

Oval Gaskets for Closing Devices according to TRD 401

Basis

Expanded and precompressed pure graphite with high adaptability to the flange faces, reinforced by 2 or 3 tanged metal foils made of stainless steel AISI 316 SS.

Applicable for temperatures up to approx. 450°C and pressure up to 60 bar – 100% resistant against steam.

In an inert atmosphere (no admission of oxygen) even suitable for higher temperatures.

No curing

No curing elastomeres, no additional filler, no fibres sensitive to hydrolysis.

Surfaces – No adhesion

The surface finish of the gasket is such that the surface has an extremely low adhesion.

The gasket rings easily can be removed and the sealing faces are easy to clean.

On request a special anti stick coating (A/S) is possible.

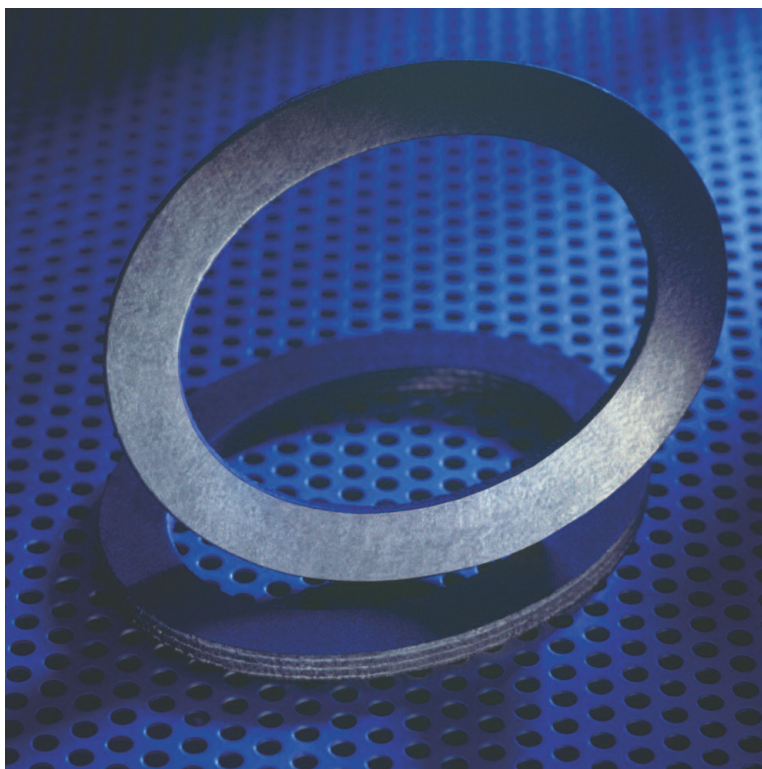
User and producer of boiler and plants waited over years for this gasket!

Finally there is a gasket meeting the special and difficult demands of handholes and manholes.

Properties

- No additional thickness loss under load and temperature
- Excellent adaptability to the sealing surfaces
- Outstanding micro-sealing
- Very good applicable for steam and hot water at high temperatures
- Chemically resistant against many media
- Unlimited starability
- Applicable for all hand-head and manhole closing devices according to TRD 401

Type KP-600/C-3 and Type PSM-300/C-2. Ready-to-fit oval manhole gasket made of graphite with tanged stainless steel foil reinforcements of AISI 316 SS.



Typical values	Type	KP-600/C-3	PSM-300/C-2
Compressibility ASTM F 36 A	%	28 - 42	38 - 45
Recovery ASTM F 36 A	%	13 - 19	10 - 15
Residual stress according to DIN 52913	MPa	min. 48	min. 48
σ_{BO} at 300°C DIN 28090	MPa	80	80
Density of the graphite layer	g/cm ³	1.0	1.0
Purity of the graphite	%	98	98
Tanged metal reinforcement	Number	3	2
Thickness of the gasket	mm	6	3

Tests and Certifications

The gaskets correspond to the requirements of the TRD 401.

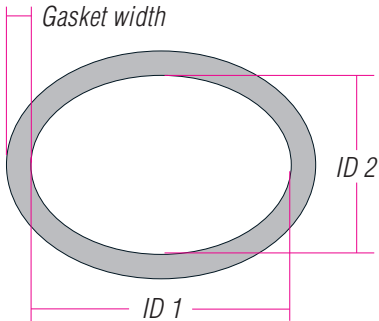
TÜV approved - class d
Admissible Service Pressure
40 bar
Admissible Service Temperature
250°C
Bauteilekennzeichen-Nr.
TÜV.D.01-010.d

