

novapress® 880

The innovative fiber gasket

Excellent combination of adaptability
and mechanical stability



ADVANCED FIBER GASKET

for the chemical industry

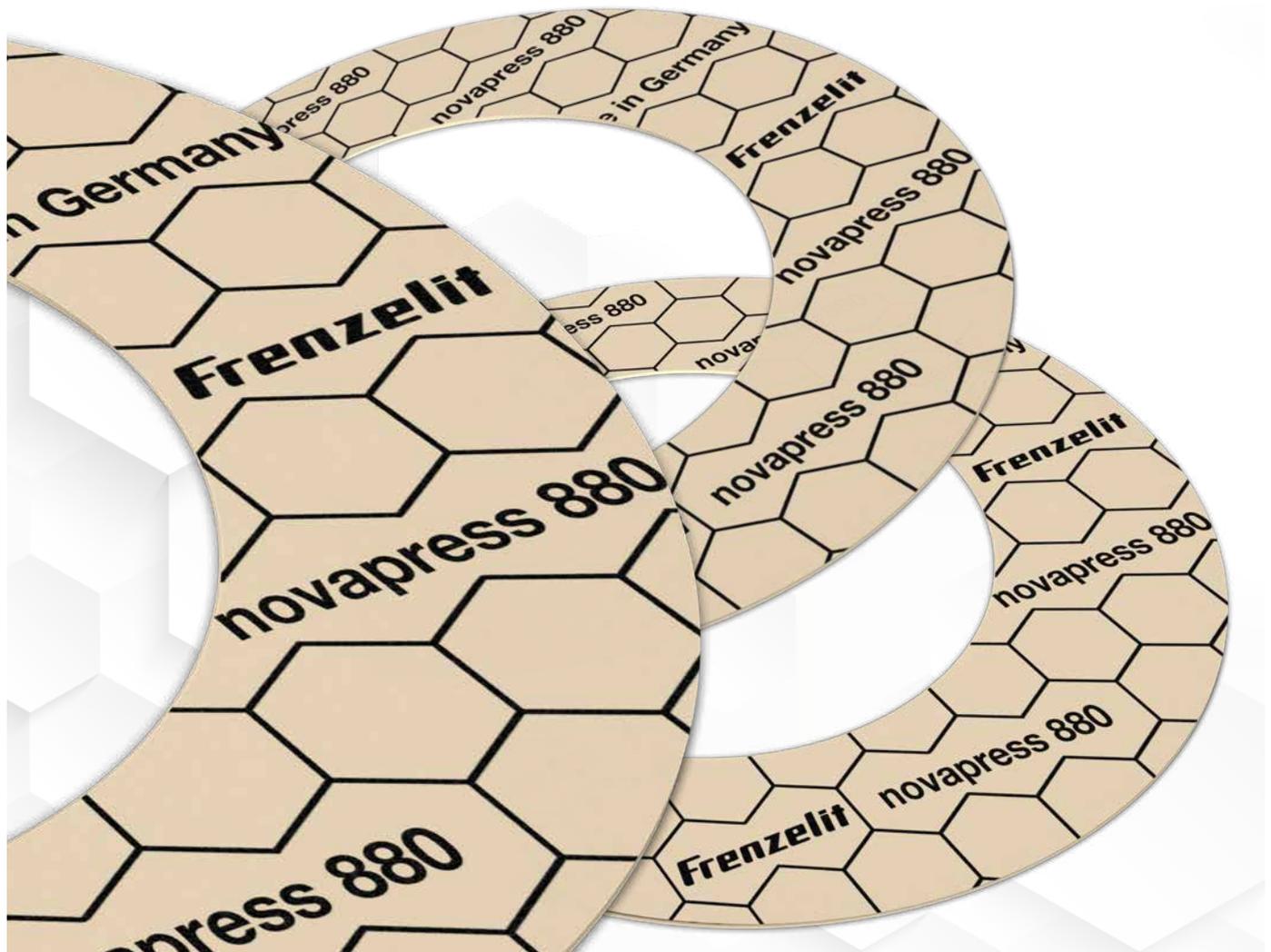
novapress® 880  [mm] | 0.3 | 0.5 | 0.75 | 1.0 | 1.5 | 2.0 | 3.0

novapress® 880 is a gasket material based on high-quality aramid fibers and special functional fillers bonded with NBR.

