Product Information

# Ultramid® TG3S BK-104
## Polyamide 6

BASF
The Chemical Company

### Product Description

Ultramid TG3S BK-104 is a 15% glass reinforced, heat stabilized, impact modified PA6 injection molding compound developed for applications requiring improved toughness in combination with a balance of strength, stiffness, excellent moldability and surface aesthetics.

### Applications

It is generally recommended for application such as window hardware, wheel chairs wheels, bicycle wheels, power tool housings, hose clamps, clips and fasteners.

| PHYSICAL | ISO Test Method | Property Value | |
|---|---|---|---|
| Density, g/cm | 1183 | 1.21 | |
| **MECHANICAL** | **ISO Test Method** | **Dry** | **Conditioned** |
| Tensile Modulus, MPa | 527 | | |
| 23C | | 4,600 | - |
| Tensile stress at break, MPa | 527 | | |
| 23C | | 90 | - |
| Tensile strain at break, % | 527 | | |
| 23C | | 3.5 | - |
| Flexural Modulus, MPa | 178 | | |
| 23C | | 4,390 | - |
| **IMPACT** | **ISO Test Method** | **Dry** | **Conditioned** |
| Izod Notched Impact, kJ/m$^2$ | 180 | | |
| 23C | | 17 | - |
| -40C | | 5.4 | - |
| Charpy Notched, kJ/m$^2$ | 179 | | |
| 23C | | 13 | - |
| **THERMAL** | **ISO Test Method** | **Dry** | **Conditioned** |
| Melting Point, C | 3146 | 220 | - |
| HDT A, C | 75 | 180 | - |
| HDT B, C | 75 | 211 | - |
| **UL RATINGS** | **UL Test Method** | **Property Value** | |
| Flammability Rating, 1.5mm | UL94 | HB | |
| Relative Temperature Index, 1.5mm | UL746B | | |
| Mechanical w/o Impact, C | | 65 | |
| Mechanical w/ Impact, C | | 65 | |
| Electrical, C | | 65 | |

# Ultramid® TG3S BK-104

**Typical Profile**
Melt Temperature 270-295 degC (518-563 degF)
Mold Temperature 80-95 degC (176-203 degF)
Injection and Packing Pressure 35-125 bar (500-1800psi)
Rear Zone 245-275 degC (473-527 degF)
Center Zone 260-285 degC (500-545 degC)
Front Zone 270-295 degC (518-563 degF)
Nozzle 270-295 degC (518-563 degF)

**Mold Temperatures**
This product can be processed over a wide range of mold temperatures; however, for applications where aesthetics are critical, a mold surface temperature of 80-95 degC (176-203 degF) is required.

**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**