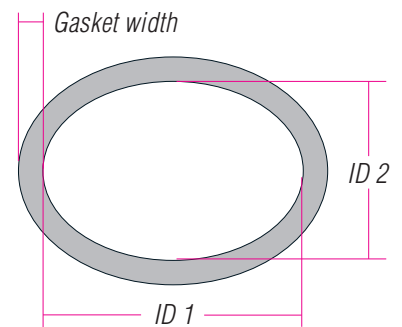
Subject to technical alterations.
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Certified according to
DIN EN ISO 9001:2008

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Standard sizes Type KP-600/C-3

Inner diameter			Inner diameter			Inner diameter		
ID 1	ID 2	Width	ID 1	ID 2	Width	ID 1	ID 2	Width
450	350	25	250	190	20	120	90	15
425	320	45	250	180	25	120	85	12
425	320	22	250	175	25	120	80	16
425	320	25	250	170	20	120	80	15
420	320	25	245	200	20	120	80	12
415	320	25	240	200	20	115	90	12
415	315	25	240	170	20	113	85	15
415	315	20	210	140	15	110	90	11
410	315	25	200	150	20	110	85	10
410	315	20	200	150	18	110	80	18
410	310	25	200	150	15	110	70	15
406	306	30	200	145	18	108	85	11
405	310	28	200	140	20	95	70	15
405	305	25	190	140	18	Size in mm		
400	300	25	185	130	20			
400	300	22	180	140	25			
400	300	17	180	130	25			
395	305	25	180	120	24			
390	295	25	175	125	20			
390	290	30	170	140	15			
390	290	25	170	120	18			
380	280	20	165	115	18			
375	275	25	165	115	15			
360	250	25	162	112	15			
320	220	25	160	120	15			
320	220	20	160	110	15			
315	215	25	160	105	20			
315	215	20	150	120	18			
310	210	25	150	110	13			
310	210	20	150	100	15			
305	230	27	150	90	18			
300	240	20	145	100	15			
300	230	20	140	95	15			
300	200	25	135	85	12			
300	200	20	130	110	15			
300	200	18	130	100	15			
290	235	18	130	95	15			
290	210	20	126	90	15			
290	200	15	120	100	10			


Shapes:

Ready-to-fit gasket ring according to our size table.

Standard thickness:

KP-600/C-3 = 6 mm

Other dimensions and gaskets Type PSM-300/C-2 on request.

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Mounting/installation instructions Type KP-600/C-3 and PSM-300/C-2

Mounting and installation instructions acc. to TRD 401

The metallic closing devices have to be made according to TRD 401 appendix 1. The closure must not jam. The gasket must correctly rest on the sealing face.

The sealing surfaces have to be parallel clean and dry. Raw, radial running surface defects (e.g. grooves caused by corrosion, mechanical damages or erosions) are not tolerable.

The gaskets have to be placed centrally. The lid has to have a clearance in both directions of about 1-2 mm.

The gasket must be in proper condition and checked about its applicability for the service. The installation has to be performed dry without the addition of any grease- or oil containing agents. The tolerances of flatness and parallelity of the mechanical sealing areas mentioned in the TRD 401 (1 mm for manhole and 0,5 mm for hand- and head-hole closing devices) should not totally be used for safety reasons. The required minimum surface load of the gasket could eventually not be reached by this reason.

Torque

Gaskets of the type KLINGER KP-600/C-3 and KLINGER PSM-300/C-2 are always to be tightened with the maximum torque for the metal closing devices given by the producer.

With this torque the minimum required gasket load at parallel sealing surfaces will be reached. Big deviations of the parallelity can cause a undercut of the minimum required gasket load and should be avoided.

The nuts have to be tightened evenly with the torque given by the producer of the closing device.

The screws should be lubricated. We propose the use of a lubricant for the screws to adjust the friction factor of the thread from 0,10 to 0,14.

Guidelines for the torque of screws of the quality 5.6 are:

M 16	100 Nm
M 20	200 Nm
M 24	350 Nm
M 30	650 Nm

After each opening of the lid a new gasket has to be used. Due to safety reasons we advise not to use gaskets several times.

During start-up of a vessel the nuts have to be re-torqued constantly during increasing the pressure. After reaching the service conditions the nuts have to be checked and re-torqued should the occasion arise.

Gaskets of the type KLINGER PSM-300/C-2 and KLINGER KP-600/C-3 can be stored for unlimited time.

The gaskets must be stored under dry conditions at room temperature. Under no circumstances the gasket should be mounted in a moist or wet condition.

Function and durability

The performance and life of KLINGER gaskets depend in large measure on proper storage and fitting, factors beyond the manufacturer's control. We can, however, vouch for the excellent quality of the products.

With this in mind, please also observe our installation instructions and the application parameter.



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