# Gasket factors

| KLINGERSIL® | DIN 28090/DIN 28091 | | | | | | | DIN 2505 | | ASTM | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | thick- | $\sigma_{V0}$ | $\sigma_{Vu\,0,1}$ | $\sigma_{B0}$ (7.2.2) | | | | | | | |
| | ness | MPa | MPa | MPa | MPa | MPa | MPa | $k_1$ | $K_0 x K_D$ | "m" | "y"Stress |
| | mm | 25°C | 25°C | 50°C | 100°C | 200°C | 300°C | mm | (N/mm) | factor | MPa |
| KLINGERSIL® C-4300 | 1 | 158 | 15 | 120 | 63 | 39 | | $1.1 x b_D$ | $22 x b_D$ | 2.7 | 15.0 |
| | 2 | 120 | 18 | 80 | 52 | 33 | | $1.1 x b_D$ | $22 x b_D$ | 3.0 | 15.0 |
| | 3 | 48 | 20 | 40 | 29 | 18 | | $1.1 x b_D$ | $22 x b_D$ | 3.3 | 15.0 |
| KLINGERSIL® C-4400 | 1 | 240 | 18 | 195 | 95 | 50 | 38 | $1.1 x b_D$ | $22 x b_D$ | 3.2 | 20.0 |
| | 2 | 240 | 23 | 110 | 80 | 42 | 30 | $1.1 x b_D$ | $22 x b_D$ | 3.5 | 20.0 |
| | 3 | 63 | 24 | 53 | 41 | 24 | | $1.1 x b_D$ | $22 x b_D$ | 3.9 | 20.0 |
| KLINGERSIL® C-4409 | 1 | 240 | 39 | 215 | 176 | 120 | 80 | $1.1 x b_D$ | $28 x b_D$ | 3.2 | 30.0 |
| | 2 | 240 | 43 | 110 | 80 | 42 | 30 | $1.1 x b_D$ | $28 x b_D$ | 3.5 | 30.0 |
| KLINGERSIL® C-4430 | 1 | >240 | 22 | 260 | 145 | 81 | 65 | $1.1 x b_D$ | $22 x b_D$ | 4.5 | 25.0 |
| | 2 | >240 | 29 | 240 | 120 | 73 | 56 | $1.1 x b_D$ | $22 x b_D$ | 5.0 | 25.0 |
| | 3 | 133 | 29 | 97 | 65 | 40 | 31 | $1.1 x b_D$ | $22 x b_D$ | 5.5 | 25.0 |
| KLINGERSIL® C-4500 | 1 | 220 | 23 | 195 | 120 | 68 | 51 | $1.1 x b_D$ | $22 x b_D$ | 3.5 | 25.0 |
| | 2 | 180 | 26 | 110 | 110 | 59 | 43 | $1.1 x b_D$ | $22 x b_D$ | 4.0 | 25.0 |
| | 3 | 100 | 28 | 80 | 55 | 33 | 23 | $1.1 x b_D$ | $22 x b_D$ | 4.5 | 25.0 |
| KLINGERSIL® C-4509 | 1 | 280 | 24 | 195 | 140 | 120 | 97 | $1.1 x b_D$ | $28 x b_D$ | 3.5 | 30.0 |
| | 2 | 180 | 28 | 110 | 110 | 59 | 43 | $1.1 x b_D$ | $28 x b_D$ | 4.0 | 30.0 |
| KLINGERSIL® C-8200 | 1 | 225 | 17 | 160 | 70 | 44 | | $1.1 x b_D$ | $22 x b_D$ | 3.5 | 22.5 |
| | 2 | 150 | 19 | 110 | 53 | 34 | | $1.1 x b_D$ | $22 x b_D$ | 4.0 | 22.5 |
| | 3 | 75 | 21 | 55 | 26 | 17 | | $1.1 x b_D$ | $22 x b_D$ | 4.5 | 22.5 |

