

# Technical Data Sheet

## GEHR POM-C®



### I. Physical Properties<sup>1)</sup>

|                                       | Test method | Unit              | Value |
|---------------------------------------|-------------|-------------------|-------|
| 1. Specific gravity ( $\rho$ )        | ISO 1183    | g/cm <sup>3</sup> | 1,39  |
| 2. Water absorption                   | ISO 62      | %                 | 0,8   |
| 3. Humidity absorption                |             |                   | 0,2   |
| 4a. Maximum permissible service temp. | UL746B      | °C                | 100   |
| 4b. Lower permissible service temp.   |             |                   | -40   |

### II. Mechanical Properties

|   | Test method | Unit              | Value |
|---|-------------|-------------------|-------|
| 1. Tensile strength at yield ( $\sigma_s$ )     | ISO 527     | MPa               | 67    |
| 2. Elongation at yield ( $\epsilon_s$ )         |             | %                 | 22    |
| 3. Tensile strength at break ( $\sigma_R$ )     |             | MPa               | 65    |
| 4. Elongation at break ( $\epsilon_R$ )         |             | %                 | 28    |
| 5. Impact strength ( $a_n$ )                    | ISO 179     | kJ/m <sup>2</sup> | n.b.  |
| 6. Notch impact strength ( $a_k$ )              |             |                   | 6     |
| 7. Ball indentation ( $H_k$ )/Rockwell hardness | ISO 2039    | MPa               | 125   |
| 8. Shore-D                                      | ISO 868     |                   | 83    |
| 9. Flexural strength ( $\sigma_{B,3.5\%}$ )     | ISO 178     | MPa               | -     |
| 10. Modulus of elasticity ( $E_t$ )             | ISO 527     |                   | 2855  |

### III. Thermal Properties

|   | Test method | Unit                              | Value |
|---|-------------|-----------------------------------|-------|
| 1. Vicat-softening point VST/B/50                 | ISO 306     | °C                                | 150   |
| VST/A/50  |             |                                   | -     |
| 2. Heat deflection temperature HDT/B              | ISO 75      |                                   | 155   |
| HDT/A   |             |                                   | 95    |
| 3. Coef. of linear thermal expansion ( $\alpha$ ) | ISO 11359   | K <sup>-1</sup> *10 <sup>-4</sup> | 1,2   |
| 4. Thermal conductivity at 20 °C ( $\lambda$ )    | ISO 22007-4 | W/(m*K)                           | -     |
| 5. Glass transition temperature ( $T_g$ )         | ISO 3146    | °C                                | -65   |
| 6. Melting temperature ( $T_m$ )                  |             |                                   | 166   |

### IV. Electrical Properties

|   | Test method | Unit         | Value          |
|---|-------------|--------------|----------------|
| 1. Volume resistivity ( $\rho_D$ ) <sup>8)</sup>    | IEC 60093   | $\Omega$ *cm | $\geq 10^{13}$ |
| 2. Surface resistivity ( $R_o$ ) <sup>8)</sup>      |             | $\Omega$     | $\geq 10^{13}$ |
| 3. Dielectric constant at 1MHz ( $\epsilon_r$ )     | IEC 60250   | -            | 38             |
| 4. Dielectric loss factor at 1 MHz ( $\tan\delta$ ) |             | -            | 0,005          |
| 5. Dielectric strength                              | IEC 60243-1 | kV/mm        | 40             |
| 6. Tracking resistance                              | IEC 60112   | V            | CTI 600        |

### V. Additional Data

|   | Test method | Unit | Value |
|---|-------------|------|-------|
| 1. Bondability  | -           | -    | -     |
| 2. Physiological indifference <sup>5)</sup> according | EEC         | -    | +     |
|   | FDA         | -    | +     |
| 3. Flammability                                       | UL 94       | -    | HB    |
| 4. Limiting Oxygen Index (LOI)                        | ASTM D2863  | %    | 18    |
| 4. UV stabilisation <sup>6)</sup>                     | -           | -    | -     |

1) The figures stated here are approximate values based on experience currently gathered by experts. They are determined on the basis of raw materials, so that a divergence of values on the ultimate product cannot be precluded. Any legally binding guarantee of certain properties, or any suitability for a specific application cannot be inferred from the present data.

2) Pretreatment necessary. 3) 65 (round rods 160 - 200 mm  $\phi$ ) 57 (round rods 220 - 300 mm  $\phi$ ).

4) 59 (round rods 160 - 200 mm  $\phi$ ) 51 (round rods 220 - 300 mm  $\phi$ ). 5) Physiological indifferences are valid for nature coloured materials.

6) Valid for nature coloured materials. An additional UV protection can taken over by special pigments e.g. carbon black.

7) Test results without UL registration 8) Data are only valid for natural colours 9) Data taken from raw material \*Self-assessment without test certificate \* Own classification without official test report

n.b.= no break + = yes o = limited - = no/no data available