

# SI Units

| Material type |                                      | Temperature limit    |                  | Flexural strength | Compressive strength | Young's modulus | Rockwell Hardness (HR) |       |       | Hardness-Brinell<br>HB 5/62,5 | Bulk density<br>g/cm <sup>3</sup> | Porosity<br>Vol.-% | Coefficient of thermal expansion<br>(⊥ to the pressing direction) |                                       | Thermal-conductivity<br>W/mK |
|---------------|--------------------------------------|----------------------|------------------|-------------------|----------------------|-----------------|------------------------|-------|-------|-------------------------------|-----------------------------------|--------------------|---|---------------------------------------|------------------------------|
|               |                                      | Oxidizing atmosphere | Inert atmosphere |                   |                      |                 | 5/40                   | 5/100 | 5/150 |                               |                                   |                    | 20 – 200 °C<br>x 10 <sup>-6</sup> /K                              | 200 – 600 °C<br>x 10 <sup>-6</sup> /K |                              |
|               |                                      | °C                   | °C               | MPa               | MPa                  | GPa             |                        |       |       |                               |                                   |                    |   |                                       |                              |
| -FH27S-       | carbon graphite                      | 350                  | 1200             | 30                | 90                   | 9               | 105                    | -     | -     | 25                            | 1.55                              | 15                 | 3.5   | 4.6                                   | 13                           |
| -FH42-        | carbon graphite                      | 350                  | 1200             | 50                | 150                  | 18              | -                      | 95    | -     | 40                            | 1.65                              | 11                 | 4.0   | 4.4                                   | 11                           |
| -FH42Y3-      | carbon graphite                      | 350                  | 1200             | 55                | 170                  | 18              | -                      | 110   | -     | 60                            | 1.65                              | 10                 | 4.2   | 5.0                                   | 12                           |
| -FH44Y2-      | carbon graphite                      | 350                  | 1200             | 45                | 130                  | 14              | -                      | 105   | -     | 50                            | 1.65                              | 8                  | 3.5   | 4.6                                   | 17                           |
| -FH82Y5-      | carbon graphite                      | 350                  | 1200             | 70                | 250                  | 24              | -                      | -     | 110   | 80                            | 1.80                              | *                  | 4.4   | 4.8                                   | 10                           |
| -FE45S-       | electrographite                      | 500                  | 2500             | 40                | 100                  | 10              | 105                    | -     | -     | 25                            | 1.70                              | 15                 | 3.6   | 4.2                                   | 65                           |
| -FE45Y2-      | electrographite                      | 500                  | 2500             | 40                | 100                  | 12              | -                      | 85    | -     | 30                            | 1.70                              | 8                  | 3.6   | 4.2                                   | 65                           |
| -FE65-        | electrographite salt impregnated     | 650                  | 1000             | 45                | 110                  | 13              | 110                    | -     | -     | 30                            | 1.80                              | 8                  | 3.1   | 4.2                                   | 65                           |
| -FE679Q-      | electrographite salt impregnated     | 650                  | 1000             | 70                | 145                  | 15              | -                      | 110   | -     | 60                            | 1.85                              | 8                  | 4.0   | 5.0                                   | 45                           |
| -FE679PS-     | electrographite salt impregnated     | 500                  | 800              | 90                | 210                  | 20              | -                      | -     | 115   | 95                            | 2.20                              | 2                  | 4.1   | 5.2                                   | 45                           |
| -FH27Z(H)2-   | carbon graphite resin impregnated    | 200 (260)            | 200 (260)        | 45                | 170                  | 12              | -                      | 105   | -     | 50                            | 1.70                              | 3                  | 4.2   | -                                     | 13                           |
| -FH42Z(H)2-   | carbon graphite resin impregnated    | 200 (260)            | 200 (260)        | 60                | 210                  | 18              | -                      | 115   | -     | 75                            | 1.75                              | 2                  | 4.6   | -                                     | 11                           |
| -FH42Z(H)5-   | carbon graphite resin impregnated    | 200 (260)            | 200 (260)        | 60                | 210                  | 18              | -                      | 115   | -     | 75                            | 1.75                              | *                  | 4.6   | -                                     | 11                           |
| -FH44Z(H)2-   | carbon graphite resin impregnated    | 200 (260)            | 200 (260)        | 50                | 200                  | 14              | -                      | 105   | -     | 50                            | 1.70                              | 2                  | 4.5   | -                                     | 13                           |
