Product Information

Aug 2020

Ultramid[®] 8202C HS Polyamide 6



Product Description

Ultramid 8202C HS is a heat stabilized, low viscosity, PA6 injection molding homopolymer possessing a modified crystalline structure for increased property performance and faster cycles. It is also available in pigmented versions.

Applications

Ultramid 8202C HS is generally recommended for applications such as gears, valves, fittings, insulators, bushings, slides, window hardware, wiring devices, textile components and furniture casters.

PHYSICAL	ISO Test Method	Property Value		
Density, g/cm ³	1183	1.13		
Moisture, %	62			
(24 Hour)		1.6		
(50% RH)		2.6		
(Saturation)		9.3		
MECHANICAL	ISO Test Method	Dry	Conditioned	
Tensile Modulus, MPa	527			
-40C		4,090	-	
23C		3,700	1,360	
80C		750	-	
120C		550	-	
150C		445	-	
Tensile stress at yield, MPa	527			
-40C		137	142	
23C		88	43	
80C		40	30	
120C		30	25	
150C		25	-	
Tensile stress at break, MPa	527			
Tensile strain at yield, %	527			
23C		4	22	
Nominal strain at break, %	527			
-40C		5.0	3.0	
23C		7	>50	
80C		>100	>100	
120C		>100	>100	
Flexural Strength, MPa	178			
23C		95	-	
Flexural Modulus, MPa	178			
23C		2,800	-	
IMPACT	ISO Test Method	Dry	Conditioned	
Charpy Notched, kJ/m ²	179			

