# Menzolit® HPC 1200

Thermoset Polyester

Menzolit Ltd (UK)

## Message:

Menzolit® HPC 1200 is a sheet moulding compound based on unsaturated polyester resin. The product is glass fibre reinforced and contains mineral fillers. In case of fire the product doesn't melt, neither does it form droplets nor is smoke generation excessive. The material is compression moulded in heated steel moulds. It is recommended to work with chrome plated tools. The product contains no halogens.
Menzolit® HPC 1200 is a special SMC for high strength applications. The glass level has been selected to combine mouldability with high strength and stiffness properties in orientation direction. The reinforcement is composed of chopped, randomly distributed glass fibers and additional unchopped, continuous and lengthwise oriented glass fibers. This results in high strength and stiffness along with the unidirectional fibers. The flowability in orientation direction is reduced. This orientation influences flow during moulding and the anisotropic material properties have to be kept in mind during part design and part moulding. Typical applications are load bearing components, for instance bumpers and power train substructures.

| General Information | |
|---|---|
| Filler / Reinforcement | Glass\Mineral,45% Filler by Weight |
| Features | Flame Retardant<br>Good Moldability<br>Good Stiffness<br>Halogen Free<br>High Heat Resistance<br>High Strength<br>Low Smoke Emission |
| Uses | Automotive Bumper |
| Appearance | Colors Available |
| Forms | SMC - Sheet Molding Compound |
| Processing Method | Injection Molding |
| Part Marking Code (ISO 11469) | >UP-(MD+GLU)62< |

| Physical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Density | 1.80 | g/cm³ | ISO 1183 |
| Molding Shrinkage | | | |
| -- [1] | 0.0 | % | DIN 53464 |
| -- | -0.030 | % | ISO 2577 |
| Water Absorption (Saturation, 23°C) | < 0.50 | % | ISO 62 |

| Mechanical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Tensile Modulus (Compression Molded) | 22000 | MPa | ISO 527-2 |
| Tensile Stress (Yield, Compression Molded) | 298 | MPa | ISO 527-2 |
| Tensile Strain (Break, Compression Molded) | 1.6 | % | ISO 527-2 |
| Flexural Modulus (Compression Molded) | 24000 | MPa | ISO 178 |
| Flexural Stress (Compression Molded) | 655 | MPa | ISO 178 |
| Compressive Stress | 350 | MPa | ISO 14126 |
| Poisson's Ratio | 0.16 | | Internal Method |

| | | | |
|---|---|---|---|
| Matrix Crazing Strain | 0.50 | % | Internal Method |
| **Impact** | **Nominal Value** | **Unit** | **Test Method** |
| Charpy Notched Impact Strength (Compression Molded) | 260 | $kJ/m^2$ | ISO 179 |
| **Thermal** | **Nominal Value** | **Unit** | **Test Method** |
| Heat Deflection Temperature (1.8 MPa, Unannealed) | > 200 | °C | ISO 75-2/A |
| Continuous Use Temperature | 170 | °C | Internal Method |
| Glass Transition Temperature | 162 | °C | DSC |
| CLTE - Flow | 7.0E-6 | cm/cm/°C | ISO 11359-2 |
| **Flammability** | **Nominal Value** | | **Test Method** |
| Flame Rating (3.00 mm) | HB | | UL 94 |
| **Injection** | **Nominal Value** | **Unit** | |
| Mold Temperature | 135 to 150 | °C | |
| Injection Pressure | 8.00 to 10.0 | MPa | |
| **NOTE** | | | |
| 1. | Post Molding Shrinkage | | |



## Recommended distributors for this material

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