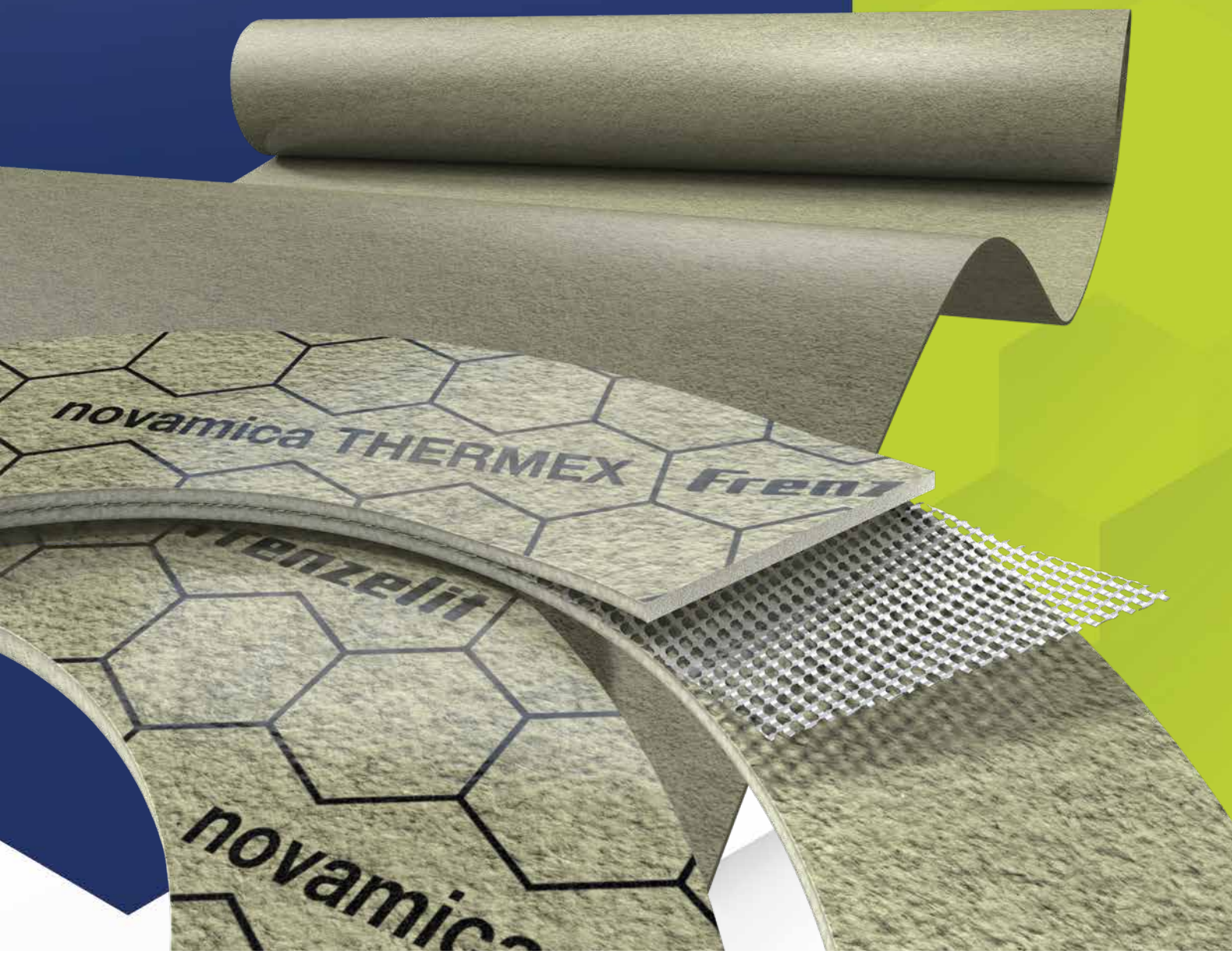
Frenzelit

novamica®

Phlogopite mica gaskets

For highest temperatures, chemical resistance and electrical insulation



DICHTUNGEN GASKETS | **ISOLATIONEN** INSULATION | **KOMPENSATOREN** EXPANSION JOINTS

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HIGH-TEMPERATURE
phlogopite mica-based material

novamica® THERMEX | novamica® 200 | novamica® 100 REEL

novamica® is a gasket material made from optimized phlogopite mica with outstanding temperature resistance, chemical resistance, electrical insulation and processing properties.

