



## 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	<ul style="list-style-type: none"> <li>• Blow Molding</li> <li>• Injection Molding</li> <li>• Extrusion, Sheet</li> </ul>
Material Status	<ul style="list-style-type: none"> <li>• Commercial: Active</li> </ul>
Availability	<ul style="list-style-type: none"> <li>• Globally</li> </ul>
Cation Type	<ul style="list-style-type: none"> <li>• Zinc</li> </ul>
Uses	<ul style="list-style-type: none"> <li>• Sporting Goods</li> </ul>
Manufacturer / Supplier	<ul style="list-style-type: none"> <li>• DuPont Packaging &amp; Industrial Polymers</li> </ul>

### Properties

#### Physical

	Nominal Values	Test Method
Density	0.96g/cm <sup>3</sup>	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
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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
<b>Impact</b>	<b>Nominal Values</b>	<b>Test Method</b>
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
<b>Hardness</b>	<b>Nominal Values</b>	<b>Test Method</b>
Durometer Hardness (Shore D)	40	ASTM D2240 – ISO 868
<b>Optical</b>	<b>Nominal Values</b>	<b>Test Method</b>
Haze (0.250 in)	12.3%	ASTM D1003
<b>Elastomer</b>	<b>Nominal Values</b>	<b>Test Method</b>
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

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