

BASF Capron® GR630 30% Glass-Filled Nylon 66 (Dry) (discontinued **)

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 30% Glass Fiber Filled

Material Notes:

Capron GR630 is a 30% glass fiber reinforced polyamide 6,6 injection molding compound offering excellent strength, stiffness, creep resistance and dimensional stability. This balance of engineering properties combined with excellent processability make it ideal in applications replacing metal, resulting in overall cost and weight reduction. It is also available in heat stabilized (Capron GR630) and/or pigmented versions. Capron GR630 is generally recommended for switch components, valve bodies and relay parts. 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: 290-315 degC (555-600 degF). Mold Temperature: 80-95 degC (176-203 degF). Injection and Packing Pressure: 35-125 bar (500-1500psi) A mold temperature of 80-95degC (176-203 degF) is recommended, but temperatures of as low as 45 degC (113degF) and as high as 105 degC (221 degF) can be used where applicable. 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-GR630-30-Glass-Filled-Nylon-66-Dry-nbspdiscontinued-.php

| Physical Properties | Metric | English | Comments |
|------------------------------------|--------------|---------------------------|--------------------------|
| Density | 1.38 g/cc | 0.0499 lb/in ³ | ISO data |
| Moisture Absorption at Equilibrium | 1.8 % | 1.8 % | 50% RH; 23°C; ISO data |
| Water Absorption at Saturation | 5.9 % | 5.9 % | in water; 23°C; ISO data |
| Linear Mold Shrinkage, Flow | 0.0030 cm/cm | 0.0030 in/in | ASTM and ISO value |
| Linear Mold Shrinkage, Transverse | 0.010 cm/cm | 0.010 in/in | ISO Data |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|----------|-----------|---|
| Tensile Strength, Ultimate | 205 MPa | 29700 psi | Same value from ASTM and ISO tests; 5 mm/min. |
| Elongation at Break | 3.0 % | 3.0 % | ASTM, 5 mm/minl |
| | 3.0 % | 3.0 % | ISO, 5 mm/minl |
| Tensile Modulus | 9.74 GPa | 1410 ksi | same value from ASTM and ISO test. |
| Poissons Ratio | 0.35 | 0.35 | ISO data |

| Shear Modulus Mechanical Properties | 3.60 GPa Metric | 522 ksi English | calculated Comments |
|--|--------------------|--------------------|------------------------|
|--|--------------------|--------------------|------------------------|

| Thermal Properties | Metric | English | Comments |
|--|--|--|-------------------|
| CTE, linear, Parallel to Flow | 23.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature 20.0 $^{\circ}\text{C}$ | 12.8 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature 68.0 $^{\circ}\text{F}$ | ISO data |
| CTE, linear, Transverse to Flow | 69.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature 20.0 $^{\circ}\text{C}$ | 38.3 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature 68.0 $^{\circ}\text{F}$ | ISO data |
| Melting Point | 260 $^{\circ}\text{C}$ | 500 $^{\circ}\text{F}$ | ASTM and ISO test |
| Deflection Temperature at 0.46 MPa (66 psi) | 257 $^{\circ}\text{C}$ | 495 $^{\circ}\text{F}$ | ISO data |
| Deflection Temperature at 1.8 MPa (264 psi) | 245 $^{\circ}\text{C}$ | 473 $^{\circ}\text{F}$ | ISO Data |

| Electrical Properties | Metric | English | Comments |
|------------------------|-----------------|-----------------|----------|
| Electrical Resistivity | 1.00e+14 ohm-cm | 1.00e+14 ohm-cm | ISO data |
| Dielectric Strength | 30.0 kV/mm | 762 kV/in | ISO data |

| Processing Properties | Metric | English | Comments |
|------------------------|-------------------------|------------------------|---------------------|
| Processing Temperature | 290 $^{\circ}\text{C}$ | 554 $^{\circ}\text{F}$ | See Materials Notes |
| Mold Temperature | 80.0 $^{\circ}\text{C}$ | 176 $^{\circ}\text{F}$ | See Materials Notes |
| Drying Temperature | 85.0 $^{\circ}\text{C}$ | 185 $^{\circ}\text{F}$ | See Materials Notes |

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