

# Ultradur® S 4090 G4 BK15051

## Polybutylene Terephthalate/Acrylonitrile Styrene Acrylate (PBT/ASA)



### Product Description

Ultradur S 4090 G4 BK15051 is a 20% glass reinforced, pigmented black PBT+ASA blend. It produces moldings with good surface finish, is resistant to chemicals and stress cracking, and has low shrinkage and warpage.

### Applications

Applications include highly stressed equipment housings in the automotive, electrical and household sectors.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm <sup>3</sup>	1183	1.38
Viscosity Number, cm <sup>3</sup> /g	1628	108
Moisture, %	62	
(50% RH)		0.2
(Saturation)		0.4
RHEOLOGICAL	ISO Test Method	Property Value
Melt Volume Rate (275 C/2.16 Kg), cc/10min.	1133	14.7
MECHANICAL	ISO Test Method	Property Value
Tensile Modulus, MPa	527	
23C		7,000
Tensile stress at break, MPa	527	
23C		108
Tensile strain at break, %	527	
23C		2.4
Flexural Modulus, MPa	178	
23C		6,400
IMPACT	ISO Test Method	Property Value
Charpy Notched, kJ/m <sup>2</sup>	179	
23C		7
THERMAL	ISO Test Method	Property Value
Melting Point, C	3146	223
HDT A, C	75	184
Coef. of Linear Thermal Expansion, Parallel, mm/mm C		.4 X10-4

### Processing Guidelines

#### Material Handling

Max. Water content: 0.04%

To ensure optimum part performance, this product must be dried prior to molding and maintained at a moisture level of less than 0.04%. Dehumidifying or desiccant dryers operating at 100-120C (212-248F) for 4 hours drying time are recommended. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet. Alternatively, please contact your BASF representative.

#### Typical Profile

Melt Temperature 250-270C (482-518F)  
Mold Temperature 60-100C (140-212F)  
Injection and Packing Pressure 35-125 bar (500-1500 psi)

### **Mold Temperatures**

This product can be processed over mold temperatures of 60-100C (140-212F); however, for optimizing surface appearance, dimensional stability and part performance, mold surface temperatures of at least 80C (176F) are preferred.

### **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. A maximum of 10 bar (145 psi) is recommended due to the risk of excessive shear.

### **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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