

**Material Data Sheet, July 2010**

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# TECANAT V0 UV

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| Chemical Designation : | Polycarbonat                             |
| DIN-Abbreviation:      | PC                                       |
| Colours, fillers:      | translucent, flame retardant, stabilizer |

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## Main features

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|-----------------------------------|--------------------------|
| flame retardant according to UL94 | very tough               |
| good electrical insulation        | easily welded and bonded |
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## Preferred Fields

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|------------------------|------------------------|
| electrical engineering | mechanical engineering |
|------------------------|------------------------|
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## Applications

Machine parts, housing parts, insulators, plugs, settings, support rings, wiper blades

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## Properties

| <b>Mechanical</b>                         | <b>dry / moist</b> | <b>standard</b>             |
|---|--------------------|-----------------------------|
| Tensile strength at yield                 | 63 MPa             | DIN EN ISO 527              |
| Elongation at yield                       | 6 %                | DIN EN ISO 527              |
| Tensile strength at break                 | 65 MPa             | DIN EN ISO 527              |
| Elongation at break                       | 110 %              | DIN EN ISO 527              |
| Modulus of elasticity in tension          | 2350 MPa           | DIN EN ISO 527              |
| Modulus of elasticity after flexural test | MPa                |                             |
| Hardness                                  | 118                | ISO 2039/2 (Rockwell-Härte) |

|   |      |                   |                         |
|---|------|-------------------|-------------------------|
| Impact strength 23° C (Charpy)  | n.b. | KJ/m <sup>2</sup> | DIN EN ISO 179 (Charpy) |
| Creep rupture strength<br>after 1000 h with static load   |      | MPa               |                         |
| Time yield limit<br>for 1% elongation after 1000 h  |      | MPa               |                         |
| Co-efficient of friction<br>p = 0,05 N/mm <sup>2</sup> v=0,6 m/s<br>on steel, hardened and ground |      |                   |                         |
| Wear<br>p = 0,05 N/mm <sup>2</sup> v=0,6 m/s<br>on steel, hardened and ground                     |      | µm/km             |                         |

| <b>Thermal</b>                                | <b>dry / moist</b> |                     | <b>standard</b>                   |
|---|--------------------|---------------------|-----------------------------------|
| Crystalline melting point                     |                    | °C                  |                                   |
| Glass transition temperature                  |                    | °C                  |                                   |
| Heat distortion temperature<br>HDT, Method A  | 141                | °C                  | ISO-R 75 Verfahren B (DIN 53 461) |
| Heat distortion temperature<br>HDT, Method B  | 130                | °C                  | ISO-R 75 Verfahren A (DIN 53 461) |
| Max. service temperature                      |                    |                     |                                   |
| short term                                    |                    | °C                  |                                   |
| long term                                     |                    | °C                  |                                   |
| Thermal conductivity (23° C)                  | 0,2                | W/(K·m)             | ISO 8302                          |
| Specific heat (23° C)                         |                    | J/g.K               |                                   |
| Coefficient of thermal expansion<br>(23-55°C) | 7                  | 10 <sup>-5</sup> /K | ISO 11359-2                       |

## Properties

| <b>Electrical</b>                           | <b>dry / moist</b> |                   | <b>standard</b> |
|---|--------------------|-------------------|-----------------|
| Dielectric constant (10 <sup>6</sup> Hz)    | 2,7                |                   | IEC 60250       |
| Dielectric loss factor (10 <sup>6</sup> Hz) | 0,01               |                   | IEC 60250       |
| Specific volume resistance                  | >10 <sup>15</sup>  | *cm               | DIN IEC 60093   |
| Surface resistance                          | >10 <sup>15</sup>  |                   | DIN IEC 60093   |
| Dielectric strength                         | 17                 | kV/mm             | IEC 60243       |
| Resistance to tracking                      |                    |                   |                 |
| <br>  |                    |                   |                 |
| <b>Miscellaneous</b>                        | <b>dry / moist</b> |                   | <b>standard</b> |
| Density                                     | 1,20               | g/cm <sup>3</sup> | ISO 1183        |
| Moisture absorption<br>(23°C/50RH)          | 0,15               | %                 | ISO 15512       |
| Water absorption to equilibrium             | 0,35               | %                 | DIN EN ISO 62   |
| Flammability acc. to UL<br>standard 94      | V0                 |                   | UL-Standard 94  |

### (1) Testing of semi-finished products

The above information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of chemical resistance, of certain properties and the suitability of our products and their applications. Our products are not destined for use in medical and dental implants. Existing commercial patents must be observed. Unless otherwise stated, these values represent averages taken from injection moulding samples, dry as moulded. We reserve the right to make technical alterations.

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