ADVANTAGES COMPARED TO CLASSIC FIBER GASKETS:

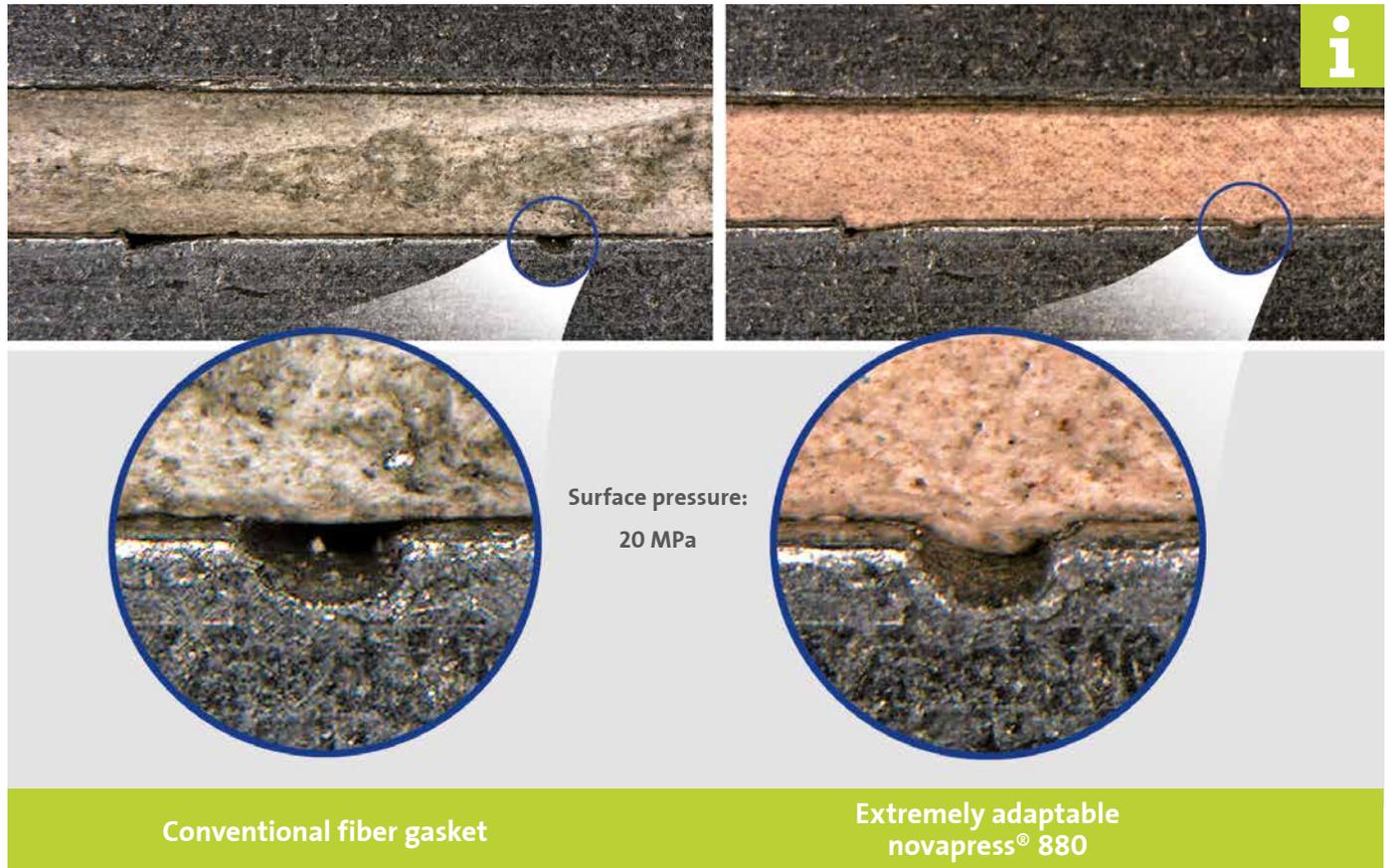


- ✓ 3x higher adaptability to flange unevenness
- ✓ Significantly higher tolerance to installation errors
- ✓ Exceptionally good leakage performance even at relatively low surface pressure levels
- ✓ Perfect for designs that comply with VDI 2290
- ✓ Good TA Luft suitability (even with manual installation)
- ✓ Less maintenance thanks to more efficient sealing properties
- ✓ Extremely low emissions