| -FH44Z(H)5-   | carbon graphite resin impregnated    | 200 (260)            | 200 (260)        | 50                | 200                  | 14              | -                      | 105   | -     | 50                            | 1.70                              | *                  | 4.5   | -                                     | 13                           |
| -FH82Z(H)2-   | carbon graphite resin impregnated    | 200 (260)            | 200 (260)        | 75                | 250                  | 24              | -                      | -     | 110   | 80                            | 1.80                              | 2                  | 4.7   | -                                     | 8                            |
| -FH82Z(H)5-   | carbon graphite resin impregnated    | 200 (260)            | 200 (260)        | 75                | 250                  | 24              | -                      | -     | 110   | 80                            | 1.80                              | *                  | 4.7   | -                                     | 8                            |
| -FE45Z(H)2-   | electrographite resin impregnated    | 200 (260)            | 200 (260)        | 45                | 150                  | 12              | -                      | 100   | -     | 45                            | 1.75                              | 3                  | 4.1   | -                                     | 65                           |
| -FH71Z(H)5-   | carbon graphite resin impregnated    | 200 (260)            | 200 (260)        | 75                | 170                  | 27              | -                      | 105   | -     | 50                            | 2.80                              | *                  | 7.0   | -                                     | 6                            |
| -FH42A-       | carbon graphite antimony impregnated | 350                  | 600              | 80                | 250                  | 24              | -                      | -     | 120   | 115                           | 2.30                              | *                  | 4.2   | 5.5                                   | 13                           |
| -FH42B-       | carbon graphite lead antimony impr.  | 230                  | 230              | 80                | 240                  | 22              | -                      | -     | 120   | 115                           | 2.80                              | 1.5                | 4.2   | -                                     | 18                           |
| -FH44B-       | carbon graphite lead antimony impr.  | 230                  | 230              | 70                | 200                  | 21              | -                      | 115   | -     | 75                            | 2.80                              | 1.5                | 4.5   | -                                     | 20                           |
| -FH44C-       | carbon graphite copper impregnated   | 350                  | 1000             | 75                | 210                  | 20              | -                      | 115   | -     | 75                            | 2.50                              | 3                  | 5.0   | 5.5                                   | 20                           |
| -FH71A-       | carbon graphite antimony impregnated | 300                  | 600              | 85                | 240                  | 35              | -                      | -     | 120   | 115                           | 3.30                              | *                  | 6.4   | -                                     | 9                            |
| -FH82A-       | carbon graphite antimony impregnated | 350                  | 600              | 90                | 350                  | 26              | -                      | -     | 120   | 115                           | 2.25                              | *                  | 4.5   | 5.0                                   | 9                            |
| -FE45A-       | electrographite antimony impregnated | 500                  | 600              | 65                | 170                  | 16              | -                      | 115   | -     | 75                            | 2.50                              | 1.5                | 4.5   | 5.0                                   | 67                           |
| -FF46-        | resin bonded                         | 180                  | 180              | 60                | 130                  | 20              | -                      | 105   | -     | 50                            | 1.70                              | < 1                | 16.0  | -                                     | 4                            |
| -FF521-       | resin bonded                         | 180                  | 180              | 60                | 145                  | 20              | -                      | 105   | -     | 50                            | 1.75                              | < 1                | 23.0  | -                                     | 5                            |
| -FF541-       | resin bonded                         | 180                  | 180              | 85                | 230                  | 14              | -                      | 115   | -     | 75                            | 1.70                              | < 1                | 22.5  | -                                     | 2                            |
| -FF601-       | resin bonded                         | 180                  | 180              | 55                | 140                  | 15              | -                      | 90    | -     | 35                            | 1.75                              | < 1                | 20.0  | -                                     | 2                            |
| -FC94I-       | carbon graphite                      | 350                  | 1200             | -                 | -                    | -               | -                      | -     | -     | -                             | 1.75                              | < 4                | -   | -                                     | -                            |

These data are provided as typical values based on our experience. As with any raw material or manufacturing process, variations can occur. Consequently, such values are not guaranteed and are subject to change without notice.

\* gas tightness inspection on request