

INVISTA U4591 PA66 Resin

Product Description

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

	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	4.9	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
THERMAL	Notched Izod at 23°C	4.4	kJ/m ²	ISO 180
	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

General Information

Material Status

Commercial: Active

Availability

- North America
- South 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

Product Data Sheet Disclaimer

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