

TECHNICAL DATA - NYLON 6 G (CAST)  
GREEN / YELLOW OIL FILLED

| MATERIAL PROPERTIES                                     | STANDARD  | UNIT                 | VALUE               |
|---|-----------|----------------------|---------------------|
| DENSITY   | ISO 1183  | g/cm <sup>3</sup>    | 1.14                |
| WATER ABSORPTION<br>(@23 °C / 50% RH)                   | ISO 62    | %                    | 2.0                 |
| <b>MECHANICAL</b>                                       |           |                      |                     |
| TENSILE STRESS AT BREAK                                 | ISO 527   | MPa                  | 70                  |
| MODULUS OF ELASTICITY                                   | ISO 527   | MPa                  | 3300                |
| IMPACT STRENGTH   | DIN 53453 | (kJ/m <sup>2</sup> ) | NB                  |
| NOTCHED IMPACT STRENGTH                                 | DIN 53453 | (kJ/m <sup>2</sup> ) | >4                  |
| BALL INDENTATION HARDNESS                               | ISO2039-1 | (N/mm <sup>2</sup> ) | 165                 |
| ROCKWELL HARDNESS                                       | ISO2039-2 | -                    | M82                 |
| COEFFICIENT OF FRICTION<br>(DRY vs STEEL)               |           |                      | 0.1-0.25            |
| <b>THERMAL</b>  |           |                      |                     |
| MELTING POINT   | DIN5376   | °C                   | 213                 |
| COEFFICIENT OF LINEAR<br>THERMAL EXPANSION (23-60 °C) I | SO 11359  | m/(m-K)              | 80*10 <sup>-6</sup> |
| MAX WORK TEMP   | -         | °C                   | 110                 |
| MAX BRIEF TEMP  | -         | °C                   | 160                 |
| MIN TEMP  | -         | °C                   | -40                 |
| FLAMMABILITY OXYGEN INDEX<br>UL94 (3MM/6MM)             | 4589      | %                    | 25<br>HB/HB         |
| <b>ELECTRICAL</b>                                       |           |                      |                     |
| DIELECTRIC CONSTANT                                     | DIN 53483 | @50HZ DRY            | 3.7                 |
| VOLUME RESISTIVITY                                      | DIN 53482 | Ohm*cm               | 10 <sup>15</sup>    |
| SURFACE RESISTIVITY                                     | DIN 53482 | Ohm                  | 10 <sup>13</sup>    |
| TRACKING RESISTANCE                                     | DIN 53480 |                      | 600                 |
| DIELECTRIC STRENGTH                                     | DIN 53481 | kV/mm                | 18                  |
| <b>PHYSIOLOGICAL</b>                                    |           |                      |                     |
| <b>FOOD CONFORMITY TO</b>                               |           |                      |                     |
| EU  |           | YES                  |                     |
| FDA   |           | YES                  |                     |

The following applies to Polyamides

Under the influence of moisture absorption, the mechanical properties change. The material becomes tougher and more resistant to impact, the modulus of elasticity declines. Depending on the environmental atmosphere, the temperature and the period of moisture absorption, only the surface layer is affected by alterations of property to a certain depth. On thick walled parts, the centre area remains unaffected.

The short-term application temperature only applies to low mechanical stress for a few hours. The long-term maximum application temperature is based on the thermal aging of plastics by oxidation, resulting in a decrease of the mechanical properties. This applies to an exposure to temperatures for at least 5,000 hours causing a 50% loss of the tensile strength from the original value (measured at room temperature). This value says nothing about the mechanical strength of the material at high application temperatures. In the case of thick walled parts, only the surface layer is affected by oxidation from higher temperatures. With the addition of antioxidants, a better protection of the surface layer is achieved. In any case the centre area of the material remains unaffected.

The minimum application temperature is basically influenced by possible stress factors such as shock and or impact under application. The values stated refer to a minimum degree of impact stress.

The electrical properties as stated result from measurements on natural, dry material. With other colours (in particular Black) or saturated material, there may be a clear difference in the electrical properties.

All information given is in good faith and without warranty