novatec® SPECIAL - Engineered graphite with Kevlar®

Reliable at temperatures up to 360°C

novatec® SPECIAL combines the positive gasketing properties of graphite and Kevlar®.
The material owes its excellent reliability even at extremely high temperatures to a very low percentage of binders used. The extraordinary safety in operation of novatec® SPECIAL reduces the costs for maintenance and changing the gaskets to a minimum; this investment is surely worthwhile in order to increase the safety in operation.

Very high adaptability

Due to its material structure novatec® SPECIAL distinguishes itself by its excellent adaptability to flange irregularities. This flexibility allows novatec® SPECIAL to also be used in old flanges – which is surely a contribution to reducing costs.

Very high stress relaxation

novatec® SPECIAL offers constant security during maintenance intervals due to its excellent long-term stability. The high stress relaxation as well as the longer life of novatec® SPECIAL increase the intervals between maintenance – a further contribution to cost reduction.

Safe handling due to high flexibility

The patented combination of graphite and Kevlar® makes novatec® SPECIAL extremely flexible and resistant to fracture. Installation problems are a matter of the past.

Dimensions in big sizes for gaskets from one piece

The available dimensions make superfluous complicated processing steps with special dimensions.

"Tool-protecting effect" in cutting

novatec® SPECIAL is perfectly suitable for cutting even with simple tools due to the "lubricating effect" of the graphite and the missing metal inserts.

Kevlar® is a DuPont registered trademark.

Material data

General Data

Binders	NBR
Approvals	KTW
Colour	golden brown
Anti-stick coating	both sides A310 standard
Sheet size and thickness tolerance	acc. DIN 28 091-1

Physical properties Gasket thickness 2.0 mm	**Standard**	**Unity**	**Value ***
Identification	DIN 28 091-2		FA – A 1 - O
Density	DIN 28 090-2	[g/cm³]	1.00 ± 0.05
Tensile strength	DIN 52 910		
longitudinal		[N/mm²]	≥ 2.0
transverse		[N/mm²]	≥ 1.2
Residual stress $\sigma_{dE/16}$	DIN 52 913		
175 °C		[N/mm²]	≥ 40
300 °C		[N/mm²]	≥ 38
Compressibility	ASTM F 36 J	[%]	45 ± 5
Recovery	ASTM F 36 J	[%]	≥ 8.0
Fluid resistance	ASTM F 146		
ASTM IRM 903	5h / 150 °C		
Weight change		[%]	≤ 45
Thickness increase		[%]	≤ 2
ASTM Fuel B	5h / 23 °C		
Weight change		[%]	≤ 40
Thickness increase		[%]	≤ 2
			* = Mode (typical value)

Typical applications

- The steam gasket used in power plants
- Application in the general and chemical industry for oils, water, steam, weak acids and alkalis

Supply data

- Dimensions in mm: 1000 x 2000
  1500 x 1500
  2000 x 1500
- Thicknesses in mm: 1.0/1.5/2.0/3.0
- Further dimensions and thicknesses are available on request.

Quality Management

ISO 9001

ISO/TS 16949

Environmental Management

ISO 14001

All previous versions of this prospectus cease to apply. Subject to technical amendment.

FZ/3/08.10/001/FZ

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

Frenzelit

creating hightech solutions

Technical Data Sheet

Frenzelit

novatec® SPECIAL — *engineered graphite with Kevlar®*

Material profile:
- highly adaptable gasket material with a high percentage of graphite, flexible, easy to cut
- very good stress relaxation
- excellent chemical and thermal resistance

Typical applications:
- THE steam gasket used in power plants
- Application in the general and chemical industry for oils, water, steam, weak acids and alkalines

Supply data:
- Sheet sizes in mm: 2000 x 1500 / 1500 x 1500 / 1000 x 2000
- Thickness in mm: 1.0 / 1.5 / 2.0 / 3.0
- Special sizes upon request
- Other thicknesses upon request

General data	Binders:	NBR		
	Approvals:	KTW		
	Colour:	golden brown		
	Branding:	Honeycomb with Novatec Special		
	Anti-stick coating:	both sides A310		
	Tolerances in thickness:	acc. DIN 28091-1		
Physical properties (Gasket thickn. 2.0 mm)	**Property**	**Standard**	**Unity**	**Value ***
	Identification	DIN 28 091-2		FA - A 1 - O
	Density	DIN 28 090-2	[g/cm³]	1.00 ± 0.05
	Tensile strength	DIN 52 910		
	longitudinal		[N/mm²]	≥ 2.0
	transverse		[N/mm²]	≥ 1.2
	Residual stress $\sigma_{dE/16}$	DIN 52 913		
	175°C		[N/mm²]	≥ 40
	300°C		[N/mm²]	≥ 38
	Compressibility	ASTM F 36 J	[%]	45 ± 5
	Recovery	ASTM F 36 J	[%]	≥ 8.0
	Fluid resistance	ASTM F 146		
	ASTM IRM903	5h/150°C		
	Weight change		[%]	≤ 45
	Thickness increase		[%]	≤ 2
	ASTM Fuel B	5h/23°C		
	Weight change		[%]	≤ 40
	Thickness increase		[%]	≤ 2

* = Mode (typical value)

Issue: 12.08

Modifications: 5

Supersedes all prior versions

The technical data stated has been determined with standard material under laboratroy conditions. With the variety of installation and operating conditions no guarantee claim can be inferred regarding the behaviour of a flanged joint.

We reserve the right to product changes which serve the purpose of technical progress.

Frenzelit Werke GmbH · Postfach/P.O.Box 11 40 · 95456 Bad Berneck/Germany
Phone: +49 9273 72-0 · Fax: +49 9273 72-222 · E-Mail: info@frenzelit.de · Internet: www.frenzelit.com