Ultramid[®] B3WG3 Polyamide 6



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Product Description

Ultramid B3WG3 is a 15% glass fiber reinforced, heat stabilized injection molding PA6 grade.

SO Test Method Dry Conditioned SO Test Method Dry Conditioned SO Test Method SO Test Method	PHYSICAL	ISO Test Method	Property Value 1.23	
Tensile Modulus, MPa 527 23°C 5,800 - Tensile strain at break, MPa 527 - 23°C 130 - Tensile strain at break, % 527 - 23°C 3.5 - Flexural Modulus, MPa 178 - 23°C 5,400 - MPACT ISO Test Method Dry Conditioned MPACT 180 - Charpy Notched, kJ/m² 180 - 23°C 5.6 - Charpy Notched, kJ/m² 179 - -30°C 6 - - Charpy Unotched, kJ/m² 179 - -30°C 6 - - Charpy Unotched, kJ/m² 179 - -30°C 6 - - Charpy Unotched, kJ/m² 179 Conditioned Legy Charpy Unotched, kJ/m² 179 Conditioned Poly Charpy Unotched, kJ/m² 179 Conditioned	Density, g/cm³	1183		
23°C 5,800 -	MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile stress at break, MPa 527 23°C 130 - Tensile strain at break, % 527 3.5 - 23°C 3.5 - Piexural Modulus, MPa 178 - - 23°C 5,400 - - MPACT ISO Test Method Dry Conditioned Lock Oktobed Impact, kJ/m² 180 - - 23°C 179 - - -30°C 6 - - -30°C 6 - - -30°C 70 - - -30°C 6 - - -30°C 40 - - 23°C 40 - - Charpy Unotched, kJ/m² 179 Conditioned 23°C 40 - - Heltang Point, °C 3146 220 - Heltang Point, °C 3146 220 - UEATIONS UL7468 <td< td=""><td>Tensile Modulus, MPa</td><td>527</td><td></td><td></td></td<>	Tensile Modulus, MPa	527		
23°C 130 - Tensile strain at break, % 527 -	23°C		5,800	-
Tensile strain at break, % 527 23°C 3.5 - Flexural Modulus, MPa 178 - 23°C 5,400 - MPACT SO Test Method Dry Conditioned 22°C 180 - 23°C 5.6 - Charpy Notched, kJ/m² 179 - 23°C 6 - Charpy Unnotched, kJ/m² 179 - 23°C 6 - Charpy Unnotched, kJ/m² 179 Conditioned 23°C 40 - Charpy Unnotched, kJ/m² 179 Conditioned 23°C 40 - Charpy Unnotched, kJ/m² 179 Conditioned 23°C 40 - Charpy Unnotched, kJ/m² 190 - 23°C 179 Conditioned Melting Point, *C 3146 22 Conditioned Bellify Relight, *C 190 Property Value Flammability Rating, 0.8mm	Tensile stress at break, MPa	527		
23°C 3.5	23°C		130	-
Plexural Modulus, MPa	Tensile strain at break, %	527		
23°C S,400 SOTEST Method Dry Conditioned	23°C		3.5	-
ISO Test Method ISO Test M	Flexural Modulus, MPa	178		
180 180	23°C		5,400	-
23°C	IMPACT	ISO Test Method	Dry	Conditioned
Charpy Notched, kJ/m² 179 -30°C 6 - 23°C 7 - Charpy Unnotched, kJ/m² 179 - 23°C 40 - THERMAL ISO Test Method Dry Conditioned Melting Point, °C 3146 220 - HDT A, °C 75 190 - Flammability Rating, 0.8mm UL 746B Property Value Flammability Rating, 1.5mm UL 746B HB Relative Temperature Index, 0.8mm UL 746B HB Relative Temperature Index, 1.5mm UL 746B HB Mechanical w/o Impact, °C 130 Flammability Rating, 3.0mm UL 94 HB Flammability Rating, 3.0mm UL 94 HB Flammability Rating, 3.0mm HB Relative Temperature Index, 3.0mm UL 94 HB Flammability Rating, 3.0mm HB Relative Temperature Index, 3.0mm UL 94 HB Flammability Rating, 3.0mm HB Mechanical w/o Impact, °C 130 HB Flammability Rating,	Izod Notched Impact, kJ/m ²	180		
-30°C	23°C		5.6	-
-30°C	Charpy Notched, kJ/m ²	179		
