

HDPE Sheet Goods

SOURCE: HIVAL® 500354
Nexeo Solutions, LLC – High Density Polyethylene

General Information	
General	
Material Status	• Commercial: Active
Availability	• North America
Features	• BPA Free • Food Contact Acceptable
Uses	• Pails
Agency Ratings	• FDA 21 CFR 177.1520(c) 3.1 • FDA 21 CFR 177.1520(c) 3.2
RoHS Compliance	• RoHS Compliant
Forms	• Pellets
Processing Method	• Blow Molding • Extrusion

ASTM & ISO Properties ¹			
Physical	Nominal Value	Unit	Test Method
Density	0.953	g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	0.38	g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance (F50)	25.0	hr	ASTM D1693
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Yield)	3900	psi	ASTM D638
Tensile Elongation (Break)	> 500	%	ASTM D638
Flexural Modulus	180000	psi	ASTM D790
Impact	Nominal Value	Unit	Test Method
Tensile Impact	120	ft-lb/in	ASTM D1822
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	66		ASTM D2240
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	165	°F	ASTM D648
Brittleness Temperature ²	< -76.0	°F	ASTM D746
Vicat Softening Temperature	262	°F	ASTM D1525
Additional Information	Nominal Value	Unit	
Blow Molding Barrel Temperature	330 to 360	°F	
Blow Molding Head Temperature	375	°F	
Blow Molding Mold Temperature	60	°F	

Processing Information		
Extrusion	Nominal Value	Unit
Drying Temperature	170 to 175	°F
Drying Time	2.0	hr
Cylinder Zone 1 Temp.	380 to 440	°F
Cylinder Zone 3 Temp.	390 to 450	°F
Cylinder Zone 5 Temp.	400 to 470	°F
Die Temperature	410 to 450	°F

Extrusion Notes:

- Extrusion:
 - Screw L/D: 20:01
 - Compression Ratio: 2:1 – 3:1
- Blow Molding:
 - Blow Air: 90 psi
 - Pre Blow: 10 psi

Notes: ¹ Typical properties: these are not to be construed as specifications
² F50

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