

INVISTA

U5000 PA66 Resin

Product Description

INVISTA U5000 is a general purpose, natural PA66 resin suitable for compounding, injection molding, and extrusion applications where ease of processing, good color, and physical property retention are desired.

	Properties (dry)	Value	Units	Method
Viscosity	RV in formic acid, nominal	50	–	ASTM D789
	VN at 0.5% in sulfuric acid, nominal	153	mL/g	ISO 307
	RV at 1% in sulfuric acid, nominal	2.75	–	–
Physical	Density	1.14	g/cm ³	ISO 1183
	Mold shrinkage, 2.0 mm, parallel	1.7	%	ISO 294-4
	Mold shrinkage, 2.0 mm, transverse	1.4	%	ISO 294-4
	Water absorption - 24 hours	1.8	%	ISO 62
	Water absorption - equilibrium @ 50% RH	2.6	%	ISO 62
Mechanical	Tensile strength at yield	84	MPa	ISO 527
	Elongation at yield	4.4	%	ISO 527
	Elongation at break	35	%	ISO 527
	Tensile modulus	3100	MPa	ISO 527
	Flexural modulus	3100	MPa	ISO 178
	Flexural strength	105	MPa	ISO 178
	Notched Charpy at 23°C	5.1	kJ/m ²	ISO 179
	Notched Charpy at -30°C	5.3	kJ/m ²	ISO 179
	Unnotched Charpy at 23°C	NB	kJ/m ²	ISO 179
	Unnotched Charpy at -30°C	NB	kJ/m ²	ISO 179
	Notched Izod at 23°C	4.0	kJ/m ²	ISO 180
Thermal	Melting temperature, 10°C/min	262	°C	ISO 11357
	HDT at 0.45 MPa	199	°C	ISO 75
	HDT at 1.80 MPa	68	°C	ISO 75

General Information

Material Status

Commercial: Active

Availability

- North America
- South America
- Europe
- Asia

Features

- Exceptionally high flow
- Excellent mechanical properties in glass-fiber-reinforced resins

RoHS

No intentional additives or ingredients used in U5000 are among those in European directive 2011/65/EC (RoHS), as amended.

Process Guidelines for Molding

Drying temperature	80°C
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Drying time*	3 - 4 hrs
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Barrel temperatures

Rear	250 – 280°C
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Middle	275 – 290°C
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Front	275 – 290°C
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Nozzle	275 – 295°C
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Processing temperature (melt)	280 - 295°C
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Mold temperature	50 – 90°C
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Back pressure**	2 - 10 bar
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Vent depth	0.007 - 0.04 mm
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Cushion (range)	4 – 6 mm
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Suggested moisture (max)	0.20 wt%
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Suggested moisture (min)	0.10 wt%
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Screw Speed	75 - 180 rpm
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* Initial moisture below 0.25 wt%. Use dehumidified air.

** Melt pressure

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