

## Gasket Data Sheet for Gasket Sheets and Gaskets in the Main Load

<b>Gasket factors according to DIN EN 13555</b>			
Data Sheet - Number:			
Producer: <b>KLINGER Dichtungstechnik GmbH &amp; Co KG</b> Am Kanal 8 – 10 A- 2352 Gumpoldskirchen (Austria)			
Producer Type: <b>Gasket sheet based on fibres</b>			
Producer Marking Code: <b>KLINGER Quantum</b>			
Order-No. / Item-No.: <b>-</b>			
Material short Term / Standard: <b>FA – GA Z – O / DIN 28091-2</b> (Gasket / Gasket Sheet)			
Material short Term / Standard: <b>-</b> (Inlay)			
Dimension thickness (mm):		0,8 / 1,0 / 1,5 / 2,0 / 3,0 / Test thickness: 2,0	
Dimension other (mm):		Sheets: 1000 x 1500 / 2000 x 1500	
Characteristic	Unit	Test method / Test standard	Minimum value of the product guaranteed
Density	g/cm <sup>3</sup>	DIN 28090-2	≥ 1,5
Density of graphite (if graphite is used)	g/cm <sup>3</sup>	DIN 28090-2	-
Permissible time of storage (if elastomere is used)	(in years)	DIN 7716 or ISO 2230	5
<b>DATA REGARDING RESISTANCE</b>			
Maximum working temperature TB for steam / water	°C	-	250
Media resistance	-	DIN 28090-3	
Long term performance Limit values with respect to the change of sealing- and deformation characteristics and, if applicable, gasket dimensions (media, pressure, temperature, surface pressure etc.)	-		
<b>PART OF CONTAMNATION</b>		Requirements see KS D 2021/50 appendix D	
Water soluble chloride	mg/kg	Potentiometric Titration	< 100
Total amount of chorine	mg/kg	Coulometric analysis	< 120
Total amount [chorine + fluorine]	mg/kg	-	< 420
Total amount fluorine	mg/kg	Fluorine selective electrode	< 300

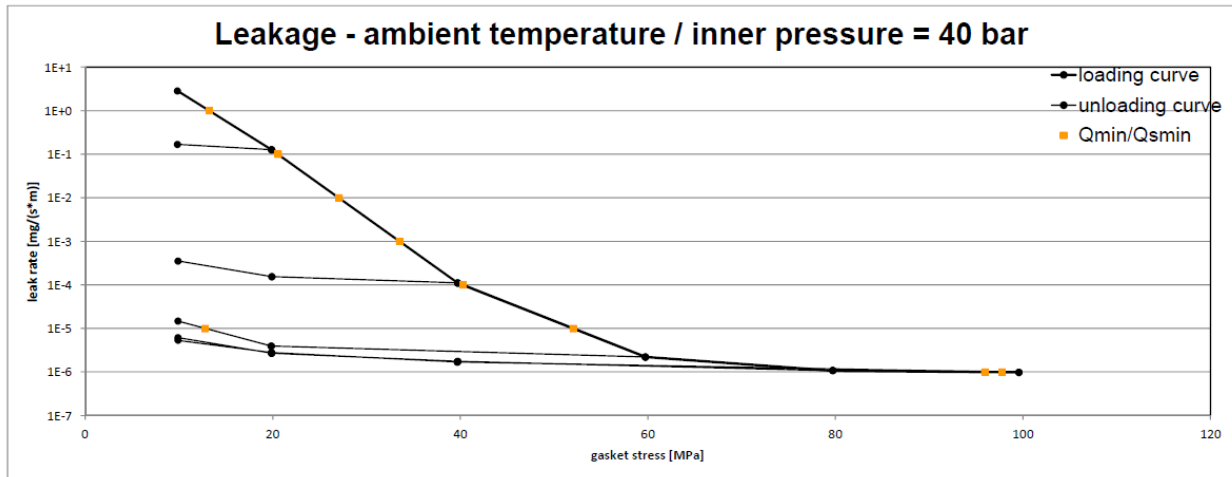
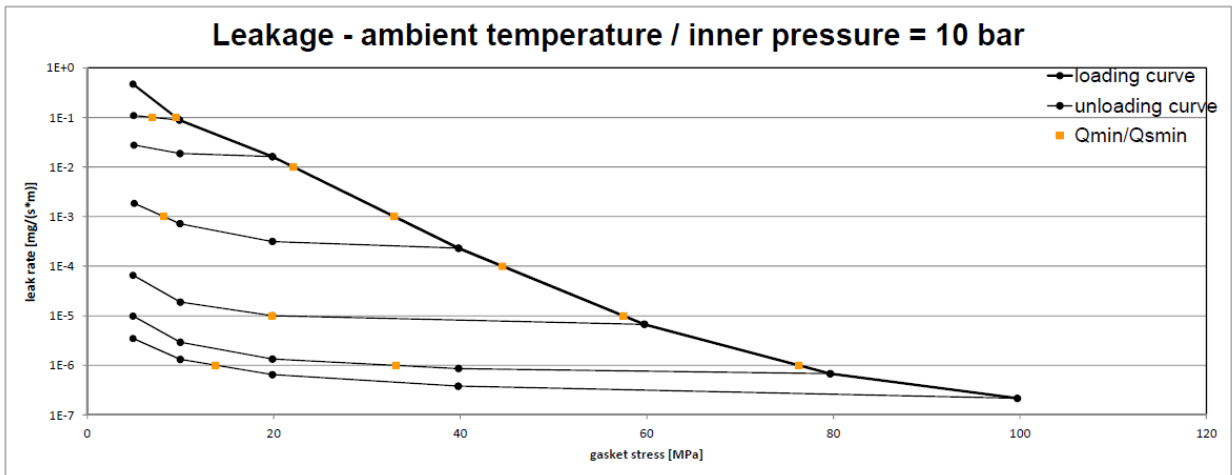
Rev.	Date	Prepared	Confirmation Producer
00	30.05.2011	WA / Wei	Klinger GmbH, Idstein; i. A. <i>Wolfgang Fer</i>
01	25.02.2020	WA / Wei	KLINGER GmbH, Idstein; i. V. <i>Wolfgang Fer</i>
02	05.07.2023	SK/Wei	KLINGER GmbH, Idstein, i. V. <i>Wei</i>
03			

