Product Information

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Ultramid® HPN 9362
Polyamide 6

BASF The Chemical Company

Product Description

Ultramid HPN 9362 is a 40% mineral reinforced, impact modified PA6 injection molding compound. It is one of the High Productivity Nylon series having improved surface appearance while reducing cycle time. It possesses excellent balance of strength, stiffness and toughness combined with a high level of drop weight impact, excellent processability and chemical resistance to greases, oils and hydrocarbons.

Applications

Ultramid HPN 9362 is generally recommended for applications such as wheel cover and hubs, mirror housings, appliance components, power tool housings, small engine pulleys, and trimmer spools.

PHYSICAL	ASTM Test Method	Property Value	
Specific Gravity	D-792	1.41	
Mold Shrinkage (1/8" bar, in/in)		0.01	
Moisture, %	D-570		
(50% RH)		1.4	
(Saturation)		4.9	
MECHANICAL	**ASTM Test Method**	**Dry**	**Conditioned**
Tensile Strength, Yield, MPa (psi)	D-638		
23C (73F)		64 (9,280)	45 (6,520)
Tensile Strength, Break, MPa (psi)	D-638		
23C (73F)		62 (8,990)	45 (6,520)
Elongation, Yield, %	D-638		
23C (73F)		3	27
Elongation, Break, %	D-638		
23C (73F)		15	30
Flexural Modulus, MPa (psi)	D-790		
-40C (-40F)		5,230 (758,000)	-
23C (73F)		4,000 (580,000)	1,560 (226,000)
65C (149F)		1,250 (181,000)	970 (141,000)
90C (194F)		770 (112,000)	850 (123,000)
121C (250F)		750 (109,000)	740 (107,000)
Flexural Strength, MPa (psi)	D-790		
-40C (-40F)		180 (26,100)	155 (22,500)
23C (73F)		109 (15,800)	50 (7,250)
65C (149F)		45 (6,520)	35 (5,070)
90C (194F)		30 (4,350)	30 (4,350)
121C (250F)		30 (4,350)	25 (3,620)
Rockwell Hardness, R Scale	D-785	119	-
IMPACT	**ASTM Test Method**	**Dry**	**Conditioned**
Notched Izod Impact, J/M (ft-lbs/in)	D-256		
23C (73F)		86 (1.6)	-

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Drop Weight Impact, ft-lbs, 23C	BASF Drop Weight Impact Test	55	-

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	80 (176)	-
Coef. of Linear Thermal Expansion, mm/mm C (in/in F)	E-831	0.23 X10-4	-

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

ELECTRICAL	ASTM Test Method	Dry	Conditioned
Volume Resistivity, 1.5 mm	D-257	>1E13	-

Processing Guidelines

Material Handling
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). Recommended moisture levels for achieving optimum surface qualities and mechanical properties is 0.05% - 0.12%. Further information concerning safe handling procedures can be obtained from the Material Safety Data Sheet (MSDS), or by contacting your BASF representative.

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 (500-1500 psi)

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 recommended.

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

Note

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