| KLINGERtop-chem and top-graph | DIN 28090/DIN 28091 | | | | | | | DIN 2505 | | ASTM | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | thick- | $\sigma_{V0}$ | $\sigma_{Vu\,0,1}$ | $\sigma_{B0}$ (7.2.2) | | | | | | | |
| | ness | MPa | MPa | MPa | MPa | MPa | MPa | $k_1$ | $K_0 x K_D$ | "m" | "y"Stress |
| | mm | 25°C | 25°C | 50°C | 100°C | 200°C | 250°C | mm | (N/mm) | factor | MPa |
| KLINGERtop-chem 2000 | 1 | 253 | 21 | 214 | 150 | 125 | 75 | $1.1 x b_D$ | $25 x b_D$ | 4.7 | 10.0 |
| | 2 | 210 | 21 | 185 | 150 | 125 | 75 | $1.1 x b_D$ | $25 x b_D$ | 5.0 | 10.0 |
| | 3 | 100 | 21 | 87 | 60 | 50 | 33 | $1.1 x b_D$ | $25 x b_D$ | 5.2 | 10.0 |
| KLINGERtop-chem 2003 | 2 | >110 | 13 | 110 | 28 | 15 | 10 | $1.1 x b_D$ | $22 x b_D$ | 2.8 | 5.0 |
| KLINGERtop-chem 2005 | 2 | >110 | 28 | 50 | 35 | 22 | 15 | $1.1 x b_y$ | $22 x b_D$ | 10.0 | 10.0 |
| KLINGERtop-graph 2000 | 2 | >160 | 25 | 120 | 80 | 70 | 60 * | | | 4.0 | 25.0 |

* 300°C

| KLINGERgraphit Laminate | | | DIN 28090/DIN 28091 | | | | | DIN 2505 | | ASTM | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | thick- | $\sigma_{V0}$ | $\sigma_{Vu\,0,1}$ | $\sigma_{B0}$ (7.2.2) | | | | | | | |
| | ness | MPa | MPa | MPa | MPa | MPa | MPa | $k_1$ | $K_0 x K_D$ | "m" | "y"Stress |
| | mm | 25°C | 25°C | 50°C | 100°C | 200°C | 300°C | mm | (N/mm) | factor | MPa |
| PSM 100 | 1 | 210 | 30 | 210 | 200 | 195 | 190 | $3 x b_D$ | $30 x b_D$ | 3.0 | 30.0 |
| PSM 200 | 2 | 140 | 20 | 140 | 130 | 120 | 110 | $2 x b_D$ | $10 x b_D$ | 2.0 | 10.0 |
| PSM 300 | 3 | 95 | 20 | 95 | 90 | 85 | 80 | $2 x b_D$ | $7 x b_D$ | 2.0 | 6.0 |
| SLS 100 | 1 | 195 | 20 | 180 | 160 | 130 | 110 | $2 x b_D$ | $6 x b_D$ | 2.0 | 6.0 |
| SLS 200 | 2 | 125 | 20 | 110 | 100 | 90 | 75 | $2 x b_D$ | $6 x b_D$ | 2.0 | 6.0 |
| SLS 300 | 3 | 80 | 20 | 75 | 70 | 60 | 50 | $2 x b_D$ | $6 x b_D$ | 2.0 | 6.0 |

| Metal gaskets | | | |
|---|---|---|---|
| Type | | "m" | "y"Stress |
| | | factor | MPa |
| Spiral wound gasket (graphite filler) | | 3.0 | 68.9 |
| Metal clad gasket (soft iron) | | 3.0 | 31.0 |

*The evaluation of these characteristic datas are based on the rules of DIN 28090. The use of this values will not guarantee the performance of the gasket. Application conditions not in the control of the gasket material manufacturer can influence the operation of the gasket. A deducation of liability claims of any nature is therefore not possible. As further investigations are continuosely carried out we reserve the right of appropriate updates.*

*The design factors "m" and "y" according to the ASME Code are based on a maximum leakage rate of 1 ml/min. approx. 0.1 mg/sec x m measured according to DIN 28090 at different gas pressures and different gasket stresses.*
*The DIN 2505 and the "y" and "m" concept itself now being questioned as a valid design tool.*

*Subject to technical alterations.*
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