



DuPont™ Surlyn® 9910

Description

Product Description

DuPont™ Surlyn® 9910 thermoplastic resin is an advanced ethylene/methacrylic acid (E/MAA) copolymer, in which the MAA acid groups have been partially neutralized with zinc ions. The amount of MAA and neutralization levels for this grade result in a combination of high clarity, stiffness and abrasion resistance, along with a very low melt flow index of 0.7. The resin can be extruded, blow molded, and injection molded. In golf ball covers, it provides excellent durability, especially when blended with other grades of Surlyn® made with different cations. It complies with the provisions of U.S. Food and Drug Administration (FDA) Title 21 Code of Regulations 177.1330.

Product Characteristics

Processing Method

- Extrusion
- Blow Molding
- Injection Molding

Material Status

- Commercial: Active

Availability

- Globally

Cation Type

- Zn

Uses

- Sporting Goods

Manufacturer / Supplier

- DuPont Packaging & Industrial Polymers

Properties

Physical

Density

Nominal Values

0.97g/cm³

Test Method

ASTM D792 – ISO 1183

Melt Flow Rate (190°C/2.16kg)

0.7g/10 min

ASTM D1238 – ISO 1133

Thermal

Brittle Temperature

–105°C (–157°F)

ASTM D746

Melting Point (DSC)

187°F (86°C)

ASTM D3418 – ISO 3146

Vicat Softening Point (Rate B)

144°F (62°C)

ASTM D1525 – ISO 306

CLTE, Flow (–20°C to 32°C)

140µm/m/°C

ASTM D696

Freezing Point (DSC)

115°F (46°C)

ASTM D3418

Mechanical

Abrasion Resistance

Nominal Values

610NBS Index

Test Method

ASTM D1630

Flexural Modulus (73° F)

330MPa (47862psi)

ASTM D790

Flexural Modulus (−4° F)	731MPa (106023psi)	ASTM D790
Ross Flex (compression molded, 3.2mm thick, pierced 2.5mm wide, 73° F)	1000cycles	ASTM D1052
Ross Flex (−20° F)	100cycles	ASTM D1052
Tensile Elongation @ Break (73° F)	290%	ASTM D638 – ISO 527–2
Tensile Strength @ Break (73° F)	24.8MPa (3597psi)	ASTM D638 – ISO 527–2
Tensile Strength @ Yield (Type IV bars, compression molded, 5.0 cm/min, 73° F)	13.8MPa (2002psi)	ASTM D638

Impact	Nominal Values	Test Method
Notched Izod Impact (73° F)	6.8ft–lb/in	ASTM D256
Tensile Impact Strength (73° F)	485ft–lb/in ²	ASTM D1822
Tensile Impact Strength (−40° F)	480ft–lb/in ²	ASTM D1822

Hardness	Nominal Values	Test Method
Durometer Hardness (Shore D)	64	ASTM D2240 – ISO 868

Optical	Nominal Values	Test Method
Haze (0.250 in)	6%	ASTM D1003

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

Processing Information

FDA Status Surlyn® industrial resins are available that comply with US FDA 21 CFR 177.1330. For more information contact your DuPont sales office.

Safety & Handling Surlyn® 9910 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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