

# Ultramid® 8253 HS

## Polyamide 6



### Product Description

This resin is a heat stabilized, impact modified type 6 graft copolymer developed for both injection molding and extrusion applications requiring improved dry as molded toughness and increased flexibility. It is also available in non-heat stabilized (Ultramid 8253) and/or pigmented versions.

### Applications

Ultramid 8253 HS is generally recommended for applications such as plugs, receptacles, flexible connector covers, weed trimmer components, clips, fasteners, flanges, key housings as well as many flexible tubing applications.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm <sup>3</sup>	1183	1.09
Moisture, %	62	
(24 Hour)		1.5
(50% RH)		2.3
(Saturation)		8.1

MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
-40C		2,835	3,300
23C		2,300	730
80C		400	370
120C		295	220
150C		250	220
Tensile stress at yield, MPa	527		
-40C		117	116
23C		60	32
80C		25	20
120C		20	-
150C		15	15
Tensile stress at break, MPa	527		
Tensile strain at yield, %	527		
23C		4	15
Nominal strain at break, %	527		
-40C		9.0	20
23C		40	>50
Flexural Strength, MPa	178		
23C		65	-
Flexural Modulus, MPa	178		
23C		1,900	-
IMPACT	ISO Test Method	Dry	Conditioned
Charpy Notched, kJ/m <sup>2</sup>	179		
-30C		5	-
23C		18	-

Charpy Unnotched, kJ/m <sup>2</sup> 23C	179	N	-	
<b>THERMAL</b>		<b>ISO Test Method</b>	<b>Dry</b>	<b>Conditioned</b>
Melting Point, C	3146		220	-
HDT A, C	75		55	-
HDT B, C	75		160	-
Coef. of Linear Thermal Expansion, Parallel, mm/mm C			0.88 X10-4	-
Coef. of Linear Thermal Expansion, Normal, mm/mm C			0.93 X10-4	-
<b>ELECTRICAL</b>		<b>ISO Test Method</b>	<b>Dry</b>	<b>Conditioned</b>
Comparative Tracking Index	IEC 60112		600	-
Volume Resistivity (Ohm-m)	IEC 60093		>1E13	-
<b>UL RATINGS</b>		<b>UL Test Method</b>	<b>Property Value</b>	
Relative Temperature Index, .71mm		UL746B		
Mechanical w/o Impact, C			95	
Mechanical w/ Impact, C			95	
Electrical, C			105	
Flammability Rating, .75mm		UL94	HB	
Relative Temperature Index, .75mm		UL746B		
Mechanical w/o Impact, C			95	
Mechanical w/ Impact, C			95	
Electrical, C			105	
Flammability Rating, 1.5mm		UL94	HB	
Relative Temperature Index, 1.5mm		UL746B		
Mechanical w/o Impact, C			105	
Mechanical w/ Impact, C			105	
Electrical, C			105	
Flammability Rating, 3.0mm		UL94	HB	
Relative Temperature Index, 3.0mm		UL746B		
Mechanical w/o Impact, C			105	
Mechanical w/ Impact, C			105	
Electrical, C			105	
Flammability Rating, 6.0mm		UL94	HB	
Relative Temperature Index, 6.0mm		UL746B		
Mechanical w/o Impact, C			105	
Mechanical w/ Impact, C			105	
Electrical, C			105	

**Processing Guidelines**

**Material Handling**

Max. Water content: 0.2%  
 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 240-270C (464-518F)  
 Mold Temperature 60-85C (140-185F)

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

### **Mold Temperatures**

A mold temperature of 60-85C (140-185F) is recommended, however temperatures of as low as 10C (50F) 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.

### **Fill Rate**

Fast fill rates are recommended to ensure uniform melt delivery to the cavity and prevent premature freezing.

## **Note**

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