Extreme™ D

Compounded Polypropylene

Spartech Plastics

Message:

Extreme™ D is a high performance polyolefin sheet which has been enhanced with a decorative pattern. For those OEM's looking for design flexibility and a desire to differentiate their product with a camouflages, wood grains, marble, stone, graphite look, or custom solid colors Extreme™ D is the most cost effective product in the marketplace for large part thermoforming applications. Extreme™ D is a replacement option for painted surfaces or can act as an adhesion layer for painting TPO substrates.
Features and Benefits
Molded in decorative pattern or solid colors
Acrylic cap for scratch and mar protection
Tough, high impact thermoplastic TPO substrate
Good UV protection and resistance
Paint surface without prime coat
Wide thermoforming process window
Vibration resistant
Low CLTE for dimensional stability
Target Markets & Applications
Extreme™ D is a great choice for a wide range of applications and market segments
Agricultural & Construction Equipment - for engine hoods, covers, fenders, instrument panels
Medium & Heavy Truck - for front bumpers, air deflectors, tank flares
Recreational Vehicles - for front bumpers, end caps, light bars, slide out covers
Power Sports - for ATV fenders, body armor, front hoods, canopies, dash boards, accessories
Automotive Aftermarket - for scoops/spoilers, body armor, ground effects, tonneau covers
Lawn & Garden - for fenders, front hoods, instrument fronts, canopies
Marine - for kayak and paddle boat decks, canoe body and instrument panels
Processing
Extreme™ D TPO Sheet can be thermoformed in standard thermoforming ovens, although zoned ceramic or quartz heaters are recommended. Forming over temperature-controlled aluminum 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.
Availability
Print Patterns & Solid Colors
Extreme™ D overlays are available in standard print patterns such as camouflages, graphite and wood grains as well as custom and solid colors.
Extreme™ D substrate layer is offered in a wide variety of custom colors for matching.
Available Textures - Smooth hair cell and calf
Extreme™ D is a custom extruded sheet product
Sheet Size maximum width is 62-inch
Gauges 0.060 - 0.400-inch
Minimum Order - 5,000 lbs. per production run. Acrylic film minimum order requirement is 800 lbs.

General Information	
Features	Good Dimensional Stability
	Good Toughness
	Good UV Resistance
	High Impact Resistance
	High Scratch Resistance
	Paintable
	Vibration Damping
Uses	Agricultural Applications

	Automotive Applications
	Automotive Bumper
	Automotive Exterior Parts
	Automotive Exterior Trim
	Lawn and Garden Equipment
	Marine Applications
	Sporting Goods

Appearance	Colors Available
	Finishes Available

Forms	Sheet
Processing Method	Thermoforming

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.08 to 1.13	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR)	0.70	g/10 min	ASTM D1238
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength (Yield)	21.4	MPa	ASTM D638
Flexural Modulus	1860	MPa	ASTM D790
Flexural Strength	66.2	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (23°C)	350	J/m	ASTM D256
Gardner Impact	30.5	J	ASTM D3029
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Unannealed)	116	°C	ASTM D648
CLTE - Flow (-30 to 30°C)	4.0E-5	cm/cm/°C	ASTM D696
Optical	**Nominal Value**		**Test Method**
Gardner Gloss	25 to 30		ASTM D523

Additional Information	Nominal Value	Unit
Thermoforming Molding Temperature	171 to 182	°C

Recommended distributors for this material

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