DuPont™ Surlyn® 9320W

Description

Product Description

DuPont™ Surlyn® 9320W thermoplastic resin is an advanced ethylene/methacrylic acid (E/MAA) copolymer, in which the MAA acid groups have been partially neutralized with zinc ions. This very low modulus zinc grade has low hardness and very low stiffness. Increased flexibility is achieved by incorporating a third co−monomer into the resin during polymerization. The resin can be used alone or in combination with other grades of Surlyn® to provide varying degrees of flexibility, softness and toughness. It can be used as a modifier that yields supertough properties in nylon 6 and 6/6 resins. In golf ball covers, the resin provides a softer feel and imparts greater spin when the ball is in contact with the club face. The resin can be blow molded or extruded into sheets or shapes, but usually is injection molded in blends with other polymers.

Product Characteristics

Processing Method	• Blow Molding • Injection Molding • Extrusion, Sheet
Material Status	• Commercial: Active
Availability	• Globally
Cation Type	• Zinc
Uses	• Sporting Goods
Manufacturer / Supplier	• DuPont Packaging & Industrial Polymers

Properties

Physical	Nominal Values	Test Method
Density	0.96g/cm³	ASTM D792 − ISO 1183
Melt Flow Rate (190°C/2.16kg)	0.8g/10 min	ASTM D1238 − ISO 1133
Thermal	**Nominal Values**	**Test Method**
Brittle Temperature	not yet determined	ASTM D746
Melting Point (DSC)	70°C (158°F)	ASTM D3418 − ISO 3146
Vicat Softening Point (Rate B)	48°C (118°F)	ASTM D1525 − ISO 306
CLTE, Flow (−20°C to 32°C)	not yet determined	ASTM D696
Freezing Point (DSC)	37°C (99°F)	ASTM D3418
Mechanical	**Nominal Values**	**Test Method**

Abrasion Resistance	169NBS Index	ASTM D1630
Flexural Modulus (73° F)	29.6MPa (4293psi)	ASTM D790
Flexural Modulus (−4° F)	not yet determined	ASTM D790
Ross Flex (compression molded, 3.2mm thick, pierced 2.5mm wide, 73° F)	not yet determined	ASTM D1052
Ross Flex (−20° F)	not yet determined	ASTM D1052
Tensile Elongation @ Break (73° F)	525%	ASTM D638 − ISO 527−2
Tensile Strength @ Break (73° F)	15.9MPa (2306psi)	ASTM D638 − ISO 527−2
Tensile Strength @ Yield (Type IV bars, compression molded, 5.0 cm/min, 73° F)	0.5psi (3kPa)	ASTM D638
Impact	**Nominal Values**	**Test Method**
Notched Izod Impact (73° F)	not yet determined	ASTM D256
Tensile Impact Strength (73° F)	not yet determined	ASTM D1822
Tensile Impact Strength (−40° F)	not yet determined	ASTM D1822
Hardness	**Nominal Values**	**Test Method**
Durometer Hardness (Shore D)	40	ASTM D2240 − ISO 868
Optical	**Nominal Values**	**Test Method**
Haze (0.250 in)	12.3%	ASTM D1003
Elastomer	**Nominal Values**	**Test Method**
Tear Strength (73° F)	not yet determined	ASTM D624

Processing Information

Safety & Handling	Surlyn® 9320W as supplied by DuPont is not considered a hazardous material. As with any hot material, care should be taken to protect the hands and other exposed parts of the body when handling molten polymer. At recommended processing temperatures, small amounts of fumes may evolve from the resins. When resins are overheated, more extensive decomposition may occur. Adequate ventilation should be provided to remove the fumes from the work area. Disposal of scrap presents no special problems and can be by landfill or incineration in a properly operated incinerator. Disposal should comply with local, state, and federal regulations. Resin pellets can be a slipping hazard. Loose pellets should be swept up promptly to prevent falls. For more detailed information on the safe handling and disposal of DuPont resins, a Product Safety Bulletin and OSHA Material Safety Data Sheet can be obtained from the DuPont Packaging Products sales office serving you.

Read and understand the Material Safety Data Sheet (MSDS) before using this product

Because DuPont cannot anticipate or control the many different conditions under which this information and/or product may be used, it does not guarantee the applicability or the accuracy of this information or the suitability of its products in any given situation. Users of DuPont products should make their own tests to determine the suitability of each such product for their particular purposes. The data listed herein falls within the normal range of product properties but they should not be used to establish specification limits or used alone as the basis of design.

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This data sheet is effective as of 3/29/2004, and supersedes all previous versions.