

novapress® 850

Extreme adaptability.

High fault tolerance.

Maximum sealing performance.



GASKETS

TECHNICAL TEXTILES

EXPANSION JOINTS

INSULATION

NEW MATERIALS

 **Frenzelit**  
creating hightech solutions

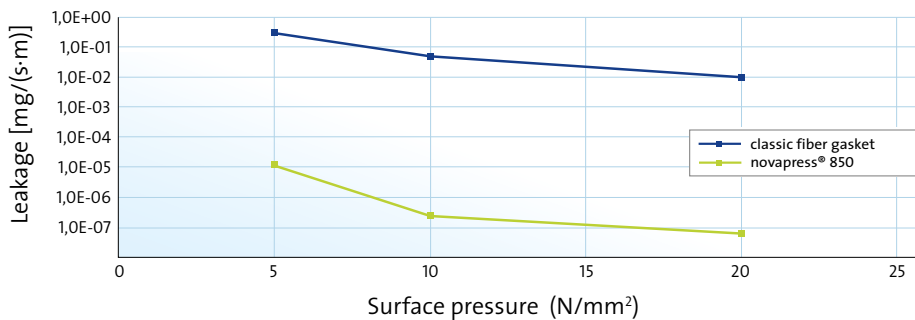
# A quantum leap in tightness

Maximum sealing performance is one of the key requirements for gasket materials to ensure superior leakage properties. Until now, conventional fiber gaskets could not compete with elastomer gaskets in terms of tightness. novapress® 850 opens up a new dimension of tightness: novapress® 850 can be used to create reliable gasket systems even with minimal surface pressure thanks to its

unique raw material concept and sophisticated process technology that results in significantly higher adaptability compared to all conventional fiber gaskets.

**novapress® 850 represents a quantum leap in tightness.**

## Comparison of leakage properties novapress® 850 Ring dimension 92 x 49 x 1 mm, 10 bar helium



## Quality assurance thanks to a process control system throughout the entire production process.

novapress® products are state-of-the-art gasket sheets manufactured using the calendering process. The blends consist exclusively of high-quality raw materials obtained from renowned suppliers. Every batch is subject to precise specifications and undergoes a rigorous inspection upon receipt to ensure that only perfect raw materials are used for production.

A process control system is used to monitor and control the preparation of the formulations, the blending operation and finally the calendering process itself. This guarantees consistently high quality at all times. Every sheet has a unique batch number and is additionally equipped with our new Gasket Code Technology – for full traceability.

We are here for you to answer your application engineering questions:  
[gaskets@frenzelit.com](mailto:gaskets@frenzelit.com)



# The tightness of an elastomer gasket with the robustness of a fiber gasket

novapress® 850 closes the gap between fiber and elastomer gaskets while combining the positive properties of both materials:

- **Excellent adaptability**
  - almost like an elastomer gasket
- **Mechanical stability**
  - like conventional fiber gaskets

Its innovative combination of key properties makes novapress® 850 ideal for applications where rubber gaskets and conventional fiber gaskets fall short. It is the right choice for numerous applications thanks to its outstanding adaptability during installation, excellent tightness during operation and high mechanical stability even under temperature stress.

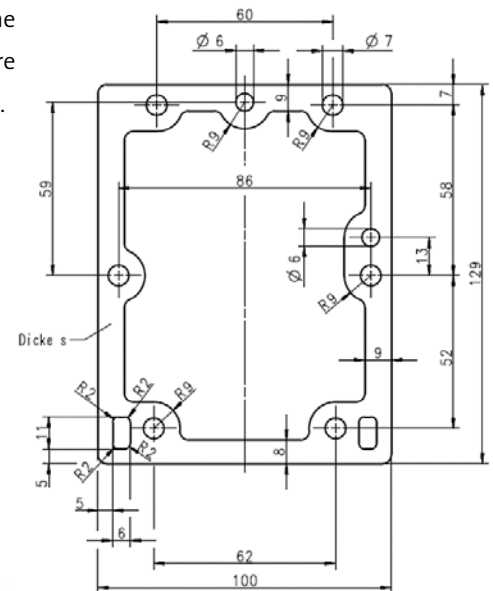
novapress® 850 satisfies requirements that were previously considered unsolvable. Wide bolt spacing in easily deformed components with low bolt forces creates only partial, minimal surface pressure. Conventional fiber gaskets are not able to achieve the desired tightness in such cases. Rubber gaskets, on the other hand, cannot handle the mechanical conditions – especially under temperature stress. novapress® 850 brings together the positive properties of both products in a completely new material composition. novapress® 850 is soft and adaptable at the beginning of the fitting process, yet still provides the mechanical robustness of a conventional fiber gasket throughout the entire application. At the same time, novapress® 850 offers nearly the same tightness level of standard elastomer products.

