

# Ultramid® 8270 HS

## Polyamide 6

### Product Description

Ultramid 8270 HS is a thermally modified PA6 blow molding compound exhibiting exceptional toughness and melt strength ideally suited for blow molding, profile extrusion, and other applications requiring extra high melt viscosity. It exhibits excellent permeability and chemical resistance to oils, hydrocarbons and most solvents.

### Applications

Ultramid 8270 HS is generally recommended for applications such as industrial containers, small gasoline tanks, and automotive under hood reservoirs.

PHYSICAL	ASTM Test Method	Property Value	
Specific Gravity	D-792	1.13	
Moisture, %	D-570		
(24 Hour)		1.6	
(50% RH)		2.6	
(Saturation)		9.2	
MECHANICAL	ASTM Test Method	Dry	Conditioned
Tensile Strength, Yield, MPa (psi)	D-638		
-40C (-40F)		138 (20,000)	119 (17,300)
23C (73F)		84 (12,200)	46 (6,670)
121C (250F)		24 (3,480)	-
Elongation, Yield, %	D-638		
23C (73F)		4	
Elongation, Break, %	D-638		
23C (73F)		>100	-
Flexural Modulus, MPa (psi)	D-790		
-40C (-40F)		3,160 (458,000)	3,900 (566,000)
23C (73F)		2,900 (420,000)	760 (110,000)
65C (149F)		435 (63,100)	-
90C (194F)		310 (45,000)	-
121C (250F)		260 (37,700)	-
Flexural Strength, MPa (psi)	D-790		
-40C (-40F)		179 (26,000)	176 (25,500)
23C (73F)		114 (16,500)	37 (5,360)
65C (149F)		30 (4,350)	-
90C (194F)		20 (2,900)	-
121C (250F)		17 (2,460)	-
Rockwell Hardness, R Scale	D-785	99	-
IMPACT	ASTM Test Method	Dry	Conditioned
Notched Izod Impact, J/M (ft-lbs/in)	D-256		
-40C (-40F)		53 (1.0)	48 (0.9)
23C (73F)		53 (1.0)	NB
THERMAL	ASTM Test Method	Dry	Conditioned



Melting Point, C(F)	D-3418	220 (428)	-
Heat Deflection @ 264 psi (1.8 MPa) C(F)	D-648	63 (145)	-
Heat Deflection @ 66 psi (.45 MPa) C(F)	D-648	169 (336)	-
Coef. of Linear Thermal Expansion, mm/mm C (in/in F)	E-831	1.35 X10-4	-

## Processing Guidelines

### Material Handling

Max. Water content: 0.15%

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 80 degC (176 degF) is recommended. Drying time is dependent on moisture level, but 2-4 hours is generally sufficient. Further information concerning safe handling procedures can be obtained from the Material Safety Data Sheet. Alternatively, please contact your BASF representative.

### Typical Profile

Melt Temperature 245-260 degC (473-500 degF)

Mold Temperature 60 degC (140 degF)

Blow Ratio 2:1

### Mold Temperatures

Mold temperatures of 60 degC (140 degF) are generally recommended; however, surface temperatures of 10-95 degC (50-203 degF) can be used where applicable. The degree of crystallinity of thin polyamide wall sections, 0.6mm (.023") or less, may be controlled by the temperature of the mold. A cold mold, 5-30 degC (41-86 degF), will rapidly quench the section producing a clear, relatively flexible part, while a hot mold, over 40 degC (104 degF), will produce an opaque part with increased stiffness.

### Blow Ratio

A diametrical blow ratio of 2:1 is generally recommended for plain symmetrical parts. As part complexity increases, lower blow ratios should be utilized to prevent thin wall cross sections, especially in corners.

## Note

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