

NatureWorks® 2500HP

Ingeo 2500HP is a high viscosity product from NatureWorks LLC, designed for extrusion applications. It is designed to crystallize during processing, leading to higher heat deflection temperatures in opaque applications. See table at right for properties.

Physical Properties	Metric	English	Comments
Specific Gravity	1.24 g/cc	1.24 g/cc	ASTM D792
Viscosity Measurement	4.00	4.00	RV measured at 1.0 g/dL in chloroform at 30°C; ASTM D5225
Linear Mold Shrinkage	0.00300 - 0.00400 cm/cm	0.00300 - 0.00400 in/in	molded amorphous with 26°C mold temperature
	0.0170 - 0.0180 cm/cm	0.0170 - 0.0180 in/in	molded crystalline with 120°C mold temperature
Melt Flow	5.0 - 8.0 g/10 min @Load 2.16 kg, Temperature 210 °C	5.0 - 8.0 g/10 min @Load 4.76 lb, Temperature 410 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	64.0 MPa	9280 psi	molded amorphous with 26°C mold temperature; ASTM D638
	65.5 MPa	9500 psi	molded crystalline with 120°C mold temperature; ASTM D638
Elongation at Break	3.5 %	3.5 %	molded amorphous with 26°C mold temperature; ASTM D638
	4.30 %	4.30 %	molded crystalline with 120°C mold temperature; ASTM D638
Flexural Strength	113 MPa	16400 psi	molded amorphous with 26°C mold temperature; ASTM D790
	126 MPa	18300 psi	molded crystalline with 120°C mold temperature; ASTM D790
Flexural Modulus	3.64 GPa	528 ksi	molded amorphous with 26°C mold temperature; ASTM D790
	4.45 GPa	646 ksi	molded crystalline with 120°C mold temperature; ASTM D790

Izod Impact, Notched

0.1870 J/cm

0.3503 ft-lb/in

molded amorphous
with 26°C mold
temperature; ASTM
D256

0.400 J/cm

0.750 ft-lb/in

molded crystalline
with 120°C mold
temperature; ASTM
D256

Thermal Properties
Metric
English
Comments

Melting Point

165 - 180 °C

329 - 356 °F

Peak crystalline
melting point, molded
crystalline with 120°C
mold temperature

Deflection Temperature at 0.46 MPa (66 psi)

54.0 °C

129 °F

molded amorphous
with 26°C mold
temperature; ASTM
E2092

144 °C

291 °F

molded crystalline
with 120°C mold
temperature; ASTM
E2092

Optical Properties
Metric
English
Comments

Transmission, Visible

90 %

90 %

Thickness Unknown

Processing Properties
Metric
English
Comments

Processing Temperature

200 °C

392 °F

Compression Section

210 °C

410 °F

Metering Section

Feed Temperature

45.0 °C

113 °F

Throat

190 °C

374 °F

Adapter Temperature

210 °C

410 °F

Die Temperature

210 °C

410 °F

Melt Temperature

210 °C

410 °F

Moisture Content

<= 0.025 %

<= 0.025 %

Screw Speed

20 - 150 rpm

20 - 150 rpm

Descriptive Properties

Clarity

Opaque

molded crystalline
with 120°C mold
temperature

Transparent

molded amorphous
with 26°C mold
temperature