



Bynel® 40E529

DuPont Packaging & Industrial Polymers - High Density Polyethylene

Tuesday, November 5, 2019

General Information

Product Description

BYNEL® Series 4000 resins are anhydride-modified, high-density polyethylene resins. They are available in pellet form for use in conventional extrusion and coextrusion equipment designed to process polyethylene (PE) resins.

BYNEL Series 4000 resins are excellent moisture barriers and have a good hydrocarbon resistance. This unique combination of properties makes them useful in a variety of coextrusion applications. HDPE/EVOH tubing and HDPE/Polyamide bottles for agricultural chemicals are just two examples.

BYNEL 4000 series resins are most often used in coextrusion with EVA, EVOH, polyamide and PE.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Hydrocarbon Resistant		
Uses	• Agricultural Applications	• Bottles	• Tubing
Agency Ratings	• FDA 21 CFR 175.105		
Forms	• Pellets		
Processing Method	• Coextrusion	• Extrusion	

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.942		ASTM D792
Density	0.940	g/cm ³	ISO 1183
Melt Mass-Flow Rate (190°C/2.16 kg)	3.5	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	3.5	g/10 min	ISO 1133
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	246	°F	ASTM D1525
Vicat Softening Temperature	246	°F	ISO 306
Peak Melting Temperature	275	°F	ASTM D3418
Melting Temperature (DSC)	275	°F	ISO 3146
Freezing Point			
--	243	°F	ISO 3146
--	243	°F	ASTM D3418

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	< 500	°F
Die Temperature	455	°F

Bynel® 40E529

DuPont Packaging & Industrial Polymers - High Density Polyethylene

Extrusion Notes

Processing conditions shown are for coextrusion with EVOH.

Processing conditions for coextrusion with nylon:

Zone 1: 160°C

Zone 2: 235°C

Zone 3: 260°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.