

Properties (dry)		Value	Units	Method	
Viscosity, AEG	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	—	—	
	Amine end groups, nominal	88	mequiv/kg	—	
Physical	Density	1.14	g/cm ³	ISO 1183	
	Mold Shrinkage, 2.0 mm, Parallel	1.2	%	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		%	ISO 62	
Mechanical	Tensile Strength at Yield	81	MPa	ISO 527	
	Elongation at Yield	4.3	%	ISO 527	
	Elongation at Break	35	%	ISO 527	
	Tensile Modulus	2900	MPa	ISO 527	
	Flexural Modulus	3000	MPa	ISO 178	
	Flexural Strength	97	MPa	ISO 178	
	Notched Charpy at 23°C	5.5	kJ/m ²	ISO 179	
	Notched Charpy at -30°C	6.6	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	4.4	kJ/m ²	ISO 180	
	Thermal	Melting Temperature, 10°C/min	262	°C	ISO 11357
		HDT at 0.45 MPa	197	°C	ISO 75
HDT at 1.80 MPa		67	°C	ISO 75	

Product Description

INVISTA U4591 is a PA66 feedstock resin produced with a very high level of amine ends groups. Primary use is compounding.

General Information
Material Status

Samples available for customer trials

Availability

North America, Europe, Asia

Features

Very high level of amine end groups, which may benefit hydrolysis-resistant formulations.

RoHS

No intentional additives or ingredients used in U4591 are among those in the European directive 2011/65/EC (RoHS), as amended.

Process Guidelines for Molding

Drying Temperature	80 °C
Drying Time*	6 - 12 hours
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

INVISTA Nylon Polymer

Visit NylonPolymer.INVISTA.com for additional information or sample requests.

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