Charpy Unnotched, KJ/m² 179 23°C 40 - THERMAL ISO Test Method Dry Conditioned Melting Point, °C 3146 220 - HDT A, °C 75 190 - UL RATINGS UL Test Method Property Value Flammability Rating, 0.8mm UL94 HB Relative Temperature Index, 0.8mm UL746B HB Electrical, °C 130 HB Relative Temperature Index, 1.5mm UL746B HB Mechanical w/o Impact, °C 85 Electrical, °C Electrical, °C 130 HB Flammability Rating, 3.0mm UL94 HB Relative Temperature Index, 3.0mm UL94 HB Relative Temperature Index, 3.0mm UL94 HB Relative Temperature Index, 3.0mm UL746B HB Mechanical w/o Impact, °C 130 HB Mechanical w/o Impact, °C 130 HB			6	-
23°C 40 THERMAL ISO Test Method Dry Conditioned Melting Point, °C 3146 220 HDT A, °C 75 190 UL RATINGS UL Test Method Property Value Flammability Rating, 0.8mm UL.94 HB Relative Temperature Index, 0.8mm UL.94 HB Relative Temperature Index, 1.5mm UL.94 HB Mechanical W/o Impact, °C 130 Mechanical W/Impact, °C 130 Flammability Rating, 3.0mm UL.94 HB Relative Temperature Index, 3.0mm UL.94 HB Mechanical W/o Impact, °C 130	23°C		7	-
23°C 40 - THERMAL ISO Test Method Dry Conditioned Melting Point, °C 3146 220 - HDT A, °C 75 190 - UL RATINGS UL Test Method Property Value Flammability Rating, 0.8mm UL.94 HB Relative Temperature Index, 0.8mm UL.746B HB Electrical, °C 130 HB Flammability Rating, 1.5mm UL.94 HB Relative Temperature Index, 1.5mm UL.746B 85 Mechanical W/o Impact, °C 85 Electrical, °C Flammability Rating, 3.0mm UL.94 HB Relative Temperature Index, 3.0mm UL.746B HB Mechanical W/o Impact, °C 130 HB	Charpy Unnotched, kJ/m ²	179		
THERMAL ISO Test Method Dry Conditioned Melting Point, °C 3146 220 - HDT A, °C 75 190 - UL RATINGS UL Test Method Property Value Flammability Rating, 0.8mm UL 94 HB Relative Temperature Index, 0.8mm UL 94 HB Flammability Rating, 1.5mm UL 94 HB Relative Temperature Index, 1.5mm UL 746B 130 Mechanical W/o Impact, °C 130 85 Electrical, °C 130 HB Flammability Rating, 3.0mm UL 94 HB Relative Temperature Index, 3.0mm UL 94 HB Mechanical w/o Impact, °C 130 Mechanical w/o Impact, °C 130 Mechanical w/o Impact, °C 130			40	-
Melting Point, °C 3146 220 - HDT A, °C 75 190 - ULRATINGS UL Test Method Property Value Flammability Rating, 0.8mm UL94 HB Relative Temperature Index, 0.8mm UL746B HB Electrical, °C 130 HB Flammability Rating, 1.5mm UL746B HB Mechanical w/o Impact, °C 130 130 Mechanical w/ Impact, °C 85 5 Electrical, °C 130 HB Flammability Rating, 3.0mm UL94 HB Relative Temperature Index, 3.0mm UL746B HB Mechanical w/o Impact, °C 130 130 Mechanical w/o Impact, °C 130 130 Mechanical w/o Impact, °C 130 130 Mechanical w/ Impact, °C 130 130		ISO Test Method		Conditioned
#IDT A, ° C 75 190 - #### Property Value ###################################				-
UL RATINGS UL Test Method Property Value Flammability Rating, 0.8mm UL94 HB Relative Temperature Index, 0.8mm UL746B 130 Electrical, °C 130 HB Relative Temperature Index, 1.5mm UL94 HB Mechanical w/o Impact, °C 130 130 Mechanical w/ Impact, °C 85 85 Electrical, °C 130 HB Flammability Rating, 3.0mm UL94 HB Relative Temperature Index, 3.0mm UL746B HB Mechanical w/o Impact, °C 130 130 Mechanical w/o Impact, °C 130 130 Mechanical w/o Impact, °C 85 85	HDT A, ° C	75	190	-
