

Lupolen 4552D black

High Density Polyethylene
LyondellBasell Industries

Technical Data

Product Description

Lupolen 4552D black is a UV and thermal stabilised high-density polyethylene with a multi-modal molecular weight distribution designed for extrusion. Lupolen 4552D black is produced with the advanced Hostalen technology which provides the material with excellent mechanical and physical properties. The excellent dispersion of the fine particle sized carbon black ensures the material has excellent weathering resistance.

Lupolen 4552D black fulfils the requirements of DIN 30670, NFA 49710, CAN, CSA-Z245.21-M98 and prEN 10285 when used in combination with the maleic-anhydrided grafted adhesives Lucalen G3710E P and a compatible fusion-bonded epoxy powder.

Lupolen 4552D black is recommended as the topcoat layer in 3LPE pipe coating applications and is suitable for severe laying conditions even at elevated temperatures. Lupolen 4552D black can be used up to 85°C service temperature of the pipeline when used in combination with the maleic-anhydride grafted adhesives Lucalen G3710E or Lucalen G3710E P and a compatible fusion-bonded epoxy powder.

This grade is available in black, in pellet form.

General

Material Status	• Commercial: Active		
Literature ¹	• Processing - Mold Shrink (English) • Processing - PE Films (English) • Processing - Polyolefin Injection Molding Guide (English) • Technical Datasheet (English)		
Search for UL Yellow Card	• LyondellBasell Industries • Lupolen		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• Carbon Black (2%)	• Heat Stabilizer	• UV Stabilizer
Features	• Bacteria Resistant • Bimodal Molecular Weight Distribution • Fungus Resistant • Good Chemical Resistance	• Good Creep Resistance • Good Impact Resistance • Good UV Resistance • Good Weather Resistance	• Heat Stabilized • High ESCR (Stress Crack Resist.) • Low to No Water Absorption • Ozone Resistant
Uses	• Coating Applications	• Pipe Coatings	
Agency Ratings	• CSA Z245.21-M98 • DIN 30670	• NF A 49-710 • prEN 10285	
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Extrusion	• Extrusion Coating	

Physical	Nominal Value Unit	Test Method
Density	0.956 g/cm³	ISO 1183
Apparent Density	> 0.50 g/cm³	ISO 60
Melt Mass-Flow Rate (MFR)		ISO 1133
190°C/2.16 kg	0.30 g/10 min	
190°C/5.0 kg	1.1 g/10 min	
Environmental Stress-Cracking Resistance F0	> 2000 hr	ASTM D1693
Carbon Black Content	2.2 %	ISO 6964
Moisture Content ³	0.035 %	
Mechanical	Nominal Value Unit	Test Method
Tensile Modulus (23°C)	900 MPa	ISO 527-2/1
Tensile Stress (Yield, 23°C)	23.0 MPa	ISO 527-2/50
Tensile Elongation (Break)	700 %	ASTM D638
Hardness	Nominal Value Unit	Test Method
Shore Hardness (Shore D)	60	ISO 868
Thermal	Nominal Value Unit	Test Method
Vicat Softening Temperature	124 °C	ISO 306/A50