Surlyn® 1857

DuPont Packaging & Industrial Polymers - Ionomer

Monday, September 21, 2020

General Information

Product Description

DuPont™ Surlyn® 1857 is an ionomer of ethylene acid acrylate terpolymer.

The resin can be processed in conventional extrusion coating, blown film, cast film, sheet extrusion and coextrusion equipment designed to process polyethylene and ethylene copolymer type resins.

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Terpolymer		
Uses	• Blown Film • Cast Film	• Coating Applications • Film	• Sheet
Agency Ratings	• FDA 21 CFR 177.1330(d)		
Forms	• Pellets		
Processing Method	• Blown Film • Cast Film	• Coextrusion • Extrusion Coating	• Sheet Extrusion

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.942		ASTM D792
Density	0.940	g/cm³	ISO 1183
Melt Mass-Flow Rate (190°C/2.16 kg)	4.0	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	4.0	g/10 min	ISO 1133
Ion Type	Zinc		
Thermal	**Nominal Value**	**Unit**	**Test Method**
Vicat Softening Temperature	133	°F	ASTM D1525
Vicat Softening Temperature	133	°F	ISO 306
Peak Melting Temperature	189	°F	ASTM D3417
Melting Temperature (DSC)	189	°F	ISO 3146
Freezing Point			
--	151	°F	ASTM D3417
--	151	°F	ISO 3146

Processing Information

Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	320	°F
Cylinder Zone 2 Temp.	410	°F
Cylinder Zone 3 Temp.	455	°F
Cylinder Zone 4 Temp.	455	°F
Cylinder Zone 5 Temp.	455	°F
Adapter Temperature	455	°F
Melt Temperature	320 to 545	°F
Die Temperature	455	°F

Extrusion Notes

Blown Film Processing Paramters:
Feed Temperature: 135°C
Second Zone Temperature: 160°C
Third Zone Temperature: 185°C
Fourth Zone Temperature: 185°C
Fifth Zone Temperature: 185°C
Adapter Temperature: 185°C
Die Temperature: 185°C

Extrusion Coating/Laminating Processing Parameters:
Feed Temperature: 160°C
Second Zone Temperature: 210°C
Third Zone Temperature: 260°C
Fourth Zone Temperature: 285°C
Fifth Zone Temperature: 285°C
Adapter Temperature: 285°C
Die Temperature: 285°C

Notes

[1] Typical properties: these are not to be construed as specifications.