INEOS HDPE HP53-25-155

High Density Polyethylene

INEOS Olefins & Polymers USA

Technical Data

Product Description
HP53-25-155 is a high performance high density polyethylene copolymer developed for blow molding. It is recommended for use in continuous extrusion blow molding equipment, specifically where applications require excellent environmental stress crack resistance (ESCR). This material meets the Food and Drug Administration requirements of 21CFR 177.1520.

General		
Material Status	• Commercial: Active	
Literature [1]	• Processing - Injection Molding (English) • Technical Datasheet (English)	
UL Yellow Card [2]	• E31830-100062234	
Search for UL Yellow Card	• INEOS Olefins & Polymers USA	
Availability	• North America	
Features	• Copolymer • Food Contact Acceptable	• High Density • High ESCR (Stress Crack Resist.)
Uses	• Blow Molding Applications	
Agency Ratings	• FDA 21 CFR 177.1520	
RoHS Compliance	• Contact Manufacturer	
Forms	• Pellets	
Processing Method	• Blow Molding	• Extrusion Blow Molding

Physical	Nominal Value	Unit	Test Method
Density	0.952	g/cm³	ASTM D4883
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	0.22	g/10 min	ASTM D1238
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength [4] (Yield)	25.5	MPa	ASTM D638
Tensile Elongation [4] (Break)	> 700	%	ASTM D638
Flexural Modulus			ASTM D790
2% Secant	931	MPa	
Tangent [5]	1140	MPa	
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact	170	J/m	ASTM D256
Tensile Impact Strength	313	kJ/m²	ASTM D1822
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore D)	64		ASTM D2240
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	71.0	°C	
Brittleness Temperature	< -75.0	°C	ASTM D746
Vicat Softening Temperature	129	°C	ASTM D1525

Notes

[1] These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

[2] A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL IDES continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

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

[4] 51 mm/min

[5] Method I (3 point load)