

Ultramid® 8253 HS Polyamide 6

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 ³	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		
-40°C		2,835	3,300
23°C		2,300	730
80°C		400	370
120°C		295	220
150°C		250	220
Tensile stress at yield, MPa	527		
-40°C		117	116
23°C		60	32
80°C		25	20

120°C		20	-
150°C		15	15
Tensile stress at break, MPa	527		
Tensile strain at yield, %	527		
23°C		4	15
Nominal strain at break, %	527		
-40°C		9.0	20
23°C		40	>50
Flexural Strength, MPa	178		
23°C		65	-
Flexural Modulus, MPa	178		
23°C		1,900	-
IMPACT	ISO Test Method	Dry	Conditioned
Charpy Notched, kJ/m²	179		
-30°C		5	-
23°C		18	-
Charpy Unnotched, kJ/m²	179		
23°C		N	-
THERMAL	ISO Test Method	Dry	Conditioned
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	-
ELECTRICAL	ISO Test Method	Dry	Conditioned
Comparative Tracking Index	IEC 60112	600	-

Volume Resistivity (Ohm-m)	IEC 60093	>1E13	-
UL RATINGS	UL Test Method	Property Value	
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: 0.15%

Material is supplied in sealed containers and drying prior to molding in a dehumidifying or desiccant dryer is recommended. Drying parameters are dependent upon the actual percentage of moisture in the pellets and typical pre-drying conditions are 2-4 hours at 180F (83C). Further information concerning safe handling procedures can be obtained from the Safety Data Sheet (MSDS), or by contacting your BASF representative.

Typical Profile

Melt Temperature 240-270°C (464-518°F)

Mold Temperature 60-85°C (140-185°F)

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

Mold Temperatures

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