Flammability Rating, 0.8mm UL94 Relative Temperature Index, 0.8mm UL746B Electrical, °C 130 Flammability Rating, 1.5mm UL94 HB Relative Temperature Index, 1.5mm UL746B Mechanical w/o Impact, °C 130 Mechanical w/ Impact, °C 130 Flammability Rating, 3.0mm UL94 HB Relative Temperature Index, 3.0mm UL746B Mechanical w/o Impact, °C 130	UL RATINGS	UL Test Method	Property Value	
Electrical, °C Flammability Rating, 1.5mm UL94 Relative Temperature Index, 1.5mm UL746B Mechanical w/o Impact, °C I30 Mechanical w/ Impact, °C Electrical, °C I30 Flammability Rating, 3.0mm UL94 HB Relative Temperature Index, 3.0mm UL746B Mechanical w/o Impact, °C I30	Flammability Rating, 0.8mm			
Flammability Rating, 1.5mm UL94 HB Relative Temperature Index, 1.5mm UL746B Mechanical w/o Impact, °C 130 Mechanical w/ Impact, °C 85 Electrical, °C 130 Flammability Rating, 3.0mm UL94 HB Relative Temperature Index, 3.0mm UL746B Mechanical w/o Impact, °C 130 Mechanical w/ Impact, °C 85	Relative Temperature Index, 0.8mm	UL746B		
Relative Temperature Index, 1.5mm UL746B Mechanical w/o Impact, °C 130 Mechanical w/ Impact, °C 85 Electrical, °C 130 Flammability Rating, 3.0mm UL94 HB Relative Temperature Index, 3.0mm UL746B Mechanical w/o Impact, °C 130 Mechanical w/ Impact, °C 85	Electrical, °C			130
Mechanical w/o Impact, °C 130 Mechanical w/ Impact, °C 85 Electrical, °C 130 Flammability Rating, 3.0mm UL94 HB Relative Temperature Index, 3.0mm UL746B Mechanical w/o Impact, °C 130 Mechanical w/ Impact, °C 85	Flammability Rating, 1.5mm	UL94		НВ
Mechanical w/ Impact, °C 85 Electrical, °C 130 Flammability Rating, 3.0mm UL94 HB Relative Temperature Index, 3.0mm UL746B Mechanical w/o Impact, °C 130 Mechanical w/ Impact, °C 85	Relative Temperature Index, 1.5mm	UL746B		
Electrical, °C 130 Flammability Rating, 3.0mm UL94 HB Relative Temperature Index, 3.0mm UL746B Mechanical w/o Impact, °C 130 Mechanical w/ Impact, °C 85	Mechanical w/o Impact, °C			130
Flammability Rating, 3.0mm UL94 HB Relative Temperature Index, 3.0mm UL746B Mechanical w/o Impact, °C 130 Mechanical w/ Impact, °C 85	Mechanical w/ Impact, °C			85
Relative Temperature Index, 3.0mm UL746B Mechanical w/o Impact, °C 130 Mechanical w/ Impact, °C 85	Electrical, °C			130
Mechanical w/o Impact, °C 130 Mechanical w/ Impact, °C 85	Flammability Rating, 3.0mm	UL94		НВ
Mechanical w/ Impact, °C 85	Relative Temperature Index, 3.0mm	UL746B		
Mechanical w/ Impact, °C 85	Mechanical w/o Impact, °C			130
Electrical, °C 130	Mechanical w/ Impact, °C			85
	Electrical, °C			130

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°C (176°F) 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 250-290°C (482-554°F)
Mold Temperature 80-95°C (176-203°F)
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°C (176-203°F) 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. recommended to minimize glass fiber 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

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