



DuPont™ Surlyn® 8120

Description

Product Description

DuPont™ Surlyn® 8120 thermoplastic resin is an advanced ethylene/methacrylic acid (E/MAA) copolymer, in which the MAA acid groups have been partially neutralized with sodium ions. This very low modulus sodium grade has low hardness and very low stiffness. Increased flexibility is achieved by incorporating a third co-monomer into the resin during polymerization. It is used alone or in combination with other resins or polymers as a way to tailor flexibility for specific applications. In golf ball covers, for example, it provides a softer feel and imparts greater spin when the ball is in contact with the club face. Surlyn® 8120 normally is processed in a polymer blend by injection molding.

Product Characteristics

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

Properties

Physical

	Nominal Values	Test Method
Density	0.94g/cm ³	ASTM D792 – ISO 1183
Melt Flow Rate (Condition E, 2.16kg)	1g/10 min	ASTM D1238 – ISO 1133

Thermal

	Nominal Values	Test Method
Brittle Temperature	not yet determined	ASTM D746
Melting Point (DSC)	172°F (78°C)	ASTM D3418 – ISO 3146
Vicat Softening Point (Rate B)	124°F (51°C)	ASTM D1525 – ISO 306
Freezing Point (DSC)	109°F (43°C)	ASTM D3418

Mechanical

	Nominal Values	Test Method
Abrasion Resistance	not yet determined	ASTM D1630
Flexural Modulus (73 °F)	49MPa (7107psi)	ASTM D790
Flexural Modulus (-4 °F)	not yet determined	ASTM D790
	not yet determined	ASTM D1052

Ross Flex (compression molded, 3.2 mm thick, pierced 2.5 mm wide, 73 °F)

Ross Flex (-4 °F)	not yet determined	ASTM D1052
Tensile Elongation @ Break (73 °F)	660%	ASTM D638 – ISO 527-2
Tensile Elongation @ Yield	not yet determined	ASTM D638
Tensile Strength @ Break (73[deg]F)	28.8MPa (4177psi)	ASTM D638 – ISO 527-2
Tensile Strength @ Yield (Type IV bars, compression molded, 5.0 cm/min, 73 °F)	4.5MPa (653psi)	ASTM D638

Impact

	Nominal Values	Test Method
Notched Izod Impact (73 °F)	not yet determined	ASTM D256
Tensile Impact Strength (73 °F)	593ft-lb/in ²	ASTM D1822
Tensile Impact Strength (-40 °F)	not yet determined	ASTM D1822

Hardness

	Nominal Values	Test Method
Durometer Hardness (Shore D)	39	ASTM D2240 – ISO 868

Optical

	Nominal Values	Test Method
Haze (0.250 in.)	6.3%	ASTM D1003

Elastomer

	Nominal Values	Test Method
Tear Strength (73 °F)	not yet determined	ASTM D624

Processing Information

Safety & Handling

Surlyn® 8120 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

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



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