EXCELLENT ADAPTABILITY

to flange unevenness



Leakage sources

Numerous leakage tests have shown that most fiber gaskets suffer from surface leakage. Lab results and the leakages measured at real flange connections differ considerably in some cases. In particular, substantially higher leakage levels have been recorded with flanges that are not new and which show normal signs of wear or are even damaged. The limitations on surface pressure dictated by the design of the flange-bolt combination used make it difficult to satisfy legally stipulated sealing criteria in practical applications. This challenge can only be met by a gasket that is significantly more adaptable to flange unevenness.

A new level of adaptability

With a compressibility level of 18% in accordance with ASTM F36J, novapress® 880 performs three times better than conventional materials. This means that the flange unevenness mentioned above is already compensated for reliably at comparatively low surface pressure levels.

Thanks to new process technology and an optimized material composition, proven properties such as media resistance and mechanical stability under temperature stress are combined with high adaptability. The benefits of more efficient sealing properties in everyday maintenance conditions are obvious.

PERFECT FOR DESIGNS THAT COMPLY WITH VDI 2290

TA Luft suitability

A new level of gasket parameters according to DIN EN 13555

Practically all plants in modern process industry must satisfy the requirements of TA Luft (German Clean Air Act). This calls for gasket connections designed in compliance with sealing category $L_{0,01}$ as specified in VDI directive 2290 and requires exceptionally good leakage performance even at relatively low surface pressure levels. Conventional fiber gasket materials have failed to satisfy this criterion thus far. novapress® 880 makes it possible to effortlessly implement technically sound gasket system designs that offer greater reliability when subject to bolt and flange stress. Moreover, novapress® 880 has significantly higher tolerance to errors that may occur during the installation process.

Simply put: A gasket connection with novapress® 880 operates within the limits stipulated by TA Luft and VDI 2290, even in the case of manual installation – including all tightening tolerances attributable to the system.

Less than 20 MPa for the value $Q_{\min (L0,01)}$ at an internal pressure level of 40 bar is proof enough. The Q_{\min} value for the same tightness of 5 MPa is impressive for calculations according to DIN EN 1591-1. The requirements of the VCI guideline for the establishment of flange connections are also satisfied reliably with regard to the P_{QR} values.

Influence of an inner eyelet

A special feature of this extremely adaptable gasket is that it achieves the necessary performance levels with or without an inner eyelet. The user has the option of purchasing novapress® 880 punched out of a sheet or finished with a stainless steel inner eyelet – with nearly identical performance characteristics. This reduces storage and logistics in gasket production and offers potential savings.

