DuPont™ Sorona® 2045G BK346A

RENEWABLY SOURCED™ THERMOPLASTIC POLYMER

Product Information

DuPont™ Sorona® EP thermoplastic polymers contain between 20% and 37% renewably sourced material (by weight) derived from corn. The new material exhibits performance and moulding characteristics similar to high-performance PBT (polybutylene terephthalate).
In addition to good strength and stiffness, early tests indicate improved surface appearance, lower warpage, and good dimensional stability, making it very attractive in a range of uses for automotive parts and components, electrical and electronics systems as well as industrial and consumer products.

Sorona® EP thermoplastic polymer starts with the same basic polymer chemistry as Sorona® polymer used for fibres but through proprietary formulation technology, further enhancements are added to create high-performance resins suitable for engineering plastics applications.

Sorona® 2045G is a 45% glass fibre reinforced, 26% renewably sourced polytrimethylene terephtalate resin for injection moulding. It has good stiffness, low warpage and improved surface appearance.

General information	Value	Unit	Test Standard
Resin Identification	PTT-GF45	-	ISO 1043
Part Marking Code	>PTT-GF45<	-	ISO 11469
Rheological properties	**Value**	**Unit**	**Test Standard**
Melt volume-flow rate	10	cm^3/10min	ISO 1133
Temperature	280	°C	ISO 1133
Load	2.16	kg	ISO 1133
Moulding shrinkage, parallel	0.2	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.5	%	ISO 294-4, 2577
Mechanical properties	**Value**	**Unit**	**Test Standard**
Tensile Modulus	16000	MPa	ISO 527-1/-2
Stress at break	180	MPa	ISO 527-1/-2
Strain at break	1.6	%	ISO 527-1/-2
Charpy notched impact strength, 23°C	9	kJ/m^2	ISO 179/1eA
Thermal properties	**Value**	**Unit**	**Test Standard**
Melting temperature, 10°C/min	227	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	215	°C	ISO 75-1/-2
Flammability	**Value**	**Unit**	**Test Standard**
Burning Behav. at 1.5mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.5	mm	IEC 60695-11-10
Other properties	**Value**	**Unit**	**Test Standard**
Density	1740	kg/m^3	ISO 1183
Density of melt	1510	kg/m^3	-
Injection	**Value**	**Unit**	**Test Standard**
Drying Recommended	yes	-	-
Drying Temperature	120	°C	-
Drying Time, Dehumidified Dryer	2 - 4	h	-
Processing Moisture Content	≤0.02	%	-
Melt Temperature Optimum	260	°C	-
Min. melt temperature	250	°C	-
Max. melt temperature	270	°C	-
Mold Temperature Optimum	100	°C	-
Min. mould temperature	80	°C	-
Max. mould temperature	110	°C	-
Back pressure	As low as possible		-
Ejection temperature	175	°C	-

To find out more, visit DuPont Performance Polymers or contact nearest DuPont location.

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Chemical Media Resistance

Acids

✗ Sulfuric Acid (38% by mass) (23°C)

✗ Sulfuric Acid (5% by mass) (23°C)

Salt solutions

✓ Sodium Hypochlorite solution (10% by mass) (23°C)

Symbols used:

✓ possibly resistant

Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

✗ not recommended - see explanation

Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 4mm (Hytrel® measured at 2 mm), IEC Electrical properties measured at 2mm, all ASTM properties measured at 3.2mm, and test temperatures are 23°C unless otherwise stated.

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