

PROPERTIES HDPE



Legend

★ : values referring to dry material

★★ : values referring to material in equilibrium with the standard atmosphere 23°C/50% RH (mostly derived from literature)

► This table is a valuable help in the choice of a material. The data listed here fall within the normal range of product properties.

However, they are not guaranteed and they should not be used to establish material specification limits nor used alone as the basis of design

PROPERTIES	ITEM		Method	Unit	HDPE	
			ISO/(IEC)			
	Color		-	-	white/black	
	Density		1183	g/cm ³	0.94	
	Water absorption	After 24/96h immersion in water of 23°C	62	mg	-/-	
			62	%	0.01/-	
			-	%	-	
	At saturation air 23°C, 50%RH		-	%	-	
	At saturation in water of 23°C		-	%	0.01	
Thermal Properties	Melting Temperature		-	°C	-	
	Thermal conductivity at 23°C		-	W/(K·m)	-	
	Coefficient of linear Thermal expansion	Average value btw 23~60°C	-	m/(m·K)	-	
		Average value btw 23~100°C	-	m/(m·K)	-	
	Temperature of Deflection under load	Method A : 1.8Mpa ★	75	°C	47	
	Max. allowable Service temp. in air	For short periods	-	°C	-	
			Continuously : 5,000/20,000h	-	°C	-/-
Min.service temperature		-	°C	-		
Flammability	UL94 (3/6mm thickness)		-	-	HB/HB	
Mechanical Properties at 23°C	Tension test	Tensile stress ★	527	MPa	23	
		★★	527	MPa	-	
		Tensile strain at break ★	527	%	>600	
		★★	527	%	-	
		Tensile modulus of elasticity ★	527	Mpa	-	
	★★	527	MPa	1000		
	Compression test	Compressive stress at 1/2/5/% nominal strain ★	604	MPa	-/-/29	
	Izod impact strength-Notched		★	180/2A	kg·cm/cm	no break
			★★	180/2A	kg·cm/cm	-
	Rockwell hardness		★	2039-2	-	R60
Electrical Properties at 23°C	Electric strength		★	(60243)	KV/mm	-
			★★	(60243)	KV/mm	-
	Volume resistivity		★	(60093)	Ω·cm	10 ¹⁴
			★★	(60093)	Ω·cm	-
	Surface resistivity		★	(60093)	Ω	10 ¹³
			★★	(60093)	Ω	-
	Relative permittivity:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
			★	(60250)	-	-
			★★	(60250)	-	-
	Dielectric dissipation factor:	100Hz	★	(60250)	-	-
			★★	(60250)	-	-
1MHz		★	(60250)	-	-	
		★★	(60250)	-	-	
Comparative tracking index(CTI)		★	(60112)	-	-	
		★★	(60112)	-	-	

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