Bynel® 41E710

Tuesday, November 5, 2019

DuPont Packaging & Industrial Polymers - Linear Low Density Polyethylene

General Information

Product Description

BYNEL® Series 4100 resins are anhydride-modified, linear low-density polyethylene (LLDPE) resins. All 4100 series resins are available in pellet form for use in conventional extrusion and coextrusion equipment designed to process polyethylene (PE) resins.

BYNEL 41E710 is a grade with a higher level of anhydride modification, and is mainly intended for use as a component in a blend with other polyolefin resins. It is not intended for extrusion in its pure form in typical extrusions or coextrusions.

BYNEL 4100 series resins adhere to a variety of materials. They are most often used to adhere to EVOH, polyamide, PE and ethylene copolymers.

Series 4100 resins can be used in coextrusion processes including:

- blown film
- cast film/sheet
- blow molding
- melt and solid phase thermoforming
- sheet and tubing

LLDPE resins are known for their temperature resistance, clarity and toughness.

These physical properties make the 4100 series resins work well in applications such as:

- boil-in-bag structures
- blow molded containers in which drop strength is important
- bag-in-box films
- film where LLDPE is the heat seal layer.

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Good Adhesion		
Uses	• Adhesives • Blending • Blow Molding Applications	• Cast Film • Containers • Film	• Sheet • Tubing
Agency Ratings	• FDA 21 CFR 175.105		
Forms	• Pellets		
Processing Method	• Blow Molding • Coextrusion	• Extrusion • Solid Phase Press. Form. Thermoforming	• Thermoforming

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.924		ASTM D792
Density	0.922	g/cm³	ISO 1183
Melt Mass-Flow Rate (190°C/2.16 kg)	2.7	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	2.7	g/10 min	ISO 1133
Thermal	**Nominal Value**	**Unit**	**Test Method**
Vicat Softening Temperature	217	°F	ASTM D1525
Vicat Softening Temperature	217	°F	ISO 306

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Thermal	Nominal Value	Unit	Test Method
Melting Temperature (DSC)			
--	239	°F	ISO 3146
--	239	°F	ASTM D3418
Freezing Point			
--	208	°F	ASTM D3418
--	208	°F	ISO 3146

Processing Information

Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	320	°F
Cylinder Zone 2 Temp.	365	°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	< 500	°F
Die Temperature	455	°F

Extrusion Notes

Processing conditions shown are for coextrusion with EVOH.

Processing conditions for coextrusion with nylon:
Zone 1: 160°C
Zone 2: 185°C
Zone 3: 235°C
Zone 4: 260°C
Zone 5: 260°C
Adapter: 260°C
Die: 260°C

Notes

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