

DuPont™ Bynel® 4033 Anhydride Modified HDPE

Category: Polymer, Thermoplastic, Polyethylene (PE), HDPE

Material Notes:

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 4033 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. Physical properties of BYNEL 4000 grades are typical of high density polyethylene resins with similar density and melt index values. 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 two examples. BYNEL 4000 series resins are most often used in coextrusion with EVA, EVOH, polyamide and PE. BYNEL 4033 resin conforms with the Code of Federal Regulations, Title 21, Paragraph 175.105, covering the use of adhesive interlayers in composite packages for food use. This regulation describes adhesives that may be safely used as components of articles intended for use in packaging, transporting or holding food. This regulation requires that either (1) the adhesive is separated from the food by a functional barrier, or (2) the quantity of adhesive which contacts fatty or aqueous foods does not exceed the trace amounts at the seams or edges. Customers should satisfy themselves that the food contact material is serving as a functional barrier to the adhesive.

Order this product through the following link: http://www.lookpolymers.com/polymer_DuPont-Bynel-4033-Anhydride-Modified-HDPE.php

Physical Properties	Metric	English	Comments	
Density	0.950 g/cc	0.0343 lb/in ³	ASTM D792, ISO 1183	
Melt Flow	2.0 g/10 min	2.0 g/10 min	ASTM D1238, ISO 1133	
	@Load 2.16 kg, Temperature 190 °C	@Load 4.76 lb, Temperature 374 °F		

Thermal Properties	Metric	English	Comments
Melting Point	114 °C	237 °F	Freezing Point; ASTM D3418
	135 °C	275 °F	ASTM D3418, ISO 3146
Vicat Softening Point	128 °C	262 °F	ASTM D1525, ISO 306

Processing Properties	Metric	English	Comments
Processing Temperature	<= 260 °C	<= 500 °F	
Feed Temperature	160 °C	320 °F	CoExtrusion with EVOH Processing
	160 °C	320 °F	CoExtrusion with Nylon Processing
Zone 2	185 °C	365 °F	CoExtrusion with EVOH Processing



Processing Properties	Metric	265 °F English	CoExtrusion with Nylon Processing Comments
Zone 3	235 °C	455 °F	CoExtrusion with EVOH Processing
	235 °C	455 °F	CoExtrusion with Nylon Processing
Zone 4	235 °C	455 °F	CoExtrusion with EVOH Processing
	260 °C	500 °F	CoExtrusion with Nylon Processing
Zone 5	235 °C	455 °F	CoExtrusion with EVOH Processing
	260 °C	500 °F	CoExtrusion with Nylon Processing
Adapter Temperature	235 °C	455 °F	CoExtrusion with EVOH Processing
	260 °C	500 °F	CoExtrusion with Nylon Processing
Die Temperature	235 °C	455 °F	CoExtrusion with EVOH Processing
	260 °C	500 °F	CoExtrusion with Nylon Processing
Melt Temperature	210 - 235 °C	410 - 455 °F	CoExtrusion with EVOH Processing
	<= 260 °C	<= 500 °F	CoExtrusion with Nylon Processing

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