## Resistant to oils, fuels and refrigerants

novapress® 850 is superior to conventional elastomer gaskets in terms of chemical resistance, making it ideal for use in oils, fuels and refrigerants.

## novapress® 850: The perfect solution for transmissions

Thanks to its excellent adaptability, novapress® 850 easily meets the demands in transmissions and perfectly compensates for the low surface pressure in these applications.



Installation situation



## Gasket Code Technology for full traceability of every gasket

Until now, it was not possible to identify the material with 100% assurance after the first punching or cutting operation; in some cases it was no longer possible to identify it at all. Frenzelit has developed its own Gasket Code Technology, which gives novapress® 850 a unique and permanent "fingerprint" that not only identifies the material but also provides information about the production batch.

Now you can get all the information you need even from removed gaskets to clearly identify the product and its production batch – no matter what level of temperature and media exposure it has been subject to. This makes novapress® 850 suitable for "Industry 4.0" applications, which require transparency of all plant components, and paves the way for the future of "articulate" gasket connections.



# Perfect for a variety of applications

## Compliance with food industry regulations according to EC 1935/2004 and FDA

novapress® 850 complies with current regulations for use in contact with food such as EC 1935/2004 and FDA. This makes novapress® 850 suitable for many food industry applications.



Food industry application

## Use in drinking water according to the elastomer guideline

novapress® 850 easily satisfies the criteria of the new elastomer guideline for use in drinking water for both cold and hot water applications. novapress® 850 also passes W270 tests with flying colors. This means that novapress® 850 is perfect for use in drinking water applications and can even replace the commonly used rubber-steel gaskets with ease. A special advantage for utility companies: novapress® 850 can be used for gas and drinking water!

## DVGW and VP 401 – ideal for gas utilities

novapress® 850 meets the requirements of regulations for use in gas plants – in both industrial and domestic applications (service lines).



Gas transfer station



Gas meter gasket

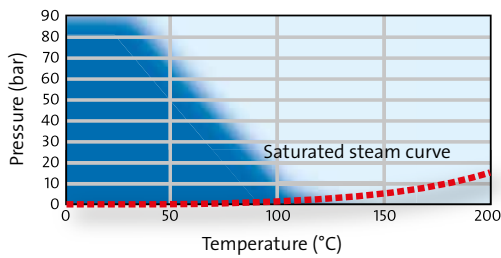


Use in drinking water supply

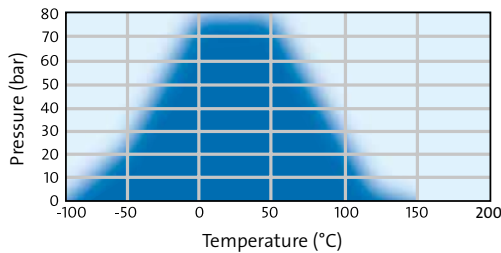
## Recommendations for use

Depending on pressure and temperature levels

### Water/ water vapor



### Other media\*



#### Note about the recommendations for use

The temperature and pressure recommendations in the graphs apply to gaskets 2.0 mm thick that are used with raised face flanges. Higher stresses are possible when thinner gaskets are used! The information provided should therefore be considered cautious estimates rather than specific operational limits.

\* Example for the most common other media. Precise data for individual cases can be obtained from the Frenzelit novaDISC program or by contacting our application engineering specialists.

## Material data

### General information

Approvals and tests: Blow-out VDI 2200, DVGW, EG 1935/2004, FDA, GL, TA Luft, VP 401, W270, WRAS, drinking water according to the elastomer guideline ("KTW")

Identification color: Light brown

Physical properties	Test standard	Unit	Value*
Sample thickness 2.0 mm			
Density	DIN 28 090-2	[g/cm <sup>3</sup> ]	1.35
Residual stress 175 °C	DIN 52 913	[N/mm <sup>2</sup> ]	26
Compressibility	ASTM F 36 J	[%]	39
Recovery	ASTM F 36 J	[%]	60
Cold compressibility $\epsilon_{KSW}$	DIN 28 090-2	[%]	20
Cold recovery $\epsilon_{KRW}$	DIN 28 090-2	[%]	12
Hot creep $\epsilon_{VSW/200}$	DIN 28 090-2	[%]	30
Hot recovery $\epsilon_{VRW/200}$	DIN 28 090-2	[%]	1
Specific leakage rate	DIN 3535-6	[mg/(s·m)]	0.001
Tensile strength transverse	DIN 52 910	[N/mm <sup>2</sup> ]	5
Media resistance	ASTM F 146		
ASTM IRM 903	5 h / 150 °C		
Weight change		[%]	8
Thickness change		[%]	2
ASTM Fuel B	5 h / 23 °C		
Weight change		[%]	12
Thickness change		[%]	9
Leachable chloride content	PV 01605	[ppm]	≤ 150

