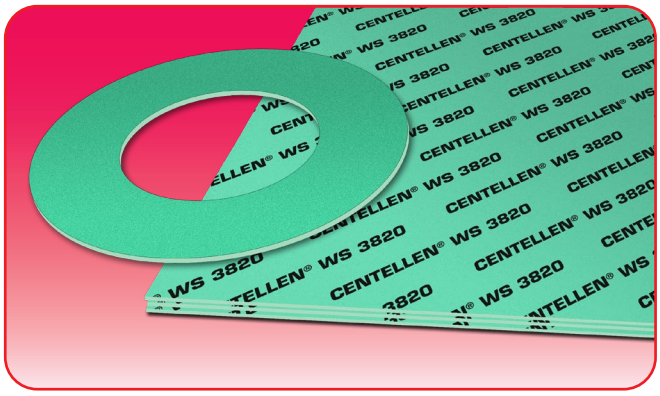
CENTELLEN® WS 3820

CENTELLEN® WS 3820 – is a universal gasket grade with high mechanical strength. The tightness fulfils the requirements for sealants of the natural gas industry.

Centellen® WS 3820 is a calandered material. It consists of aramid fibers, inorganic fillers for reinforcement and NBR as binder. The sheets are manufactured with a thin layer of anti-stick coating. The universal chemical compatibility is therefore not affected. This universal gasket sheet material is suitable for a medium temperature range (DIN 28091 FA – A1 – 0). The material is suitable for hydrocarbons like oils or solvents, alcohols, glycols, aqueous solutions, water and steam up to 200°C. Weak alkalines and organic acids are also among possible applications.
Centellen® WS 3820 offers high plant safety for a variety of applications.



This material is limited suitable for ketones and esters, chlorinated solvents, as well as strong alkalis and inorganic acids.

Manufactured by KLINGER

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

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	1.85
Compressibility	ASTM F 36 J	%	10
Recovery	ASTM F 36 J	%	60
Stress relaxation DIN 52913	50 MPa, 16 h/175°C	MPa	30
	50 MPa, 16 h/300°C	MPa	25
KLINGER cold/hot compression 50 MPa	thickness decrease at 23°C	%	10
	thickness decrease at 300°C	%	25
Tightness	DIN 28090-2	mg/(s x m)	0.02
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	%	8
Cold recovery	DIN 28090-2	%	4
Hot compression	DIN 28090-2	%	25
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	140

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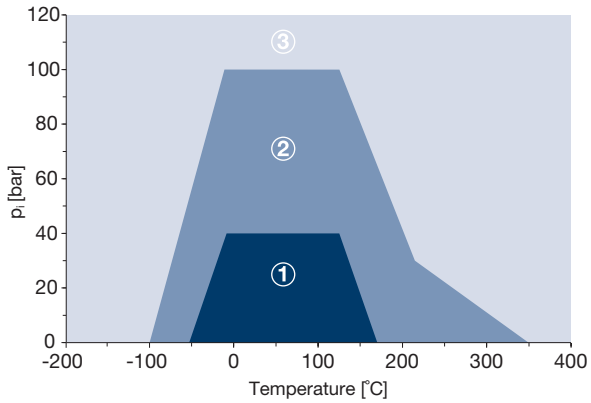
P-T diagram



The area of the P-T diagram

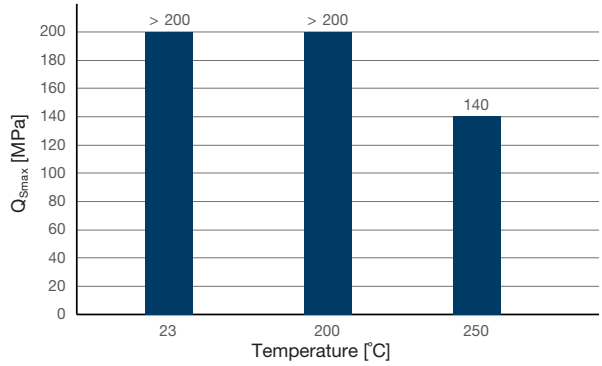
① In area one, the gasket material is normally suitable subject to chemical compatibility.

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.

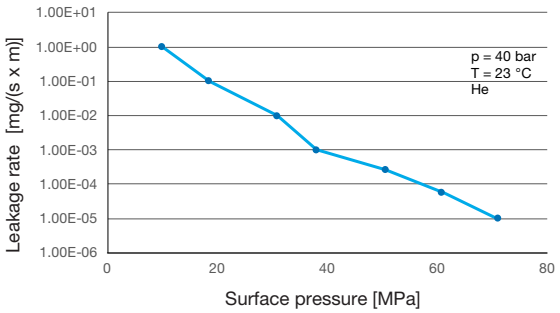
Maximum surface pressure



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 tightness performance graph

The graph shows the required stress at assembling to seal a certain tightness class. The determination of the graph is based on EN13555 test procedure which applies 40 bar Helium at room temperature. The sloping curve indicates the ability of the gasket to increase tightness with raising gasket stress.

Chemical resistance chart

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

CENTELLEN® WS 3820 — **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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