# Makrolon® M430 GF

**Preliminary Datasheet /**

polycarbonate; MVR (300 °C/1.2 kg) 7.0 cm³/10 min; low viscosity; 30 % glass fiber reinforced; biocompatible according to many ISO 10993-1 test requirements; injection molding; available in opaque colors only; suitable for medical devices

**ISO Shortname**

PC-GF30

| | Property | Test Condition | Unit | Standard | typical Value |
|---|---|---|---|---|---|
| **Rheological properties** | | | | | |
| | Melt volume-flow rate | 300 °C/ 1.2 kg | cm³/10 min | ISO 1133 | 7 |
| | Melt viscosity | 1000 $s^{-1}$/ 300 °C | Pa·s | b.o. ISO 11443-A | 380 |
| C | Molding shrinkage, parallel | 60x60x2 mm³ | % | ISO 294-4 | 0.2 |
| C | Molding shrinkage, normal | 60x60x2 mm³ | % | ISO 294-4 | 0.5 |
| **Mechanical properties (23 °C/50 % r. h.)** | | | | | |
| C | Tensile modulus | 1 mm/min | MPa | ISO 527-1,-2 | 8000 |
| C | Stress at break | 5 mm/min | MPa | ISO 527-1,-2 | 128 |
| C | Strain at break | 5 mm/min | % | ISO 527-1,-2 | 2.8 |
| | Flexural modulus | 2 mm/min | MPa | ISO 178 | 8100 |
| | Flexural strength | 2 mm/min | MPa | ISO 178 | 197 |
| | Izod notched impact strength | 23 °C/ 3 mm | kJ/m² | ISO 21305/based on ISO 180/A | 14 |
| | Izod notched impact strength | -30 °C/ 3 mm | kJ/m² | ISO 21305/based on ISO 180/A | 13 |
| **Thermal properties** | | | | | |
| C | Temperature of deflection under load | 1.80 MPa | °C | ISO 75-1,-2 | 140 |
| C | Temperature of deflection under load | 0.45 MPa | °C | ISO 75-1,-2 | 144 |
| | Vicat softening temperature | 50 N; 120 °C/h | °C | ISO 306 | 149 |
| C | Coefficient of linear thermal expansion, parallel | 23 to 55 °C | $10^{-4}$/K | ISO 11359-1,-2 | 0.2 |
| C | Coefficient of linear thermal expansion, normal | 23 to 55 °C | $10^{-4}$/K | ISO 11359-1,-2 | 0.4 |
| **Other properties (23 °C)** | | | | | |
| C | Water absorption (saturation value) | Water at 23 °C | % | ISO 62 | 0.26 |
| C | Water absorption (equilibrium value) | 23 °C; 50 % r. h. | % | ISO 62 | 0.10 |
| C | Density | | kg/m³ | ISO 1183-1 | 1420 |
| **Recommended processing and drying conditions** | | | | | |
| | Standard Melt temperature | | °C | - | 300 |
| | Mold Temperatures | | °C | - | 100 |
| | Dry Air Drying Temperature | | °C | - | 120 |
| | Dry Air Drying Time | | h | - | 4 |

**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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Information Impact properties

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

Typical value

These values are typical values only. Unless explicitly agreed in written form, the 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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Recommended Processing and Drying Conditions

Barrel temperatures are valid for a standard 3-zone barrel. Temperature set-up for different barrel types may change according to configuration. Values for hold pressure as percentage of injection pressure may vary depending on, amongst others, part geometry, injection molding machine and injection mold. Drying conditions are for dry air dryers only. Drying times and drying temperatures may differ depending on valid dryer type. Further information is provided by your local Covestro support as well as in the following brochures: Injection Molding of High Quality Molded Parts - Drying; Determining the Dryness of Makrolon by TVI Test; The fundamentals of shrinkage in thermoplastics; Shrinkage and deformation of glass fiber reinforced thermoplastics [...]. https://www.plastics.covestro.com/Library/Overview.aspx

Disclaimer shrinkage data

Shrinkage data is provided as a reference only, and is based on sample plaques molded under specific, controlled processing conditions. Shrinkage rates in production parts can vary and are influenced by several variables such as, but not limited to: part design (e.g. part size, thickness and geometry), mold design (e.g. gate type and location, runner design, mold materials, cooling system), molding conditions (e.g. processing temperature, mold temperature, packing time and pressure, injection speed). We suggest materials be evaluated in existing applicable molds to achieve the most accurate shrinkage estimation for your specific application and processing practices. The final choice of shrinkage is the responsibility of the user of the material, and should be made based on your experience and testing results. We shall not be liable for any damage caused by the use of the shrinkage data as provided by us. If you have any questions, pls consult technical representatives from Covestro.

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