

# Makrolon® MR6005 HF

/ low viscosity; MVR (300 °C/1.2 kg) 18 cm³/10 min; easy release; impact modified; improved flammability; housing parts; electrical/electronic; Information technology

ISO Shortname

PC-I FR

| Property  | Test Condition                                    | Unit                | Standard                       | typical Value |
|---|---|---------------------|--------------------------------|---------------|
| <b>Rheological properties</b>                       |   |                     |                                |               |
| Melt volume-flow rate                               | 300 °C/ 1.2 kg                                    | cm³/10 min          | ISO 1133                       | 18            |
| Molding shrinkage, parallel/normal                  | Value range based on general practical experience | %                   | b.o. ISO 2577                  | 0.6 - 0.8     |
| <b>Mechanical properties (23 °C/50 % r. h.)</b>     |   |                     |                                |               |
| C Tensile modulus                                   | 1 mm/min  | MPa                 | ISO 527-1,-2                   | 2350          |
| C Yield stress                                      | 50 mm/min   | MPa                 | ISO 527-1,-2                   | 60            |
| C Yield strain                                      | 50 mm/min   | %                   | ISO 527-1,-2                   | 5.6           |
| Stress at break                                     | 50 mm/min   | MPa                 | ISO 527-1,-2                   | 54            |
| Strain at break                                     | 50 mm/min   | %                   | b.o. ISO 527-1,-2              | 80            |
| Flexural modulus                                    | 2 mm/min  | MPa                 | ISO 178                        | 2300          |
| Flexural strength                                   | 2 mm/min  | MPa                 | ISO 178                        | 93            |
| Charpy notched impact strength                      | 23 °C   | kJ/m²               | ISO 21305/based on ISO 179/1eA | 58 P          |
| Charpy notched impact strength                      | -30 °C  | kJ/m²               | ISO 21305/based on ISO 179/1eA | 21 C          |
| Izod notched impact strength                        | 23 °C   | kJ/m²               | ISO 21305/based on ISO 180/A   | 55 P          |
| Izod notched impact strength                        | -30 °C  | kJ/m²               | ISO 21305/based on ISO 180/A   | 18 C          |
| C Puncture impact properties - maximum force        | 23 °C   | N                   | ISO 6603-2                     | 5000          |
| C Puncture energy                                   | 23 °C   | J                   | ISO 6603-2                     | 52            |
| <b>Thermal properties</b>                           |   |                     |                                |               |
| C Temperature of deflection under load              | 1.80 MPa  | °C                  | ISO 75-1,-2                    | 117           |
| C Temperature of deflection under load              | 0.45 MPa  | °C                  | ISO 75-1,-2                    | 131           |
| C Vicat softening temperature                       | 50 N; 50 °C/h                                     | °C                  | ISO 306                        | 136           |
| Vicat softening temperature                         | 50 N; 120 °C/h                                    | °C                  | ISO 306                        | 138           |
| C Coefficient of linear thermal expansion, parallel | 23 to 55 °C                                       | 10 <sup>-4</sup> /K | ISO 11359-1,-2                 | 0.78          |
| C Coefficient of linear thermal expansion, normal   | 23 to 55 °C                                       | 10 <sup>-4</sup> /K | ISO 11359-1,-2                 | 0.78          |
| C Burning behavior UL 94 (1.5 mm)                   |   | Class               | UL 94                          | V0            |
| C Burning behavior UL 94                            | 3.0 mm  | Class               | UL 94                          | V0            |
| Glow wire test (GWFI)                               | 1.5 mm  | °C                  | IEC 60695-2-12                 | 960           |
| Glow wire test (GWFI)                               | 3.0 mm  | °C                  | IEC 60695-2-12                 | 960           |
| Glow wire test (GWIT)                               | 1.5 mm  | °C                  | IEC 60695-2-13                 | 850           |
| Glow wire test (GWIT)                               | 3.0 mm  | °C                  | IEC 60695-2-13                 | 900           |
| <b>Other properties (23 °C)</b>                     |   |                     |                                |               |
| C Density   |   | kg/m³               | ISO 1183-1                     | 1200          |
| <b>Processing conditions for test specimens</b>     |   |                     |                                |               |
| C Injection molding - Melt temperature              |   | °C                  | ISO 294                        | 300           |
| C Injection molding - Mold temperature              |   | °C                  | ISO 294                        | 80            |
| C Injection molding - Injection velocity            |   | mm/s                | ISO 294                        | 200           |

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|---|----------------|------|----------|---------------|
| <b>Recommended processing and drying conditions</b> |                |      |          |               |
| Melt temperatures                                   |                | °C   | -        | 280 - 300     |
| Standard Melt temperature                           |                | °C   | -        | 300           |
| Barrel Temperatures - Rear                          |                | °C   | -        | 250 - 260     |
| Barrel Temperatures - Middle                        |                | °C   | -        | 270 - 280     |
| Barrel Temperatures - Front                         |                | °C   | -        | 280 - 290     |
| Barrel Temperatures - Nozzle                        |                | °C   | -        | 290 - 300     |
| Mold Temperatures                                   |                | °C   | -        | 80 - 120      |
| Hold Pressure (% of injection pressure)             |                | %    | -        | 50 - 75       |
| Plastic Back Pressure (specific)                    |                | bar  | -        | 50 - 150      |
| Peripheral Screw Speed                              |                | m/s  | -        | 0.05 - 0.2    |
| Shot-to-Cylinder Size                               |                | %    | -        | 30 - 70       |
| Dry Air Drying Temperature                          |                | °C   | -        | 120           |
| Dry Air Drying Time                                 |                | h    | -        | 2 - 3         |
| Moisture Content max. (%)                           |                | %    | -        | <= 0.02       |
| Vent Depth  |                | mm   | -        | 0.025 - 0.075 |

**C** These property characteristics are taken from the CAMPUS plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350.

Impact properties: N = non-break, P = partial break, C = complete break

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## Disclaimer

Information Impact properties

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Typical value

These values are typical values only. Unless explicitly agreed in written form, they do not constitute a binding material specification or warranted values. Values may be affected by the design of the mold/die, the processing conditions and coloring/pigmentation of the product. Unless specified to the contrary, the property values given have been established on standardized test specimens at room temperature.

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Covestro AG

Polycarbonates Business Unit

Kaiser-Wilhelm-Allee 60

51373 Leverkusen

Germany

plastics@covestro.com

www.plastics.covestro.com

