

# INVISTA

## U4630HSL PA66 Resin

### Product Description

INVISTA U4630HSL is a heat stabilized, lubricated PA66 resin in natural color. The heat stabilizer system has been designed to provide excellent property retention in high temperature applications. It is lubricated internally and externally.

	Properties (dry)	Value	Units	Method
Viscosity	RV in formic acid, nominal	46	–	ASTM D789
	VN at 0.5% in sulfuric acid, nominal	147	mL/g	ISO 307
	VN at 0.5% in formic acid, nominal	134	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	1.8	%	ISO 294-4
	Mold shrinkage, 2.0 mm, transverse	1.7	%	ISO 294-4
	Water absorption - 24 hours	1.7	%	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	30	%	ISO 527
	Tensile modulus	3100	MPa	ISO 527
	Flexural modulus	2900	MPa	ISO 178
	Flexural strength	94	MPa	ISO 178
	Notched Charpy at 23°C	5.0	kJ/m <sup>2</sup>	ISO 179
	Notched Charpy at -30°C	4.2	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
Thermal	Notched Izod at 23°C	5.0	kJ/m <sup>2</sup>	ISO 180
	Melting temperature, 10°C/min	261	°C	ISO 11357
	HDT at 0.45 MPa	185	°C	ISO 75
	HDT at 1.80 MPa	62	°C	ISO 75
	CLTE, 2.0 mm, Parallel, 23 - 55°C	0.9	10 <sup>-4</sup> /°C	ISO 11359
	CLTE, 2.0 mm, Transverse, 23 - 55°C	0.9	10 <sup>-4</sup> /°C	ISO 11359

	Properties (dry)	Value	Units	Method
Electrical	Dielectric Strength, 1.0 mm	18	kV/mm	UL 746A
	Comparative Tracking Index, 3.0 mm	600	volts	IEC 60112
	High Voltage Arc Tracking Rate (HVTR)	PLC 0	–	UL 746A
	Comparative Tracking Index, 3.0 mm	PLC 5	–	UL 746A
Flammability	Flame Rating at 0.40 mm	V-2	–	UL 94
	Flame Rating at 0.71 mm	V-2	–	UL 94
	Flame Rating at 1.5 mm	V-2	–	UL 94
	Flame Rating at 3.0 mm	V-2	–	UL 94
	Glow-Wire Flammability at 0.71 mm	960	°C	IEC 60695
	Glow-Wire Flammability at 1.5 mm	960	°C	IEC 60695
	Glow-Wire Flammability at 3.0 mm	960	°C	IEC 60695

## General Information

### Material Status

Commercial: Active

### Availability

- North America
- South America
- Europe
- Asia

### Features

- Excellent property retention at elevated temperatures
- Improved flow and processability

### Classification

ASTM D4066 classification PA0121

### RoHS

No intentional additives or ingredients used in U4630HSL are among those in European directive 2011/65/EC (RoHS), as amended.

## Process Guidelines for Molding

Drying temperature	80°C
Drying time*	3 - 4 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 0.25 wt%. Use dehumidified air.

\*\* Melt pressure

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