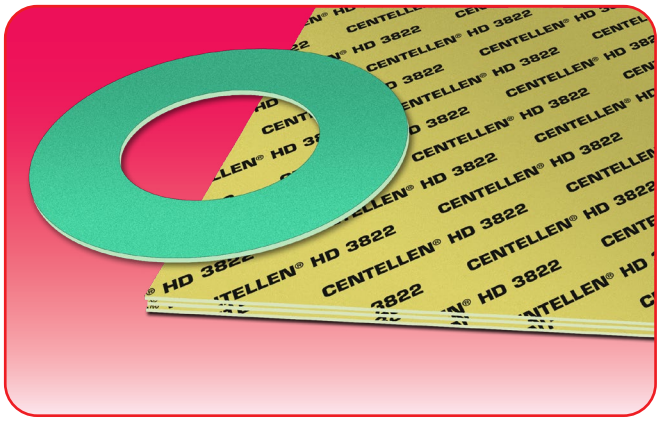
CENTELLEN® HD 3822

CENTELLEN® HD 3822 – special material with great stress relaxation and tightness. It is an improvement of the proven Centellen® WS 3820.

Centellen® HD 3822 is a calandered material. It is specifically designed for applications where the 3820 is mechanically overstressed. Due to high similarities, the chemical resistance of the Centellen® WS 3820 can also be used for Centellen® HD 3822.
Centellen® HD 3822 consists of aramid and inorganic fibers as well as mineral fillers for reinforcement bonded with NBR.
This raw material combination results in the following material profile: great stress relaxation and high tightness combined with high resistance against oils.
Due to this material properties, the material can be used for demanding applications with high internal pressure combined with medium temperature range.
Typical applications include piping in the chemical industry, general industry, sanitary industry as well as the beverage industry. The material is suitable for



hydrocarbons like oils or solvents, alcohols, glycols, aqueous solutions as well as water and steam. Weak alkalines and organic acids are also among possible applications.

Manufactured by KLINGER

Basis composition	Aramid fibers bonded with NBR.
Color	Light green / Yellow
Certificates	in progress (DVGW, TA Luft (Clean air), BAM tested, DVGW W 270, HTB, WRAS)

Sheet size	1000 x 1500 mm, 2000 x 1500 mm
Thickness	0.5 mm, 1.0 mm, 1.5 mm, 2.0 mm, 3.0 mm Other thicknesses on request
Tolerances	Thickness according to DIN 28091-1 Length: ± 50 mm Width ± 50 mm

Industry General Industry / Chemical / Oil & Gas / Energy / Infrastructure / Pulp & Paper

TECHNICAL DATA - Typical values for a thickness of 2.0 mm

Density		g/cm³	1.75
Compressibility	ASTM F 36 J	%	9
Recovery	ASTM F 36 J	%	55
Stress relaxation DIN 52913	50 MPa, 16 h/175°C	MPa	35
	50 MPa, 16 h/300°C	MPa	25
KLINGER cold/hot compression 50 MPa	thickness decrease at 23°C	%	12
	thickness decrease at 300°C	%	20
Tightness	DIN 28090-2	mg/(s x m)	0.04
Thickness increase after fluid immersion ASTM F 146	oil IRM 903: 5 h/150°C	%	5
	fuel B: 5 h/23°C	%	8
Cold compression	DIN 28090-2	%	5
Cold recovery	DIN 28090-2	%	2
Hot compression	DIN 28090-2	%	17
Hot recovery	DIN 28090-2	%	3
Max. surface pressure EN 13555	23°C	N/mm²	> 200
	200°C	N/mm²	> 200
	250°C	N/mm²	> 200

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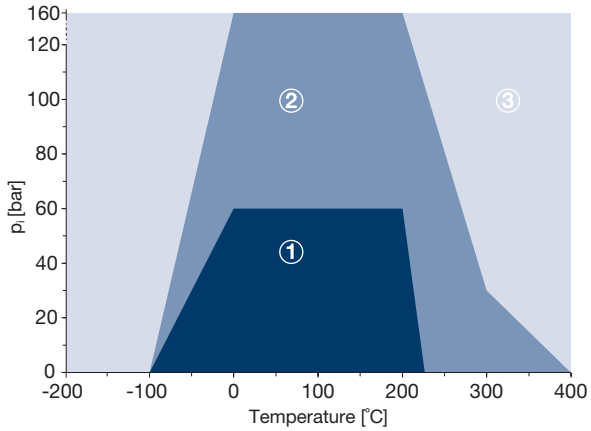
P-T diagram



The area of the P-T diagram

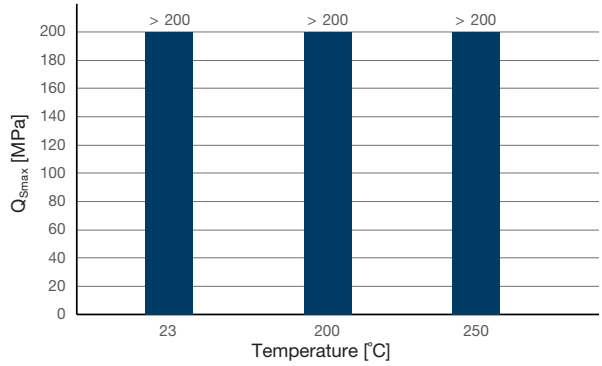
① In area one, the gasket material is normally suitable subject to chemical compatibility.

② In area two, the gasket material may be suitable but a technical evaluation is recommended.

③ In area three, do not install the gasket without a technical evaluation.

Always refer to the chemical resistance of the gasket to the media.

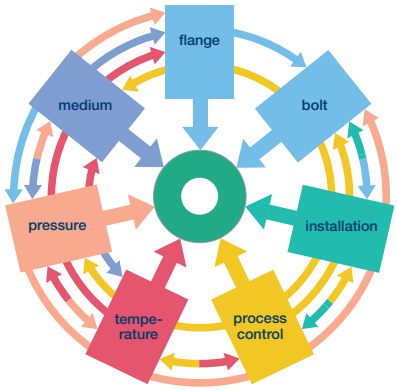
Maximum surface pressure



Maximum permissible surface pressure in operating conditions Q_{Smax} acc. to EN 13555

The maximum surface pressure in operating condition is the maximum permissible surface pressure the gasket can be loaded at the specified temperatures, without crucial plastic deformation and/or destruction of the gasket.

Tightness performance



The many and varied demands on gaskets

The functionality and tightness of flange connections depends on a large number of parameters. Maximum temperature and pressure values alone can not define a material's suitability for an application. These limits are dependent upon a multiplicity of factors as shown in the picture on the left. A statement about the expected tightness of the flange connection is only possible if a qualified and defined installation of the gasket has been executed.

Chemical resistance chart

Simplified overview of the chemical resistance depending on the most important groups of raw materials:

CENTELLEN® HD 3822 — **A**: small or no attack — **B**: weak till moderate attack — **C**: strong attack

Paraffinic hydrocarbon	Motor fuel	Aromates	Chlorinated hydrocarbon fluids	Motor oil	Mineral lubricants	Alcohol	Ketone	Ester	Water	Acid (diluted)	Base (diluted)
A	B	C	C	A	B	A	C	C	A	A	A

Certified acc. to DIN EN ISO 9001:2015 Subject to technical alterations. Status: November 2022
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