KLINGERtop-chem

The Heavy-Duty Gaskets

Stability according to Klinger

The load bearing capacity of a gasket can be assessed at ambient and high temperature using the hot compression test developed by Klinger.

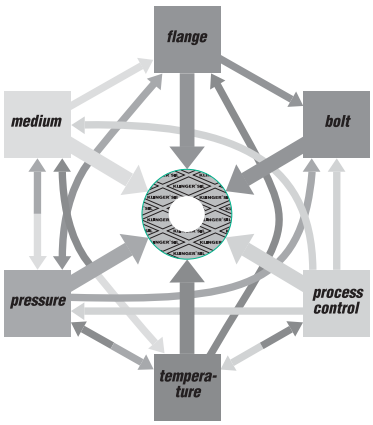
In contrast to the test method according to DIN 52913 and BS 7531, the gasket stress is kept constant throughout the entire test. The gasket is thus exposed to significantly severe conditions.

The thickness decrease as a result of a constant load is measured at a temperature of 23°C and also after heating up to 250°C

The valve of the thickness decrease at 250°C relates to the thickness after compression at 23°C

The many and varied demands made on gaskets

The successful operation of a gasket depends upon a multiplicity of factors. Many who use static gaskets believe that the valves quoted for maximum admissible temperature and maximum operating pressure are inherent properties or characteristics of gaskets and gasket materials.



Unfortunately, this is not the case. The maximum temperatures and pressures at which gaskets may be used are influenced by a large number of factors. Therefore a definite statement of these valves of gaskets material is not possible.

So why does Klinger provide pT diagrams?

For the reasons given the pT diagram is not infallible: it serves as a rough guide for the end user who often has only the operating temperatures and pressures to go on.

Additional stresses such as greatly fluctuating load may significantly affect whether a gasket is suitable for the application.

Resistance to media must be taken into account in every case.

1. If your operating temperatures and pressures fall within this field, it is not usually necessary to conduct a technical examination.

2. If your operating temperatures and pressures fall within this field, we recommend a technical examination.

3. If your operating temperatures and pressures fall within this blank field, a technical examination should be carried out.

KLINGERtop / chem	2000	2003	2005	2006
Ref. thickness of measured valves, mm	1.5	2	1.5	1.5
Density, g/cm³	2.5	1.7	2	2.9
Compressibility ASTM F 36 J, %	2	18	7	4
Recovery ASTM F 36 J, %	55	40	35	40

Stress relaxation	2000	2003	2005	2006
DIN 52913, 16h, 50MPa, 300°C	35	-	-	-
DIN 52913, 16h, 50MPa, 150°C	30	13	25	18

KLINGER cold / hot compression	2000	2003	2005	2006
23°C / 50MPa, %	2	-	10	10
250°C / 50MPa, %	5	-	30	40
23°C / 25MPa, %	-	9	-	-
250°C / 25MPa, %	-	38	-	-

Tightness	2000	2003	2005	2006
DIN 3535/6, ml/min	0.5	0.1	0.2	0.1
DIN 28090-2, mg/sm	0.05	0.01	0.02	0.01

Thickness / Weight increase	2000	2003	2005	2006
H_2SO_4 , 100% : 18h/23°C, %	0.5 / 1	- / 1	2 / 2	-
HNO_3 , 100% : 18h/23°C, %	1 / 2	- / 5	2 / 7	2 / 7
NaOH, 33% : 72h/110°C, %	5 / 5	- / 2	-	12 / 24

Permits/certifications	2000	2003	2005	2006
BAM certification	yes	u. preparation	-	yes
KTW proposal	yes	yes	yes	yes
DIN-DVGW permit	yes	yes	yes	yes
HTB acc. to VP 401	u. preparation	-	-	-
Fire safe	yes	-	-	-
FDA conformity	yes	yes	yes	yes
TA-Luft certification	yes	yes	-	-
Germanischer Lloyd	yes	yes	u. preparation	u. preparation
United States Coast Guard	yes	-	-	-
Registro Italiano Navale	yes	-	-	-
Det Norske Veritas AS	yes	-	-	-

Standard sizes	2000	2003	2005	2006
Sheet sizes mm.	1,500*1,500	1,500*1,500	1,500*1,500	1,500*1,500
Thickness mm.	1.0/1.5/2.0/3.0	1.0/1.5/2.0/3.0	1.0/1.5/2.0/3.0	1.0/1.5/2.0/3.0
Tolerances	thickness ±10%, length ±50 mm., width ±50 mm.			