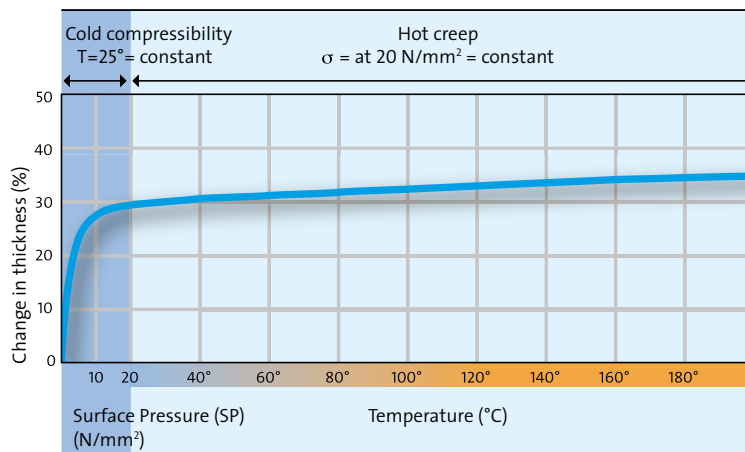
\*Modal value (typical value)

### Product data (tolerances acc. to DIN 28 091-1)

Dimensions [mm]	1000 x 1500 / 1500 x 1500 / 3000 x 1500
Thicknesses [mm]	0.3 / 0.5 / 0.75 / 1.0 / 1.5 / 2.0 / 3.0

## Temp-Test

at 20 MPa – sample thickness: 1.0 mm



#### Note about the Temp-Test:

The purpose of the Temp-Test is to determine how the gasket deforms under certain conditions. It is a special test developed by Frenzelit that represents what is effectively a "fingerprint" of key gasket properties.

The compression set of the gasket at room temperature is determined in the first part of the test. This curve indicates the adaptability of the gasket during installation.

In the second part of the test, the temperature is increased at a specified speed, while the surface pressure reached in the first part is held at a constant level. Thus the system is not allowed to "relax" as a result of gasket compression. This is excessive – the load on the gasket would be lower in a real gasket connection – but it reveals the true character of the gasket.

#### Warranty disclaimer

In view of the variety of different installation and operating conditions along with application and process engineering options, the information given in this brochure can only provide approximate guidance and cannot be used as the basis for warranty claims.

# Good for people and the environment.

From research and development to our manufacturing operations and use of the product by the customer: quality assurance and a responsible approach to resources and the environment are a firm commitment we observe in everything we do throughout the life cycle of all products.

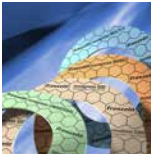



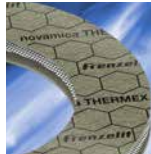

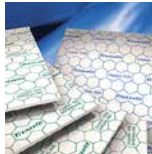
The Frenzelit gasket division has obtained certification that the company complies with the requirements of ISO 9001, ISO 14001 and ISO 50001. This means complete transparency in all areas and therefore provides a high degree of security – for the benefit of our employees, the environment and our customers.

**Quality management** ISO 9001

**Environment management** ISO 14001

**Energy management** ISO 50001

## Engineered by Frenzelit: Gasket materials/fiber-reinforced compounds

novapress®	novatec®	novaflo®	novaphit®	novamica®	novaplan®	isoplan®
						
200°C	250°C	260°C	550°C	1000°C	1000°C	1100°C
-100°C	-100°C	-200°C	-200°C	-200°C	-100°C	-100°C
Elastomer-bonded fiber gaskets	Fiber-reinforced graphite gaskets	Modified and filled PTFE gaskets	Expanded graphite with/without stainless steel expanded metal insert	Phlogopite mica with/without stainless steel expanded metal insert	Soft layer/insert for heat shield applications and cylinder head gaskets	High-temperature insulation materials

### GASKETS

### TECHNICAL TEXTILES

### EXPANSION JOINTS

### INSULATION

### NEW MATERIALS

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 **Frenzelit**  
creating hightech solutions