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# CELANEX® 5200-2

## CELANEX® PBT

Celanex 5200-2 is a 15% fiberglass reinforced polyester with improved surface finish. Celanex 5200-2 contains an internal lubricant.

## Product information

| | | |
|---|---|---|
| Resin Identification | (PBT+PET)-GF15 | ISO 1043 |
| Part Marking Code | >(PBT+PET)-GF15< | ISO 11469 |

## Rheological properties

| | | | |
|---|---|---|---|
| Melt volume-flow rate | 38 | $cm^3$/10min | ISO 1133 |
| Temperature | 265 | °C | |
| Load | 2.16 | kg | |
| Melt mass-flow rate | 28 | g/10min | ISO 1133 |
| Melt mass-flow rate, Temperature | 265 | °C | |
| Melt mass-flow rate, Load | 2.16 | kg | |
| Viscosity number | 69 | $cm^3$/g | ISO 307, 1628 |
| Moulding shrinkage range, parallel | 0.4 - 0.6 | % | ISO 294-4, 2577 |

## Typical mechanical properties

| | | | |
|---|---|---|---|
| Tensile modulus | 6000 | MPa | ISO 527-1/-2 |
| Tensile stress at break, 5mm/min | 120 | MPa | ISO 527-1/-2 |
| Tensile strain at break, 5mm/min | 3 | % | ISO 527-1/-2 |
| Flexural modulus | 8000 | MPa | ISO 178 |
| Flexural strength | 180 | MPa | ISO 178 |
| Charpy impact strength, 23°C | 35 | $kJ/m^2$ | ISO 179/1eU |
| Charpy impact strength, -30°C | 35 | $kJ/m^2$ | ISO 179/1eU |
| Charpy notched impact strength, 23°C | 8 | $kJ/m^2$ | ISO 179/1eA |
| Charpy notched impact strength, -30°C | 8 | $kJ/m^2$ | ISO 179/1eA |
| Izod notched impact strength, 23°C | 7.1 | $kJ/m^2$ | ISO 180/1A |
| Hardness, Rockwell, M-scale | 91 | | ISO 2039-2 |
| Poisson's ratio | 0.35[C] | | |

[C]: Calculated

## Thermal properties

| | | | |
|---|---|---|---|
| Melting temperature, 10°C/min | 260 | °C | ISO 11357-1/-3 |
| Temperature of deflection under load, 1.8 MPa | 190 | °C | ISO 75-1/-2 |
| Temperature of deflection under load, 0.45 MPa | 215 | °C | ISO 75-1/-2 |
| Temperature of deflection under load, 8 MPa | 65 | °C | ISO 75-1/-2 |
| Vicat softening temperature, 50°C/h 50N | 210 | °C | ISO 306 |
| Coefficient of linear thermal expansion (CLTE), parallel | 35 | E-6/K | ISO 11359-1/-2 |

## Flammability

| | | | |
|---|---|---|---|
| Burning Behav. at thickness h | HB | class | IEC 60695-11-10 |
| Thickness tested | 0.75 | mm | IEC 60695-11-10 |
| Oxygen index | 20 | % | ISO 4589-1/-2 |

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## Electrical properties

| | | | |
|---|---|---|---|
| Relative permittivity, 100Hz | 4.3 | | IEC 62631-2-1 |
| Relative permittivity, 1MHz | 4 | | IEC 62631-2-1 |
| Dissipation factor, 100Hz | 11 | E-4 | IEC 62631-2-1 |
| Dissipation factor, 1MHz | 190 | E-4 | IEC 62631-2-1 |
| Volume resistivity | >1E13 | Ohm.m | IEC 62631-3-1 |
| Surface resistivity | >1E15 | Ohm | IEC 62631-3-2 |
| Electric strength | 28 | kV/mm | IEC 60243-1 |
| Comparative tracking index | 325 | | IEC 60112 |

## Physical/Other properties

| | | | |
|---|---|---|---|
| Humidity absorption, 2mm | 0.2 | % | Sim. to ISO 62 |
| Water absorption, 2mm | 0.45 | % | Sim. to ISO 62 |
| Water absorption, Immersion 24h | 0.05 | % | Sim. to ISO 62 |
| Density | 1410 | kg/m$^3$ | ISO 1183 |

## Injection

| | | |
|---|---|---|
| Drying Recommended | yes | |
| Drying Temperature | 120 | °C |
| Drying Time, Dehumidified Dryer | 4 | h |
| Processing Moisture Content | ≤0.02 | % |
| Melt Temperature Optimum | 265 | °C |
| Min. melt temperature | 255 | °C |
| Max. melt temperature | 275 | °C |
| Screw tangential speed | 0.1 - 0.3 | m/s |
| Mold Temperature Optimum | 100 | °C |
| Min. mould temperature | 90 | °C |
| Max. mould temperature | 130 | °C |

## Characteristics

| | |
|---|---|
| Processing | Injection Moulding |
| Delivery form | Pellets |
| Special characteristics | High Gloss |

## Additional information

Processing Notes

### Pre-Drying

To avoid hydrolytic degradation during processing, CELANEX resins have to be dried to a moisture level less than 0.02%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°F (-40°C) at 250°F (121°C) for 4 hours.

### Storage

For subsequent storage of the material in the dryer until processed (<= 60 h) it is necessary to lower the temperature to 100° C.

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### Automotive

| OEM | STANDARD | ADDITIONAL INFORMATION |
| --- | --- | --- |
| Stellantis - Chrysler | MS.50103 / CPN-2425 | Black |