KLINGER® MULTILAYER XTREME (MLX™)

FOR HEAVY-DUTY CONDITIONS

Typical technical data for KLINGER® MLX for thickness 2.0 mm

Compressibility ASTM F 36 A	ASTM F 36 A	%	30 - 40
Recovery ASTM F 36 A	ASTM F 36 A	%	15 - 25
Density of the graphite layer	DIN 28090-2	g/cm³	1.1 ± 5 %
Total sulphur content of graphite layer	DIN 28090-2	ppm	< 300
Total chloride content of graphite layer	DIN 28090-2	ppm	< 25
Total fluoride content of graphite layer	DIN 28090-2	ppm	< 10
Insert: 1-7 layers	AISI 316 SS	mm	0.05
Purity of graphite	DIN 51903	%	> 99
Stress relaxation 50 MPa, 16h/300 °C	DIN 52913	MPa	> 45
Continuous service temperature (in oxidizing atmosphere)		°C	< 450
Thermogravimetric analysis (TGA) 4 h/670 °C	DIN 28090-2	%/h	< 3
Qsmax (maximum gasket stress): Ambient temperature	EN13555	MPa	>200
Oxidation Test At 593 °C	FSA-G-604-07 / B	%	4
API 6FB fire test statement	PASS		
ASME-Code sealing factors for gasket thickness 1/16” and 1/8”	m = 2.5, Y = 3,000 PSI		
ROTT	Testing according to EN13555: DN40/PN40 gasket; Helium/Calculation according to ASTM ROTT. Tightness class 0.1 mg/s/m		
for gasket thickness 1/16”	Gb [psi]	10 / 40 bar	185 / 450
	a	10 / 40 bar	0,60 / 0,47
	Gs [psi]	10 / 40 bar	4E-05 / 2E-05
	STP100	10 / 40 bar	2932 / 3919
for gasket thickness 1/8”	Gb [psi]	10 / 40 bar	215 / 1540
	a	10 / 40 bar	0,64 / 0,35
	Gs [psi]	10 / 40 bar	2E-05 / 5E-05
	STP100	10 / 40 bar	4097 / 7718

Dimensions of the standard sheets

Sizes: 40”x40”, 60”x60”

Thicknesses: 1/16”, 1/8”, 1mm

Tolerances: Thickness ± 5 %; Length ± 4 mm
Other thicknesses, sizes and inserts on request.

Key features

- KLINGER® MLX is API 6FB Fire-Safe approved
- 316 stainless steel foil reinforcing inserts
- Excellent chemical resistance
- Extremely low stress relaxation
- Also available with high purity nuclear grade graphite laminate (99,85%)

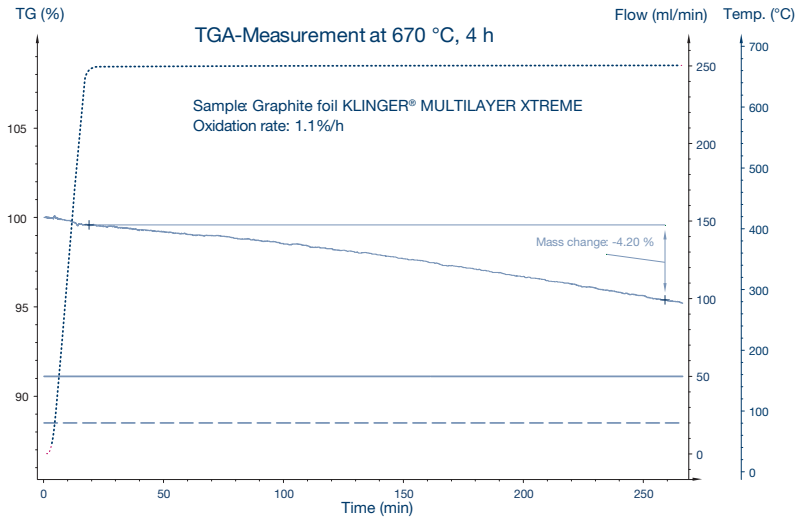
Anti-stick flexible graphite grades

KLINGER® MULTILAYER XTREME is supplied with a special anti-stick (A/S) coating which remains stable even at high temperatures.

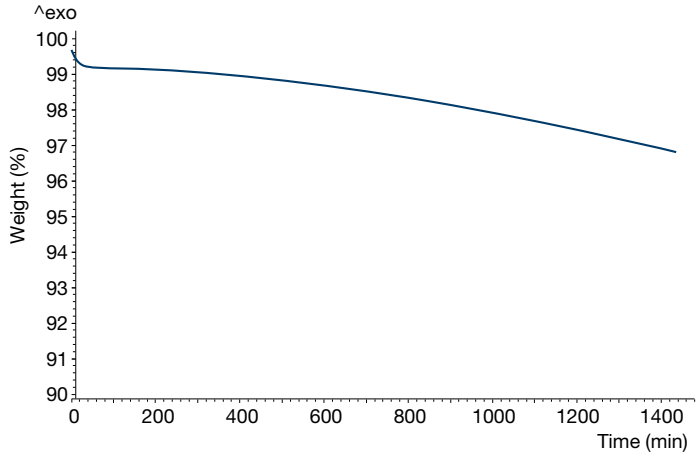
Benefits

- Provides excellent adaptability to any sealing surface
- Seals irregular flanges
- Robust gaskets- Decreased breakage/damage
- Excellent torque retention
- Stable physical properties over the whole temperature range
- Excellent for high pressure applications

Oxidation diagram



Oxidation Test At 593 °C (per FSA-G-604-07/B test method)



Premium multilayer structure

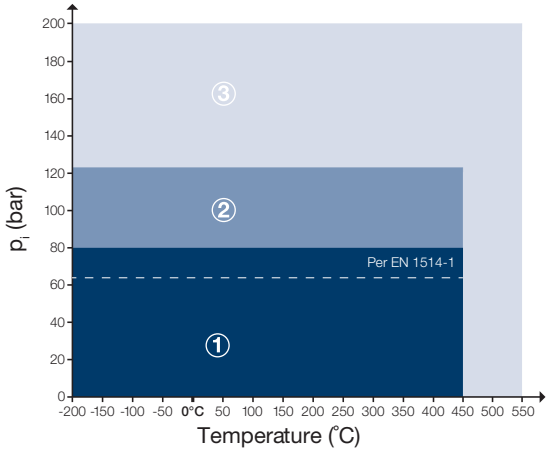
0.05mm thick 316 stainless steel foils

Klinger MLX is suitable for extreme conditions, especially for high pressure applications, high temperature and high compressive stresses.

This gasket has a multilayer structure consisting of 0.5 mm thick high-purity graphite foils (> 99 %) and 0.05 mm stainless steel foils. Testing confirms a 6X increase in rigidity/handleability compared to conventional foil reinforced flexible graphite gaskets.

In a special process several layers of graphite and stainless steel foils are joined together, without using any adhesives. A special impregnation ensures the improved sealing performance and excellent handling.

pT-diagram for thickness 1/8”



Pressure/Temperature influences on gasket selection should not be considered as a single pT value, but instead as a range of pressure and temperature suitability as the pT-diagram below shows.

The area of the pT-diagram

① is the Pressure/Temperature application envelope or range where the Klinger MLX will be mechanically suitable considering pressure resistance, crush strength and temperature resistance

② MLX is likely mechanically suitable, however a technical evaluation is recommended.

③ a technical evaluation is strongly recommended to confirm mechanical suitability.

Certified acc. to DIN EN ISO 9001:2015 Subject to technical alterations. Status: April 2019
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