

# Ultramid® Endure D3G7

## BK20560

### Polyamide 66



#### Product Description

Ultramid Endure D3G7 BK20560 is a glass fiber reinforced injection molding grade with high stiffness, very good flowability, and excellent heat aging resistance up to at least 220 degC (428 degF).

| PHYSICAL   | ISO Test Method | Property Value               |             |
|--|-----------------|------------------------------|-------------|
| Density, g/cm <sup>3</sup>                           | 1183            | 1.43                         |             |
| Mold Shrinkage, parallel, %                          | 294-4           | 0.3                          |             |
| Mold Shrinkage, normal, %                            | 294-4           | 0.87                         |             |
| MECHANICAL   | ISO Test Method | Dry                          | Conditioned |
| Tensile Modulus, MPa                                 | 527             |                              |             |
| 23C  |                 | 11,300                       | 7,600       |
| 150C   |                 | 4,200                        | -           |
| Tensile stress at break, MPa                         | 527             |                              |             |
| 23C  |                 | 200                          | 130         |
| 150C   |                 | 84                           | -           |
| Tensile strain at break, %                           | 527             |                              |             |
| 23C  |                 | 2.9                          | 5.1         |
| 150C   |                 | 6.7                          | -           |
| Flexural Strength, MPa                               | 178             |                              |             |
| 23C  |                 | 300                          | 200         |
| Flexural Modulus, MPa                                | 178             |                              |             |
| 23C  |                 | 10,600                       | 7,400       |
| IMPACT   | ISO Test Method | Dry                          | Conditioned |
| Charpy Notched, kJ/m <sup>2</sup>                    | 179             |                              |             |
| -30C   |                 | 10.7                         | 13.9        |
| 23C  |                 | 10.2                         | 13.4        |
| Charpy Unnotched, kJ/m <sup>2</sup>                  | 179             |                              |             |
| -30C   |                 | 60                           | 60          |
| 23C  |                 | 80                           | 90          |
| THERMAL  | ISO Test Method | Dry                          | Conditioned |
| Melting Point, C                                     | 3146            | 260                          | -           |
| HDT A, C   | 75              | 240                          | -           |
| HDT B, C   | 75              | 260                          | -           |
| Coef. of Linear Thermal Expansion, Parallel, mm/mm C |                 | .14 to .20 X10 <sup>-4</sup> | -           |
| Coef. of Linear Thermal Expansion, Normal, mm/mm C   |                 | .80 to 1.3 X10 <sup>-4</sup> | -           |
| ELECTRICAL   | ISO Test Method | Dry                          | Conditioned |
| Comparative Tracking Index                           | IEC 60112       | 250                          | 225         |
| Volume Resistivity (Ohm-m)                           | IEC 60093       | 3E12                         | 4E08        |
| Dielectric Strength, KV/mm                           | IEC 60243-1     | 48                           | 29          |

## Processing Guidelines

### Material Handling

Max. Water content: 0.12%, Moisture Optimal: <0.05%

Product is supplied in sealed containers and drying prior to molding is not required. If drying becomes necessary, a dehumidifying or desiccant dryer operating at 80C (176F) is recommended. Drying time is dependent on moisture level, however 2-4 hours is generally sufficient. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet. Alternatively, please contact your BASF representative.

### Typical Profile

Melt Temperature 280-300C (536-572F)

Mold Temperature 80-90C (176-194F)

Injection and Packing Pressure 35-125 bar (500-1500 psi)

### Mold Temperatures

A mold temperature of 80-90C (176-194F) is recommended, however temperatures of as low as 45C (113F) and as high as 105C (221F) can be used where applicable.

### Pressures

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. Minimal back pressure should be utilized to prevent glass breakage.

### Fill Rate

Fast fill rates are recommended to ensure uniform melt delivery to the cavity and prevent premature freezing. Surface appearance is directly affected by injection rate.

## Note

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