ULTRATUF™ 22

Compounded Polypropylene

Spartech Plastics

Message:

ULTRATUF[™] 22 is a composite sheet utilizing short-strand fiber glass for reinforcement, which adds a high level of stiffness to a polyolefin base resin. ULTRATUF[™] 22 is a replacement for traditional chopped-strand or closed mold fiberglass parts and can be easily thermoformed. The fiber glass component increases flexural modulus (part stiffness) and heat deflection temperature, making this alloy suited for under-the-hood applications. Other key features of ULTRATUF[™] 22 include very low CLTE and good impact strength. Features and Benefits

High level of stiffness

Low coefficient of thermal expansion

High heat deflection temperature

Good impact strength

Excellent chemical resistance

Fortified for large part thermoforming Target Markets & Applications

ULTRATUF[™] 22 is a great choice for a wide range of applications and market segments

Agricultural - for cooling fan shrouds, engine filter covers, feeder bins, partitions

Construction Equipment - for interior dash assemblies, engine covers, water shields, floor applications

Medium & Heavy Truck - for engine fan shrouds, interior instrument panel supports, HVAC covers

Power Sports - for ATV & snow skid plates, golf cart floor panels and rear body cargo holds

Automotive - for instrument panel supports, under the hood covers, dunnage trays

Processing

ULTRATUF[™] 22 glass filled TPO sheet can be thermoformed in standard thermoforming ovens, although zoned ceramic or quartz heaters are recommended. Forming over aluminum cooled tooling results in the best part aesthetics. Molds made from fiberglass or epoxy can be used for tooling prototyping or small part runs. Care must be taken in forming to heat sheet evenly and not overheat. Stock temperatures of approximately 340° F - 360° F are recommended targets, but each process should be adjusted to allow proper forming. As with any thermoplastic material, coefficient of thermal expansion and mold shrinkage should be considered for proper part fit and tooling design.

ULTRATUF[™] 22 is developed for fiberglass replacement applications requiring lower CTE and increased HDT.

Availability

ULTRATUF[™] 22 is offered in black color with UV packages available.

ULTRATUF[™] 22 is a custom extruded sheet product.

1. Sheets Size maximum width is 72-inch

2. Gauges 0.125 - 0.300-inch

3. Minimum Order 10,000 lbs.

Available Textures -Smooth Only

General Information	
Filler / Reinforcement	Glass fiber reinforced material
Features	Rigidity, high
	Impact resistance, good
	Good chemical resistance
	Heat resistance, high
Uses	Agricultural application
	Parts under the hood of a car
	Application in Automobile Field
	Car dashboard
	Sporting goods

Appearance	Black		
Forms	Sheet		
Processing Method	Thermoforming		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.03	g/cm³	ASTM D792
Molding Shrinkage - Flow (3.18 mm)	0.30 - 0.60	%	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Yield, 23°C)	58.6	MPa	ASTM D638
Flexural Modulus			ASTM D790
Secant: 23°C	3530	MPa	ASTM D790
Tangent: 23°C	4830	MPa	ASTM D790
0			
Impact	Nominal Value	Unit	Test Method
Impact Notched Izod Impact	Nominal Value	Unit	Test Method ASTM D256
Impact Notched Izod Impact -29°C	Nominal Value	Unit J/m	Test Method ASTM D256 ASTM D256
Impact Notched Izod Impact -29°C 23°C	Nominal Value 110 280	Unit J/m J/m	Test MethodASTM D256ASTM D256ASTM D256
Impact Notched Izod Impact -29°C 23°C Multi-Axial Instrumented Impact Energy (-20°C, Total Penetration Energy)	Nominal Value 110 280 50.2	Unit J/m J/m	Test Method ASTM D256 ASTM D256 ASTM D256 ASTM D3763
Impact Notched Izod Impact -29°C 23°C Multi-Axial Instrumented Impact Energy (-20°C, Total Penetration Energy) Multi-Axial Instrumented Impact Peak	Nominal Value 110 280 50.2	Unit J/m J/m	Test MethodASTM D256ASTM D256ASTM D256ASTM D3763
Impact Notched Izod Impact -29°C 23°C Multi-Axial Instrumented Impact Energy (-20°C, Total Penetration Energy) Multi-Axial Instrumented Impact Peak Force (-20°C)	Nominal Value 110 280 50.2 4190	Unit J/m J/m J	Test MethodASTM D256ASTM D256ASTM D256ASTM D3763ASTM D3763
Impact Notched Izod Impact -29°C 23°C Multi-Axial Instrumented Impact Energy (-20°C, Total Penetration Energy) Multi-Axial Instrumented Impact Peak Force (-20°C) Thermal	Nominal Value 110 280 50.2 4190 Nominal Value	Unit J/m J/m J J N Unit	Test Method ASTM D256 ASTM D256 ASTM D256 ASTM D3763 ASTM D3763 Test Method
Impact Notched Izod Impact -29°C 23°C Multi-Axial Instrumented Impact Energy (-20°C, Total Penetration Energy) Multi-Axial Instrumented Impact Peak Force (-20°C) Thermal Deflection Temperature Under Load	Nominal Value 110 280 50.2 4190 Nominal Value	Unit J/m J/m J/m J/m Unit Unit	Test MethodASTM D256ASTM D256ASTM D256ASTM D3763ASTM D3763Test MethodASTM D648
Impact Notched Izod Impact -29°C 23°C Multi-Axial Instrumented Impact Energy (-20°C, Total Penetration Energy) Multi-Axial Instrumented Impact Peak Force (-20°C) Thermal Deflection Temperature Under Load 0.45 MPa, not annealed	Nominal Value 110 280 50.2 4190 Nominal Value 149	Unit J/m J/m J/m J/m Unit C	Test MethodASTM D256ASTM D256ASTM D256ASTM D3763ASTM D3763Test MethodASTM D648ASTM D648

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