

# INVISTA U4503

## PA66 Resin

### Product Description

INVISTA U4503 is a general purpose, PA66 feedstock resin produced with reduced viscosity for higher flow. Primary use is compounding.

	Properties (dry)	Value	Units	Method
Viscosity	RV in formic acid, nominal	45	–	ASTM D789
	VN at 0.5% in sulfuric acid, nominal	145	mL/g	ISO 307
	RV at 1% in sulfuric acid, nominal	2.65	–	–
Physical	Density	1.14	g/cm <sup>3</sup>	ISO 1183
	Mold shrinkage, 2.0 mm, parallel	1.0	%	ISO 294-4
	Mold shrinkage, 2.0 mm, transverse	1.0	%	ISO 294-4
	Water absorption - 24 hours	2.1	%	ISO 62
	Water absorption - equilibrium @ 50% RH	2.6	%	ISO 62
Mechanical	Tensile strength at yield	85	MPa	ISO 527
	Elongation at yield	4.3	%	ISO 527
	Elongation at break	26	%	ISO 527
	Tensile modulus	3000	MPa	ISO 527
	Flexural modulus	2900	MPa	ISO 178
	Flexural strength	96	MPa	ISO 178
	Notched Charpy at 23°C	4.6	kJ/m <sup>2</sup>	ISO 179
	Notched Charpy at -30°C	3.9	kJ/m <sup>2</sup>	ISO 179
	Unnotched Charpy at 23°C	NB	kJ/m <sup>2</sup>	ISO 179
	Unnotched Charpy at -30°C	NB	kJ/m <sup>2</sup>	ISO 179
	Notched Izod at 23°C	4.0	kJ/m <sup>2</sup>	ISO 180
Thermal	Melting temperature, 10°C/min	259	°C	ISO 11357
	HDT at 0.45 MPa	190	°C	ISO 75
	HDT at 1.80 MPa	62	°C	ISO 75

## General Information

### Material Status

Commercial: Active

### Availability

- North America
- South America
- Europe
- Asia

### Features

- High flow for ease of processing
- Stable viscosity
- Good whiteness

### RoHS

No intentional additives or ingredients used in U4503 are among those in European directive 2011/65/EC (RoHS), as amended.

## Process Guidelines for Molding

Drying temperature	80°C
Drying time*	8 - 12 hrs
Barrel temperatures	
Rear	250 - 270°C
Middle	270 - 290°C
Front	270 - 290°C
Nozzle	270 - 290°C
Processing temperature (melt)	280 - 295°C
Mold temperature	50 - 90°C
Back pressure**	2 - 10 bar
Vent depth	0.007 - 0.04 mm
Cushion (range)	4 - 6 mm
Suggested moisture (max)	0.20 wt%
Suggested moisture (min)	0.10 wt%
Screw Speed	75 - 180 rpm

\* Initial moisture below 0.5 wt%. Use dehumidified air.

\*\* Melt pressure

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