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Gasket Factors according to DIN EN 13555									
<b>1. Sealing features <math>Q_{\min(L)}</math> and <math>Q_{S,\min(L)}</math></b>									
Sample dimensions: 90 x 50					Ratio effective gasket width $b_D$ versus gasket thickness $h_D$ <sup>6)</sup> : 10 : 1				
Test medium <sup>1)</sup>	Helium		Helium		Helium		Helium		
Tightness class <sup>1)</sup>	$L_{0,01}$		$L_{0,001}$		$L_{0,01}$		$L_{0,001}$		
Internal pressure (bar) <sup>7)</sup>	10		10		40		40		
	$Q_{\min(L)}$ resp. $Q_A$	$Q_{S,\min(L)}$	$Q_{\min(L)}$ resp. $Q_A$	$Q_{S,\min(L)}$	$Q_{\min(L)}$ resp. $Q_A$	$Q_{S,\min(L)}$	$Q_{\min(L)}$ resp. $Q_A$	$Q_{S,\min(L)}$	
Specific values <sup>2)</sup> (MPa) See also graph on page 3	22		33		27		34		
	$Q_A = 40$	5	$Q_A = 40$	8	$Q_A = 40$	10	$Q_A = 40$	10	
	$Q_A = 60$	5	$Q_A = 60$	5	$Q_A = 60$	10	$Q_A = 60$	10	
	$Q_A = 80$	5	$Q_A = 80$	5	$Q_A = 80$	10	$Q_A = 80$	10	
<b>2. Deformation characteristics (<math>Q_{S,\max, RT}</math>, <math>Q_{S,\max, T}</math>, <math>E_G</math>, <math>P_{QR}</math>) <sup>5)</sup></b>									
Sample dimensions (mm): 90 x 50									
		RT	100 °C	200 °C	300 °C	400 °C			
	$Q_{S,\max, RT}$ resp. $Q_{S,\max, T}$ <sup>3)</sup> (MPa)	200	140	100	80	-			
	$E_G$ MPa ( $Q_A = 20$ MPa)	2972	2118	4236	2825	-			
	$E_G$ MPa ( $Q_A = 40$ MPa)	3794	4781	4558	2481	-			
	$E_G$ MPa ( $Q_A = 60$ MPa)	6664	7069	5951	4983	-			
	$E_G$ MPa ( $Q_A = 80$ MPa)	7442	7365	5154	4549	-			
Sample dimensions (mm): 90 x 50									
		RT	100 °C	200 °C	300 °C	400 °C			
$P_{QR}$	$Q_A$ <sup>4)</sup> MPa	C	C	C	C	C			
	40	0,93	0,83	0,82	0,72	-			
	60	0,94	0,89	0,84	0,72	-			
	$Q_{S,\max, T}$	0,98	0,76	0,76	0,67	-			
$C$ <sup>8)</sup> = Stiffness of the testing rig					$C = 500$ kN/mm				

- 1) As test medium nitrogen or helium must be chosen. The tightness class and the test temperature must be chosen according to the users requirements.
- 2)  $Q_{S,\min(L)}$  must be indicated in relation to  $Q \geq Q_{\min(L)}$ . The relation may be given as a graph in a diagram alternatively.
- 3) For gaskets where the creep-relaxation has an essential influence, the gasket factors have to be considered in correlation with  $P_{QR}$  only.
- 4) Initial surface pressure
- 5) For graphite gaskets (with or without inlay) an additional compression curve at room temperature has to be given.
- 6) For flat gaskets (with or without inlay) information's to the gasket factors for the ratio effective gasket width  $b_D$  versus gasket thickness  $h_D$  have to be given for every gasket thickness.
- 7) The steps for the internal pressure are preferably 10, 20, 40, 80 and 160 bar (standard value 40 bar). The gasket factors of the next higher pressure level have to be used always.
- 8) The stiffness of the testing rig have to amount 500, 1000 or 1500 kN/mm (standard value 500 kN/mm).

# Attachment A1, Appendix D according to KS D 2021/50



Remark: Translation from the original German data sheet was made by KLINGER GmbH, Idstein.