BASF Corporation **Engineering Plastics** 1609 Biddle Avenue Wyandotte, MI 48192

Ultramid® 8202C HS



Charpy Unnotched, kJ/m ² 179 23C N - THERMAL ISO Test Method Dry Conditioned Melting Point, C 3146 220 - HDT A, C 75 65 - HDT B, C 75 165 - ELECTRICAL ISO Test Method Dry Conditioned Comparative Tracking Index IEC 60112 600 - Volume Resistivity (Ohm-m) IEC 60093 >1E13 - Value Resistivity (Ohm-m) UL Test Method Property Value Flarmability Rating, .71mm UL94 V-2 Relative Temperature Index, .71mm Belative Temperature Index, .71mm UL746B 95 Electrical, C 95 Mechanical w/o Impact, C 95 Electrical, C 105 Electrical, C 105 Flarmability Rating, 1.5mm UL746B V-2 Relative Temperature Index, 1.5mm UL746B Mechanical w/o Impact, C 105 105 Electrical, C 105 Electrical, C 105	23C		3.5	-	
ISO Test Method Dry Conditioned Meting Point, C 3146 220 - HDT A, C 75 65 - HDT B, C 75 165 - 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 - Flammability Rating, .71mm UL94 V-2 Relative Temperature Index, .71mm UL746B Mechanical w/o Impact, C 95 - - - Mechanical w/ Impact, C 95 - - - Mechanical w/ Impact, C 95 - - - Imability Rating, 1.5mm UL746B V-2 - - Mechanical w/ Impact, C 105 - - - - Mechanical w/ Impact, C 105 - - - - - - -	Charpy Unnotched, kJ/m ²	179			
Metting Point, C 3146 220 - HDT A, C 75 65 - HDT B, C 75 165 - 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 - Flammability Rating, .71mm UL94 V-2 - Relative Temperature Index, .71mm UL746B - - Mechanical w/o Impact, C 95 - - Belative Temperature Index, 1.5mm UL94 V-2 - Relative Temperature Index, 1.5mm UL746B - - Mechanical w/o Impact, C 105 - - Relative Temperature Index, 3.0mm UL94 </td <td>23C</td> <td></td> <td>Ν</td> <td>-</td>	23C		Ν	-	
HDT A, C 75 65 - HDT B, C 75 165 - 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 Flammability Rating, .71mm UL94 V-2 Relative Temperature Index, .71mm UL746B 95 Mechanical w/ol Impact, C 95 95 Electrical, C 130 130 Flammability Rating, 1.5mm UL746B 105 Mechanical w/o Impact, C 95 95 Electrical, C 130 130 Flammability Rating, 1.5mm UL746B 105 Mechanical w/o Impact, C 105 105 Mechanical w/o Impact, C 105 105 Electrical, C 130 105 Flammability Rating, 3.0mm UL94 V-2 Relative Temperature Index, 3.0mm UL746B 105 Mechanical w/o Impact, C 105 105 <tr< td=""><td>THERMAL</td><td>ISO Test Method</td><td>Dry</td><td>Conditioned</td></tr<>	THERMAL	ISO Test Method	Dry	Conditioned	
HDT B, C 75 165 - 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 - Flammability Rating, .71mm UL 94 V-2 Relative Temperature Index, .71mm UL 746B Mechanical w/o Impact, C 95 95 - - Mechanical w/o Impact, C 95 - - - Relative Temperature Index, .71mm UL 94 V-2 - - Mechanical w/o Impact, C 95 - - - - Relative Temperature Index, 1.5mm UL 94 V-2 -	Melting Point, C	3146	220	-	
ELECTRICALISO Test MethodDryConditionedComparative Tracking IndexIEC 60112600-Volume Resistivity (Ohm-m)IEC 60093>1E13-UL RATINGSUL Test MethodProperty ValueFlammability Rating, .71mmUL 94V-2Relative Temperature Index, .71mmUL746B95Mechanical w/o Impact, C95Mechanical w/ Impact, C95Electrical, C130Flammability Rating, 1.5mmUL94V-2Relative Temperature Index, 1.5mmUL746BMechanical w/ Impact, C105Electrical, C105Flammability Rating, 3.0mmUL94V-2Relative Temperature Index, 6.0mm105Hechanical w/ Impact, C105Relative Temperature Index, 6.0mmUL94V-2Relative Temperature Index, 6.0mmMechanical w/ Impact, C105Electrical, C105Flammability Rating, 6.0mmUL94V-2Relative Temperature Index, 6.0mmMechanical w/ Impact, C105Mechanical w/ Impact, C <td>HDT A, C</td> <td>75</td> <td>65</td> <td>-</td>	HDT A, C	75	65	-	
Comparative Tracking IndexIEC 60112 600 -Volume Resistivity (Ohm-m)IEC 60093>1E13-UL RATINGSUL Test MethodProperty ValueFlammability Rating, .71mmUL94V-2Relative Temperature Index, .71mmUL746B95Mechanical w/o Impact, C95Mechanical w/o Impact, C95Electrical, C130Flammability Rating, 1.5mmUL746BMechanical w/o Impact, C105Mechanical w/o Impact, C105Relative Temperature Index, 1.5mmUL746BMechanical w/o Impact, C105Mechanical w/o Impact, C105Mechanical w/o Impact, C105Relative Temperature Index, 3.0mmUL94V-2105Relative Temperature Index, 3.0mmUL94Mechanical w/o Impact, C105Flammability Rating, 3.0mmUL94Relative Temperature Index, 3.0mmUL746BMechanical w/o Impact, C105Relative Temperature Index, 6.0mmUL746BMechanical w/o Impact, C130Flammability Rating, 6.0mmUL94V-2Relative Temperature Index, 6.0mmMechanical w/o Impact, C105Mechanical w/o Impact, C	HDT B, C	75	165	-	
Volume Resistivity (Ohm-m)IEC 60093>1E13-UL RATINGSUL Test MethodProperty ValueFlammability Rating, .71mmUL94V-2Relative Temperature Index, .71mmUL746BMechanical w/o Impact, C95Mechanical w/o Impact, C95Electrical, C130Flammability Rating, 1.5mmUL94V-2Relative Temperature Index, 1.5mmUL746B105Mechanical w/o Impact, C105Mechanical w/o Impact, C105Electrical, C130Flammability Rating, 3.0mmUL94V-2Relative Temperature Index, 3.0mmUL746B105Mechanical w/o Impact, C105Mechanical w/o Impact, C105Electrical, C130Flammability Rating, 6.0mmUL94V-2Relative Temperature Index, 6.0mmMechanical w/o Impact, C105Mechanical w/o Impact, C105<	ELECTRICAL	ISO Test Method	Dry	Conditioned	