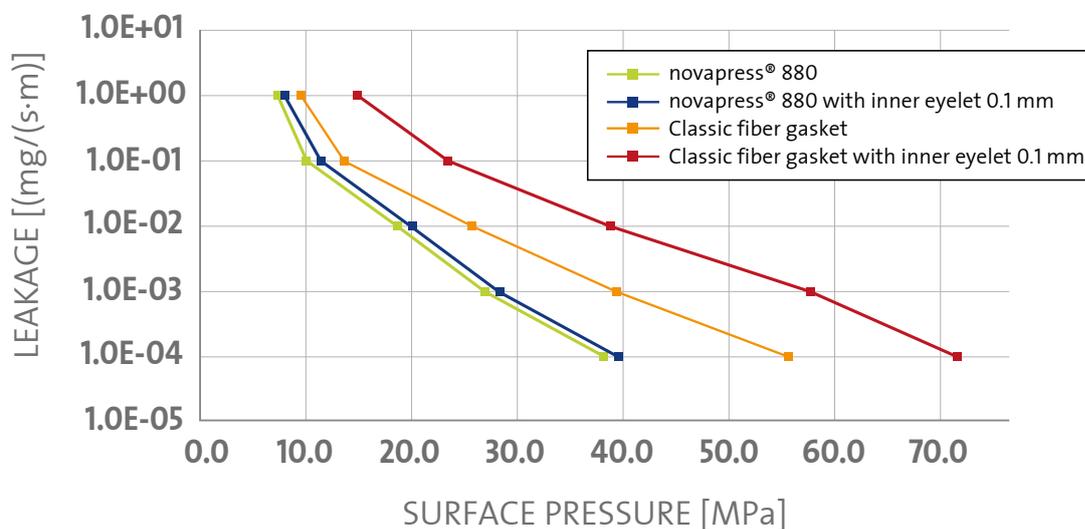


novapress® 880
with inner eyelet



novapress® 880
without inner eyelet

Leakage comparison at 40 bar



GASKET CODE TECHNOLOGY

Unique identification

A control system monitors and assures quality throughout the entire manufacturing process.

novapress® products are state-of-the-art gasket sheets manufactured using the calendering process. Only the highest quality raw materials from trusted suppliers are used in the blends. Every batch of raw material is subject not only to precise specifications but also rigorous inspection upon its receipt to ensure that only inspected and approved raw materials are used in 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 production batch is given a unique ID, which guarantees full traceability of the gasket sheet.

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® 880 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® 880 suitable for “Industry 4.0” applications, which require transparency of all plant components, and paves the way for the future of “articulate” gasket connections.



TECHNICAL DATA

Notes and application recommendations

Material data

General information		novapress® 880				
Approvals, tests		BAM, Blow-out VDI 2200, BS 7531 Grade X, DVGW, EG 1935/2004, FDA, HTB DIN 30653, Drinking Water acc. to Elastomer Guideline ("KTW"), TA Luft, W 270				
Color		beige (without color-pigments)				
Printing		black honeycomb brand				
Treatment		anti-stick coating (PTFE)				
Product data (tolerances acc. to DIN 28091-1)						
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				
Physical properties (modal values)						
Thickness		[mm]	0.5	1.0	2.0	3.0
Density	DIN 28090-2	[g/cm³]	1.3	1.3	1.3	1.3
Residual stress	300 °C DIN 52913	[N/mm²]	44	34	20	12
Compressibility	ASTM F 36 J	[%]	18	18	18	18
Recovery	ASTM F 36 J	[%]	65	65	65	65
Cold compressibility ϵ_{KSW}	DIN 28090-2	[%]	12	13	16	18
Cold recovery ϵ_{KRW}	DIN 28090-2	[%]	6	6	7	8
Hot creep $\epsilon_{WSW/200}$	DIN 28090-2	[%]	5	9	19	25
Hot recovery $\epsilon_{WRW/200}$	DIN 28090-2	[%]	2	2	2	2
Specific leakage rate	DIN 3535-6	[mg/m/s]	0.01	0.01	0.01	0.01
Tensile strength transverse	DIN 52910	[N/mm²]	6	6	6	6
Media resistance	ASTM F 146					
IRM 903 weight change	5 h / 150 °C	[%]	6	6	6	6
IRM 903 thickness change		[%]	2	2	2	2
Fuel B weight change	5 h / 23 °C	[%]	7	7	7	7
Fuel B thickness change		[%]	6	6	6	6
Leachable chloride content	PV01605	[ppm]	≤ 150	≤ 150	≤ 150	≤ 150

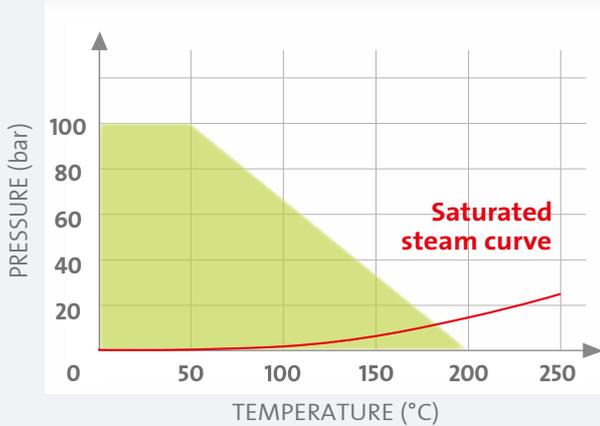
Changes to technical data reserved as part of product improvement.