ADVANTAGES:

- Sealing at high temperatures up to 1000 °C
- Sealing of aggressive/corrosive media at high temperatures
- Mica facing materials for kammprofile seals or filler for spiral wound gaskets
- Easy processability of filigree and complex gasket geometry
- Processability with all the standard methods (plotter, water jet, punch, shears, cutter)

Typical applications areas

- Mechanical engineering
- Process industry
- Energy sector
- Glass industry
- Furnace manufacturing
- Automotive/mobility

Applications

- Gaskets (high-temperature)
- Electrical insulation
- Facing material
- Temperature-resistant compensation elements

Excellent material characteristics

The phlogopite mica used in novamica® products resists temperatures up to 1000 °C and above. Other mica materials are far less resistant. Muscovite mica starts to calcinate at about 600 °C, for example, while mica-like structures such as vermiculites begin to calcinate at as low as 100 °C.

The material combination consisting of high-quality phlogopite mica, an effective binder system and expanded metal (THERMEX) makes it possible to produce premium solutions for a wide range of high-temperature applications.

Please note: novamica® materials guarantee continuously high sealing tightness after initial temperature exposure in the respective application. Tightness tests at room temperature without previous temperature increase do not provide any real indication of actual performance.

Material combinations and delivery formats

novamica®	THERMEX	200	100 REEL
High-quality phlogopite mica	✓	✓	✓
Stainless steel expanded metal insert	✓		
High-temperature binder system	✓	✓	✓
Product data (tolerances according to DIN 28091-1)			
Sheets	[mm] 1200 x 1000 *Thickness:* [mm] 1.0 / 1.5 / 2.0 / 3.0 / 4.0 / 5.0	[mm] 1200 x 1000 *Thickness:* [mm] 0.5 / 0.8 / 1.0 / 1.5 / 2.0 / 3.0 / 4.0 / 5.0	
Reels			*uncut:* Reel width [mm] 1000 Reel length [m] 50 *cut:* Reel width [mm] 5.6 / 6.0 / 6.5 / 7.0 / 7.2 / 8.0 Reel length [m] 50 *Thickness:* [mm] 0.5

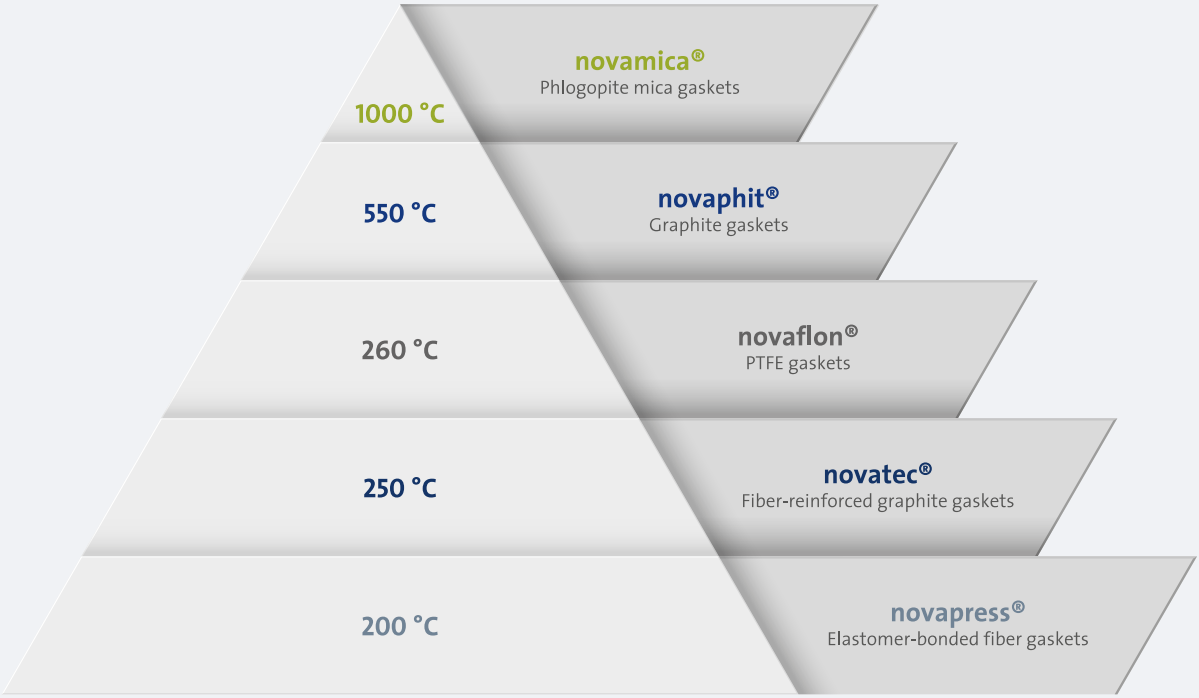
TECHNICAL DATA
Material information and application temperature limits