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Flammability Rating, 71mmUL94V-2Relative Temperature Index, 71mmUL746BMechanical w/o Impact, C95Mechanical w/ Impact, C95Electrical, C130Flammability Rating, 1.5mmUL94V-2Relative Temperature Index, 1.5mmUL746BMechanical w/ Impact, C105Mechanical w/ Impact, C105Mechanical w/ Impact, C105Mechanical w/ Impact, C105Flammability Rating, 3.0mmUL94V-2Relative Temperature Index, 3.0mmUL94V-2Relative Temperature Index, 3.0mmUL746B105Mechanical w/ Impact, C105105Flammability Rating, 6.0mmUL94V-2Relative Temperature Index, 6.0mmUL746B105Mechanical w/ Impact, C105105Mechanical w/ Impact, C105105	Volume Resistivity (Ohm-m)	IEC 60093	>1E13	-	
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Electrical, C130Flammability Rating, 1.5mmUL94V-2Relative Temperature Index, 1.5mmUL746BMechanical w/o Impact, C105Mechanical w/ Impact, C105Electrical, C130Flammability Rating, 3.0mmUL94V-2Relative Temperature Index, 3.0mmUL746BMechanical w/o Impact, C105Electrical, C105Flammability Rating, 3.0mmUL746BMechanical w/o Impact, C105Mechanical w/o Impact, C105Flammability Rating, 6.0mmUL94V-2130Flammability Rating, 6.0mmUL746BMechanical w/o Impact, C130Flammability Rating, 6.0mmUL746BMechanical w/o Impact, C105Mechanical w/o Impact, C105	Mechanical w/o Impact, C		95		
Flammability Rating, 1.5mmUL94V-2Relative Temperature Index, 1.5mmUL746BMechanical w/o Impact, C105Mechanical w/ Impact, C105Electrical, C130Flammability Rating, 3.0mmUL94V-2Relative Temperature Index, 3.0mmUL746BMechanical w/o Impact, C105Mechanical w/o Impact, C105Mechanical w/o Impact, C105Mechanical w/o Impact, C105Flammability Rating, 6.0mmUL94V-2130Flammability Rating, 6.0mmUL94V-2130Flammability Rating, 6.0mmUL94Mechanical w/o Impact, C105Mechanical w/o Impact, C105Impact105Mechanical w/o Impact, C105Impact105Mechanical w/o Impact, C105Mechanical w/o Impact, C105	Mechanical w/ Impact, C		95		
Relative Temperature Index, 1.5mmUL746BMechanical w/o Impact, C105Mechanical w/ Impact, C105Electrical, C130Flammability Rating, 3.0mmUL94V-2Relative Temperature Index, 3.0mmMechanical w/o Impact, C105Mechanical w/o Impact, C105Mechanical w/ Impact, C105Flammability Rating, 6.0mmUL94V-2130Flammability Rating, 6.0mmUL94V-2130Flammability Rating, 6.0mmUL94Mechanical w/o Impact, C105Mechanical w/o Impact, C105Imperature Index, 6.0mmUL746BMechanical w/o Impact, C105Mechanical w/o Impact, C105	Electrical, C		130		
Mechanical w/o Impact, C105Mechanical w/ Impact, C105Electrical, C130Flammability Rating, 3.0mmUL94V-2Relative Temperature Index, 3.0mmUL746BMechanical w/o Impact, C105Mechanical w/ Impact, C105Electrical, C130Flammability Rating, 6.0mmUL94V-2130Flammability Rating, 6.0mmUL94V-2105Relative Temperature Index, 6.0mmUL746BMechanical w/o Impact, C105Mechanical w/o Impact, C105Imperature Index, 6.0mmUL746BMechanical w/o Impact, C105Mechanical w/o Impact, C105	Flammability Rating, 1.5mm	UL94	V-2		
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Flammability Rating, 3.0mmUL94V-2Relative Temperature Index, 3.0mmUL746BMechanical w/o Impact, C105Mechanical w/ Impact, C105Electrical, C130Flammability Rating, 6.0mmUL94V-2Relative Temperature Index, 6.0mmUL746BMechanical w/o Impact, C105Mechanical w/o Impact, C105	Mechanical w/ Impact, C		105		
Relative Temperature Index, 3.0mm UL746B Mechanical w/o Impact, C 105 Mechanical w/ Impact, C 105 Electrical, C 130 Flammability Rating, 6.0mm UL94 V-2 Relative Temperature Index, 6.0mm UL746B Mechanical w/o Impact, C 105	Electrical, C		130		
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Flammability Rating, 6.0mmUL94V-2Relative Temperature Index, 6.0mmUL746BMechanical w/o Impact, C105Mechanical w/ Impact, C105	Mechanical w/ Impact, C		105		
Relative Temperature Index, 6.0mm UL746B Mechanical w/o Impact, C 105 Mechanical w/ Impact, C 105	Electrical, C		130		
Mechanical w/o Impact, C105Mechanical w/ Impact, C105	Flammability Rating, 6.0mm	UL94	V-2		
Mechanical w/ Impact, C 105	Relative Temperature Index, 6.0mm	UL746B			
	Mechanical w/o Impact, C		105		
Electrical, C 130	Mechanical w/ Impact, C		105		
	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 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: 240-285C (464-545F) Mold Temperature: 65-80C (149-176F) Injection and Packing Pressure: 35-125 bar (500-1500 psi)

Mold Temperatures

A mold temperature of 65-80C (149-176F) is recommended, however temperatures of as low as 10C (50F) can be used where applicable.

Pressures

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Ultramid® 8202C HS



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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