

Bynel® 40E529

High Density Polyethylene

DuPont Packaging & Industrial Polymers

Technical Data

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		
Literature ¹	• Technical Datasheet (English)		
Search for UL Yellow Card	• DuPont Packaging & Industrial Polymers		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America • South America
Features	• Hydrocarbon Resistant		
Uses	• Agricultural Applications	• Bottles	• Tubing
Agency Ratings	• FDA 21 CFR 175.105		
Forms	• Pellets		
Processing Method	• Coextrusion	• Extrusion	

Physical	Nominal Value Unit	Test Method
Specific Gravity	0.940 g/cm³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	3.5 g/10 min	ASTM D1238 ISO 1133
Thermal	Nominal Value Unit	Test Method
Vicat Softening Temperature	119 °C	ASTM D1525 ISO 306
Melting Temperature	135 °C	DSC ISO 3146

Additional Information

The value listed as Melting Point, DSC, was tested in accordance with ASTM D3418.
Freezing Point (DSC), ASTM D3418: 117°C

Extrusion	Nominal Value Unit
Cylinder Zone 1 Temp.	160 °C
Cylinder Zone 2 Temp.	210 °C
Cylinder Zone 3 Temp.	235 °C
Cylinder Zone 4 Temp.	235 °C
Cylinder Zone 5 Temp.	235 °C
Adapter Temperature	235 °C
Melt Temperature	< 260 °C
Die Temperature	235 °C

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