

InnoPlus HD5000S

High Density Polyethylene

PTT Global Chemical Public Company Limited

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Technical Data

Product Description

InnoPlus HD5000S is high density polyethylene resin which offers good balance of processability, high production rates, excellent tenacity and good appearance. InnoPlus HD5000S is recommended for monofilament or yarn applications.

Typical Application: Rope, Fishing net, Agricultural net, Tarpaulin, Woven sack

General

Material Status	• Commercial: Active
Literature ¹	• Technical Datasheet (English)
Search for UL Yellow Card	• PTT Global Chemical Public Company Limited • InnoPlus
Availability	• Asia Pacific
Features	• Food Contact Acceptable • High Density • Pleasing Surface Appearance
Uses	• Agricultural Applications • Monofilaments • Rope • Fishing Applications • Netting • Yarn
Agency Ratings	• FDA 21 CFR 177.1520
RoHS Compliance	• RoHS Compliant
Forms	• Pellets
Processing Method	• Extrusion • Filament Extrusion

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.954 g/cm ³	0.954 g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	0.80 g/10 min	0.80 g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance (ESCR)			ASTM D1693B
25% Igepal, F50	30.0 hr	30.0 hr	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength			ASTM D638
Yield	4120 psi	28.4 MPa	
Break	5550 psi	38.2 MPa	
Tensile Elongation (Break)	> 1000 %	> 1000 %	ASTM D638
Apparent Bending Modulus	121000 psi	834 MPa	ASTM D747
Flexural Modulus	171000 psi	1180 MPa	ASTM D790

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact ³	3.1 ft·lb/in	170 J/m	ASTM D256

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness (Shore D)	64	64	ASTM D2240

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	257 °F	125 °C	ASTM D1525 ⁴
Peak Melting Temperature	257 °F	125 °C	ASTM D3418

Additional Information	Nominal Value (English)	Nominal Value (SI)
Stretching Ratio	8 to 10	8 to 10
Stretching Temperature	207 to 212 °F	97 to 100 °C

Extrusion	Nominal Value (English)	Nominal Value (SI)
Cylinder Zone 1 Temp.	392 to 500 °F	200 to 260 °C
Cylinder Zone 3 Temp.	392 to 500 °F	200 to 260 °C
Cylinder Zone 5 Temp.	392 to 500 °F	200 to 260 °C
Die Temperature	482 to 500 °F	250 to 260 °C



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 Typical properties: these are not to be construed as specifications.
- ³ Partial break
- ⁴ Rate A (50°C/h), Loading 1 (10 N)

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