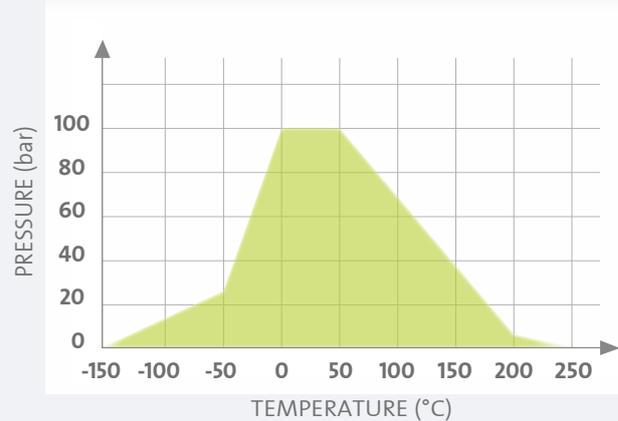
Application recommendations

Depending on pressure and temperature levels

Water/water vapor



Other media*



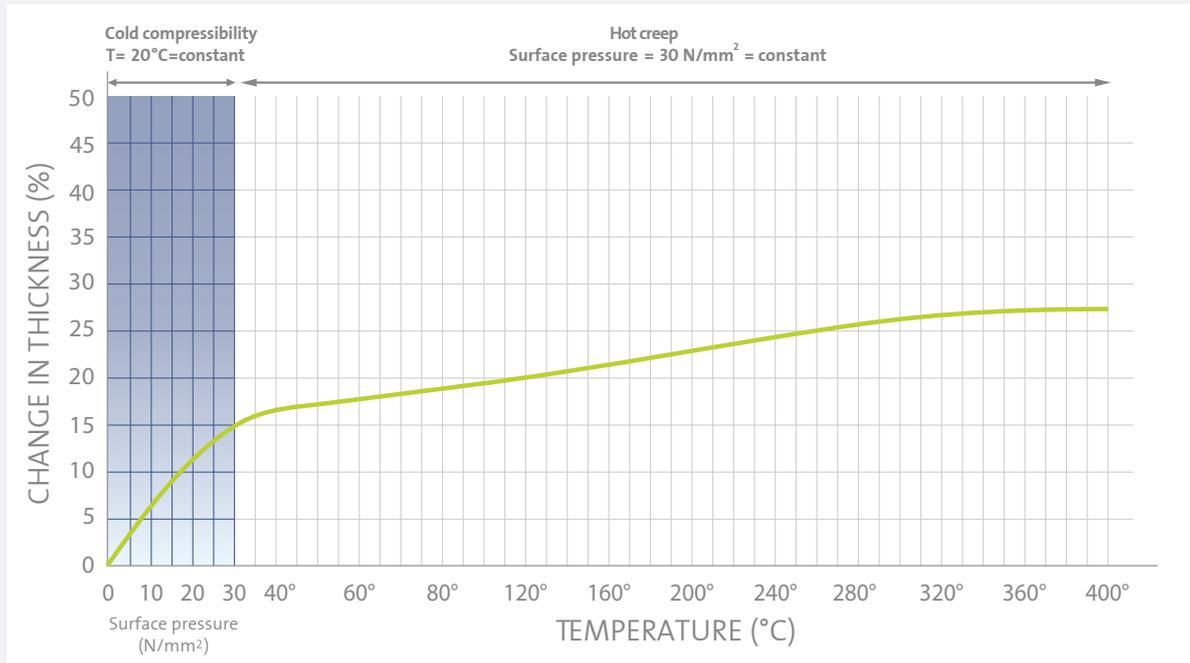
Notes on application recommendations

The temperature and pressure recommendations in the graphs apply to 2.0 mm thick gaskets 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.

Compression set

Temp-Test at 30 MPa/sample thickness: 2.0 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.

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
-  **novafilon®**
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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