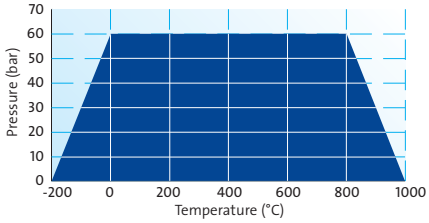
NEW MATERIALS

Frenzelit

creating hightech solutions

Technical information about novaMICA® THERMEX

Recommendations for exhaust applications



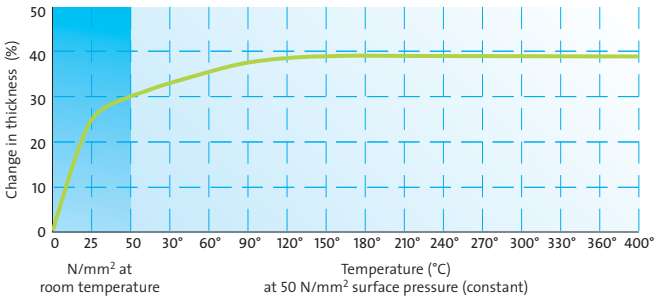
Please consult our application engineering specialists about use in different media and with higher internal pressure levels.

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!

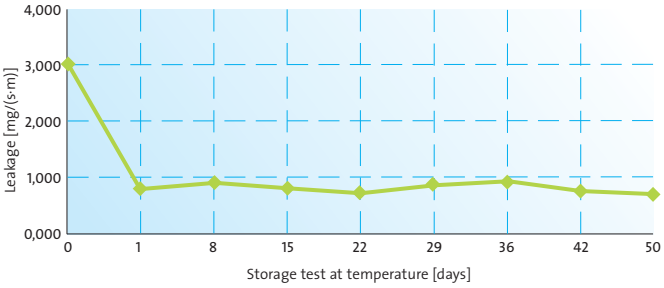
*Please contact our application engineering specialists for exact data about specific individual cases.

Warranty exclusion
In view of the variety of different installation and operation conditions and application and process engineering options, the information given in this prospectus can only provide approximate guidance. There is as a result no basis for warranty claims.

Compression set – Temp-Test 2.0 mm



Long-term leakage at 500 °C 5 bar N_2 acc. to DIN 28 090-1



The material achieves its maximum sealing efficiency at higher temperatures.

Material characteristics

General information

Binders	Silicone resin
Identification colour	Greenish-gold (typical mica colour)
Non-stick coating	Not necessary
Dimensional and thickness tolerances	according to DIN 28 091-1

Physical parameters Sample thickness 2.0 mm	**Test standard**	**Unit**	**Value***
Density	DIN 28 090-2	[g/cm³]	1.60
Tensile strength	DIN 52 910		
longitudinal		[N/mm²]	35
transverse		[N/mm²]	35
Residual stress $\sigma_{dE/16}$	DIN 52 913		
300 °C		[N/mm²]	32
Compressibility	ASTM F 36 J	[%]	25
Recovery	ASTM F 36 J	[%]	30
Cold compressibility ε_{KSW}	DIN 28 090-2	[%]	20
Cold recovery ε_{KRW}	DIN 28 090-2	[%]	5
Hot creep $\varepsilon_{WSW/300}$	DIN 28 090-2	[%]	10
Hot recovery $\varepsilon_{WRW/300}$	DIN 28 090-2	[%]	2
Recovery R	DIN 28 090-2	[mm]	0.04
Thermal conductivity (perpendicular)		[W/(m·K)]	0.3
Dielectric strength	IEC 243-23 °C	[kV]	30
Specific leakage rate 20 °C/5 bar	DIN 28 090-2	[mg/(s·m)]	3
Specific leakage rate 500 °C/5 bar	DIN 28 090-2	[mg/(s·m)]	0.8

* Mode (typical value)

Product data

- Dimensions in mm: 1000 x 1200
- Thicknesses in mm: 1.0/1.5/2.0/3.0
- Further dimensions and thicknesses are available on request

Installation instructions

- Clean the surfaces that are to be sealed, remove what is left of old gaskets without damaging the flange surface.
- Check whether the flange surfaces are parallel / wavy and readjust them if necessary.
- Before installing gaskets that have been stored under dry conditions, check them for cracks, surface damage, dimensional accuracy and – in the case of perforated gaskets – congruence of the perforation pattern with the flange.
- Do not use any auxiliary sealing agents!
- Make sure that screws work properly before starting installation and use new screws if necessary.
- Consistent and careful initial installation by hand.
- Tighten the screws diagonally using a torque wrench in three stages (about 50 % torque at first, then about 80 % and, finally, 100 %).

FL/3/06.11/01/FL

Frenzelit Werke GmbH
P.O. Box 11 40 · 95456 Bad Berneck · Germany
Phone: +49 9273 72-0 · Fax: +49 9273 72-221
info@frenzelit.de · www.frenzelit.com