

## Technical Data Sheet

|   |                   |                     |                       |
|---|-------------------|---------------------|-----------------------|
| Material designation                    | <b>CERADUR</b>    |                     |                       |
| Raw material                            | PE-UHMW           |                     |                       |
| Material colour(s)                      |                   |                     |                       |
| <b>Properties</b>                       | Unit              | Test method         | Value                 |
| Molecular weight (average molar mass)   | g/mol             |                     | 9,2 * 10 <sup>6</sup> |
| <b>Mechanical properties</b>            |                   |                     |                       |
| Density                                 | g/cm <sup>3</sup> | DIN 53479           | 0,99                  |
| Tensile strength                        | N/mm <sup>2</sup> | DIN 53455           | 23                    |
| Shore d hardness, 15s                   | d scale           | DIN 53505           | 64 – 69               |
| Ball indentation hardness, 30s          | N/mm <sup>2</sup> | DIN ISO 2039 part 1 | 48                    |
| Ultimate tensile strength               | N/mm <sup>2</sup> | DIN 53455           | 35                    |
| Elongation at break                     | %                 | DIN ISO / R 527     | 350                   |
| Modulus of elasticity                   | N/mm <sup>2</sup> | DIN 53457           | 700                   |
| Notched impact strength (Charpy)        | kJ/m <sup>2</sup> | DIN 53453           | >80 –110              |
| Abrasion                                | %                 | Sand slurry method  | ~70                   |
| Coefficient of friction                 |                   |                     | ~ 0,1                 |
| <b>Thermal properties</b>               |                   |                     |                       |
| Dimensional stability under heat        | °C                | DIN 53461           | 47                    |
| Vicat softening temperature             | °C                | DIN 53460           | 79                    |
| Crystallite melting range               | °C                | DTA                 | 130 ~135              |
| Thermal conductivity at 23°C            | W/m * K           | DIN 52612           | 0.42                  |
| Specific heat at 23°C                   | kg/kJ * K         |                     | 1.8                   |
| Coefficient of linear expansion at 23°C | K <sup>-1</sup>   | DIN 53752           | 1 x 10 <sup>-4</sup>  |
| Application temperature (min.)          | °C                |                     | -200                  |
| Application temperature (constant)      | °C                |                     | 80                    |
| Application temperature (max.)          | °C                |                     | 90                    |
| <b>Electrical properties</b>            |                   |                     |                       |
| Dielectric strength                     | kV/mm             | DIN 53481           | 45                    |

Notes for the user:

Data sheet specifications are made to our today's knowledge. This information does not mean that certain properties are agreed upon or assured. Whether or not a material is suitable for a given application is the user's decision. All specifications are subjekt to change.

Vreden, October 2005