

HDPE Polyethylene

HDPE Polyethylene High Density Polyethylene (HDPE), also known as sandwich board, is a thermoplastic derived from petroleum hydrocarbons. It is the world's most widely used plastic, with a production rate of around 80 million metric tons annually.

Key characteristics include toughness, light weight, high wear resistance, good resistance to corrosion and chemicals, and easy machinability.

Key Properties		Units	Test Method
General			
Density	0.94 (0.034)	g/cm ³ (lb/in ³)	ISO 1183
Density relative to water (=1)	0.94	-	ISO 1183
Water absorption (24 hrs)	0.03	%	ISO 62
Thermal			
Continuous Service Temperature	75 (167)	°C (°F)	-
Minimum Service Temperature	-25 (-13)	°C (°F)	-
Heat Conductivity	0.38	W/mK	DIN 52612
Vicat Softening Temperature	75 (167)	°C (°F)	ISO 306/A
Heat Distortion Temperature (0.46 MPa)	69 (156)	°C (°F)	ISO 75
Linear Thermal Expansion	1.8	x10 ⁻⁴ / °C	DIN 53752
Melting Point	125 (257)	°C (°F)	-
Flammability Rating	HB	-	UL 94
Mechanical			
Impact Strength, Notched Izod @ 23°C	13 (6.2)	kJ/m ² (ft-lbs/in ²)	DIN 53453
Tensile E-module	800	N/mm ²	DIN 53457
Elongation at Tear	500	%	DIN 53455
Yield Stress	22	N/mm ²	DIN 53455
Indentation Hardness (H 132/30)	43	N/mm ²	DIN 53456
Shore Hardness	62	N/mm ²	DIN 53505
Electrical			
Surface Resistance (Electrode A)	10 ¹⁴	Ohm	DIN 53482
Dielectric Constant (300-1000Hz)	2.3	-	DIN 53483
Dissipation Factor	<0.0003	-	DIN 53483

Notes

Figures shown are for panel thickness 3mm

DISCLAIMER: The purpose of this data sheet is to enable a consistent comparison with other products to help users to make an informed choice. The information provided in this product data sheet is for comparison and reference purposes only and is based on generic information gathered from a number of sources. In some cases the data provided is an average value only and represents our best attempt to describe the material's properties under typical factory conditions. We make no representations or warranties as to the completeness or accuracy of any of the data contained in this data sheet and users should use them as a general decision-making guide only. Branded data sheets are available on request. The information contained in this data sheet is subject to copyright. This data sheet cannot be reproduced for commercial purposes, apart from assisting users with making a purchasing decision, without the express permission of Plastic Wholesale.