Material data

General data			novamica® THERMEX				novamica® 200		novamica® 100 REEL	
Color			green-gold (characteristic of mica)				green-gold (characteristic of mica)		green-gold (characteristic of mica)	
Printing			black honeycomb brand				black honeycomb brand		-	
Binders			silicone resin				silicone resin		silicone resin	
Material of metal insert			1.4404				-		-	
Physical properties (modal values)										
Thickness			[mm]	1.5	2.0	3.0	[mm]	2.0	[mm]	0.5
Density		DIN 28090-2	[g/cm³]	1.85	1.80	1.75	[g/cm³]	1.80	[g/cm³]	1.60
Residual stress	300 °C	DIN 52913	[N/mm²]	37	32	25	[N/mm²]	32	[N/mm²]	45
Compressibility		ASTM F 36 J	[%]	18	20	22	[%]	20	[%]	26
Recovery		ASTM F 36 J	[%]	42	40	38	[%]	35	[%]	32
Cold compressibility ε_{KSW}		DIN 28090-2	[%]	15	15	15	[%]	12	[%]	-
Cold recovery ε_{KRW}		DIN 28090-2	[%]	5	5	5	[%]	3	[%]	-
Hot creep $\varepsilon_{WSW/300}$		DIN 28090-2	[%]	10	10	10	[%]	10	[%]	-
Hot recovery $\varepsilon_{WSW/300}$		DIN 28090-2	[%]	2	2	2	[%]	2	[%]	-
Specific leakage rate	20 °C / 5 bar 500 °C / 5 bar	DIN 28090-2	[mg/m/s]	3 0.8	3 0.8	3 0.8	[mg/m/s]	- -	[mg/m/s]	- -
Tensile strength transverse		DIN 52910	[N/mm²]	30	25	20	[N/mm²]	25	[N/mm²]	-
Dielectric strength	23 °C	IEC 243	[kV/mm]	17.5	17.5	17.5	[kV/mm]	19	[kV/mm]	17
Electrical conductivity			[S/cm]	$1.0 \cdot 10^{-14}$			[S/cm]	$1.0 \cdot 10^{-14}$	[S/cm]	$5.9 \cdot 10^{-13}$
Thermal conductivity (perpendicular)	23 °C		[W/(m·K)]	0.09			[W/(m·K)]	0.07	[W/(m·K)]	0.07
Flammability test		ASTM SAE J369	DNI (= does not ignite)				DNI (= does not ignite)		DNI (= does not ignite)	

Subject to technical data changes as part of product improvement.

Application temperature limits



OUR COMMITMENT
to people and the environment.

As a company with a rich tradition, we care about long-term success and the satisfaction of our customers. Quality is always a top priority for us – as is our commitment to the environment, society and our employees.

We also pride ourselves on always considering our customers' present and future needs, something that is apparent in our application consulting, training seminars and installation services.
A development partnership with us is an excellent opportunity for you to optimize products that are already a success – and a great way to get your new developments to the market even faster. We help you modify products or support you in implementing innovative material concepts – and create real added value for you.

GASKET MATERIALS

- **novapress®** *approx. -100 to 200 °C*
- **novatec®** *approx. -100 to 250 °C*
- **novaflon®** *approx. -200 to 260 °C*
- **novaphit®** *approx. -200 to 550 °C*
- **novamica®** *approx. -200 to 1000 °C*

INSULATION MATERIALS

- **isoplan®** *approx. -100 to 1100 °C*

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ONLINE Design Software

Your Specialist Partner

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creating hightech solutions