# BASF Capron® GR40 HS 40% Glass-Filled Nylon 6 (Dry) (discontinued **)

**Category :** Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6, 40% Glass Fiber Filled

**Material Notes:**

Capron GR40 HS is a heat stabilized 40% glass reinforced polyamide 6 injection molding compound offering the highest level of strength, stiffness, high temperature performance and dimensional stability. It is also available in non-heat stabilized (Capron GR40) and/or pigmented versions.Capron GR40 HS is generally recommended for applications such as power tool housings, cattle ear taggers, luggage frames, fans and pressure regulator housings.Data provided by Allied Signal.Processing: Max. water content 0.12%. Product is supplied in sealed containers and drying is not required. If drying becomes necessary, a dehumidifying or desiccant dryer operating at 85°C (185 °F). Is recommended. Drying time is dependent on moisture level.Melt Temperature: 270-295 degC (518-563 degF). Mold Temperature: 80-95 degC (176-203 degF). Injection and Packing Pressure: 35-125 bar (500-1500psi) This product can be processed over a wide range of mold temperatures; however, for applications where aesthetics critical, a mold surface temperature of 80-95 degC (176-203 degF) is required. Injection pressure controls the filling of the part and should be applied for 90% of ram travel. Packing pressure affects the final part and can be used effectively in controlling sink marks and shrinkage. It should be applied and maintained until the gate area is completely frozen off. Back pressure can be utilized to provide uniform melt consistency and reduce trapped air and gas. A maximum of 3.5 bar (50 psi) is recommended to minimize glass fiber breakage. Fast fill rates are recommended to insure uniform melt delivery to the cavity and prevent premature freezing. Surface appearance is directly affected by injection rate. Capron® is no longer a part of the BASF standard line. The BASF nylon products have been consolidated in the Ultramid ® line.

Order this product through the following link:
http://www.lookpolymers.com/polymer_BASF-Capron-GR40-HS-40-Glass-Filled-Nylon-6-Dry-nbspdiscontinued-.php

| Physical Properties | Metric | English | Comments |
|---|---|---|---|
| Density | 1.44 g/cc | 0.0520 lb/in³ | ISO data |
| Water Absorption | 1.0 % | 1.0 % | 24 hrs; ISO data |
| Moisture Absorption at Equilibrium | 1.6 % | 1.6 % | 50% RH; 23°C; ISO data |
| Water Absorption at Saturation | 5.7 % | 5.7 % | in water; 23°C; ISO data |
| Linear Mold Shrinkage, Flow | 0.0020 cm/cm | 0.0020 in/in | ASTM and ISO value |
| Linear Mold Shrinkage, Transverse | 0.0060 cm/cm | 0.0060 in/in | ISO Data |

| Mechanical Properties | Metric | English | Comments |
|---|---|---|---|
| Tensile Strength, Ultimate | 170 MPa | 24700 psi | Same value from ASTM and ISO tests; 5 mm/min. |
| Elongation at Break | 3.0 % | 3.0 % | ISO, 5 mm/minl |
| | 3.0 % | 3.0 % | ASTM, 5 mm/minl |
| Tensile Modulus | 12.5 GPa | 1810 ksi | same value from ASTM and ISO test. |
| Poissons Ratio | 0.35 | 0.35 | ISO data |

| Mechanical Properties | Metric | English | Comments |
|---|---|---|---|

| Thermal Properties | Metric | English | Comments |
|---|---|---|---|
| CTE, linear, Parallel to Flow | 20.0 µm/m-°C<br>@Temperature 20.0 °C | 11.1 µin/in-°F<br>@Temperature 68.0 °F | ISO data |
| CTE, linear, Transverse to Flow | 60.0 µm/m-°C<br>@Temperature 20.0 °C | 33.3 µin/in-°F<br>@Temperature 68.0 °F | ISO data |
| Melting Point | 220 °C | 428 °F | ASTM and ISO test |
| Deflection Temperature at 0.46 MPa (66 psi) | 220 °C | 428 °F | ISO data |
| Deflection Temperature at 1.8 MPa (264 psi) | 210 °C | 410 °F | ISO Data |

| Electrical Properties | Metric | English | Comments |
|---|---|---|---|
| Electrical Resistivity | >= 1.00e+15 ohm-cm | >= 1.00e+15 ohm-cm | ISO data |

| Processing Properties | Metric | English | Comments |
|---|---|---|---|
| Processing Temperature | 275 °C | 527 °F | See Materials Notes |
| Mold Temperature | 95.0 °C | 203 °F | See Materials Notes |
| Drying Temperature | 85.0 °C | 185 °F | See Materials Notes |

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