

|                                |   |
|--------------------------------|---|
| Company Address                | Frenzelit-Werke, Frankenhammer 7, 95460 Bad Berneck |
| Gasket Type                    | Novaflo <sup>®</sup> 300                            |
| Thickness e <sub>GO</sub> [mm] | 2   |

| Minimum stress to seal $Q_{\min/L}$ (at assembly), $Q_{s\min/L}$ (after off-loading) for p = 40 bar |                               |                                    |                  |                  |                  |                               |                                    |                  |                  |                  |
|---|-------------------------------|------------------------------------|------------------|------------------|------------------|-------------------------------|------------------------------------|------------------|------------------|------------------|
| L [mg/(s*m)]  | $Q_{\min/L}$ for 10 bar [MPa] | $Q_{s\min/L}$ [MPa] for p = 10 bar |                  |                  |                  | $Q_{\min/L}$ for 20 bar [MPa] | $Q_{s\min/L}$ [MPa] for p = 20 bar |                  |                  |                  |
|   |                               | $Q_A = 20$ [MPa]                   | $Q_A = 40$ [MPa] | $Q_A = 60$ [MPa] | $Q_A = 80$ [MPa] |                               | $Q_A = 20$ [MPa]                   | $Q_A = 40$ [MPa] | $Q_A = 60$ [MPa] | $Q_A = 80$ [MPa] |
| 10 <sup>-0</sup>  | 6                             | < 5                                | < 5              | < 5              | < 5              | < 10                          | < 10                               | < 10             | < 10             | < 10             |
| 10 <sup>-1</sup>  | 10                            | < 5                                | < 5              | < 5              | < 5              | 10                            | < 10                               | < 10             | < 10             | < 10             |
| 10 <sup>-2</sup>  | 13                            | < 5                                | < 5              | < 5              | < 5              | 13                            | < 10                               | < 10             | < 10             | < 10             |
| 10 <sup>-3</sup>  | 16                            | 8                                  | < 5              | < 5              | < 5              | 16                            | < 10                               | < 10             | < 10             | < 10             |
| 10 <sup>-4</sup>  | 22                            |                                    | < 5              | < 5              | < 5              | 20                            | 16                                 | < 10             | < 10             | < 10             |
| 10 <sup>-5</sup>  | 43                            |                                    |                  | 10               | 9                | 54                            |                                    |                  | 48               | 19               |
| 10 <sup>-6</sup>  | 70                            |                                    |                  |                  | 61               | > 80                          |                                    |                  |                  |                  |

| L [mg/(s*m)]     | $Q_{\min/L}$ for 40 bar [MPa] | $Q_{s\min/L}$ [MPa] for p = 40 bar |                  |                  |                  | $Q_{\min/L}$ for 80 bar [MPa] | $Q_{s\min/L}$ [MPa] for p = 80 bar |                  |                  |                  |
|------------------|-------------------------------|------------------------------------|------------------|------------------|------------------|-------------------------------|------------------------------------|------------------|------------------|------------------|
|                  |                               | $Q_A = 20$ [MPa]                   | $Q_A = 40$ [MPa] | $Q_A = 60$ [MPa] | $Q_A = 80$ [MPa] |                               | $Q_A = 20$ [MPa]                   | $Q_A = 40$ [MPa] | $Q_A = 60$ [MPa] | $Q_A = 80$ [MPa] |
| 10 <sup>-0</sup> | 10                            | < 10                               | < 10             | < 10             | < 10             | < 20                          |                                    | < 10             | < 10             | < 10             |
| 10 <sup>-1</sup> | 14                            | < 10                               | < 10             | < 10             | < 10             | < 20                          |                                    | < 10             | < 10             | < 10             |
| 10 <sup>-2</sup> | 18                            | 16                                 | < 10             | < 10             | < 10             | < 20                          |                                    | < 10             | < 10             | < 10             |
| 10 <sup>-3</sup> | 24                            |                                    | < 10             | < 10             | < 10             | 28                            |                                    | < 10             | < 10             | < 10             |
| 10 <sup>-4</sup> | 37                            |                                    | < 10             | < 10             | < 10             | 38                            |                                    | 18               | 15               | < 10             |
| 10 <sup>-5</sup> | 70                            |                                    |                  |                  | 62               | > 80                          |                                    |                  |                  |                  |

| Relaxation ratio $P_{QR}$ for stiffness C = 500 kN/mm |                     |                       |                       |                       |
|---|---------------------|-----------------------|-----------------------|-----------------------|
| Gasket stress [MPa]                                   | ambient temperature | temperature 1 [100°C] | temperature 2 [200°C] | temperature 3 [260°C] |
| Stress level 1 [10 MPa]                               | 0,97                | 0,94                  | 0,80                  | 0,68                  |
| Stress level 2 [25 MPa]                               | 0,94                | 0,74                  | 0,46                  | 0,32                  |
| $Q_{Smax}$ [MPa]                                      |                     |                       |                       |                       |

| Maximal applicable gasket stress $Q_{smax}$ |  |  |  |
|---|--|--|--|
| $Q_{Smax}$ [MPa] – ambient temperature      | $Q_{Smax}$ [MPa] – temperature 1 [100°C] | $Q_{Smax}$ [MPa] – temperature 2 [200°C] | $Q_{Smax}$ [MPa] – temperature 2 [260°C] |
| > 200                                       | 200                                      | 160                                      | 100                                      |

| Sekant unloading modulus of the gasket $E_G$ [MPa] |                     |                       |                       |                       |
|--|---------------------|-----------------------|-----------------------|-----------------------|
| Gasket stress [MPa]                                | ambient temperature | temperature 1 [100°C] | temperature 2 [200°C] | temperature 2 [260°C] |
| 20   | 1848                | 1417                  | 933                   | 771                   |
| 30   | 2473                | 1735                  | 1082                  | 860                   |
| 40   | 3097                | 2052                  | 1230                  | 949                   |
| 50   | 3722                | 2369                  | 1378                  | 1038                  |
| 60   | 4346                | 2687                  | 1526                  | 1126                  |
| 80   | 5595                | 3322                  | 1823                  | 1304                  |
| 100  | 6844                | 3956                  | 2119                  | 1481                  |
| 120  | 8093                | 4591                  | 2415                  |                       |
| 140  | 9342                | 5226                  | 2712                  |                       |
| 160  | 10591               | 5861                  | 3008                  |                       |
| 180  | 11840               | 6496                  |                       |                       |
| 200  | 13089               | 7131                  |                       |                       |