

# INVISTA U4840NL PA66 Resin

## Product Description

INVISTA U4840NL NC01 is a highly nucleated PA66 resin designed for injection molding where fast crystallization and fast cycle times are required. It is lubricated internally and externally for excellent machine feed and mold release.

	Properties (dry)	Value	Units	Method
VISCOSITY	RV in formic acid, nominal	48	—	ASTM D789
	VN at 0.5% in sulfuric acid, nominal	150	mL/g	ISO 307
	VN at 0.5% in formic acid, nominal	137	mL/g	ISO 307
	RV at 1% in sulfuric acid, nominal	2.7	—	—
PHYSICAL	Density	1.14	g/cm <sup>3</sup>	ISO 1183
	Mold Shrinkage, 2.0 mm, Parallel	1.4	%	ISO 294-4
	Mold Shrinkage, 2.0 mm, Transverse	1.5	%	ISO 294-4
	Water Absorption - 24 hours	1.4	%	ISO 62
	Water Absorption - Equilibrium @ 50% RH	2.6	%	ISO 62
MECHANICAL	Tensile Strength at Yield	93	MPa	ISO 527
	Elongation at Yield	4.0	%	ISO 527
	Elongation at Break	15	%	ISO 527
	Tensile Modulus	3700	MPa	ISO 527
	Flexural Modulus	3100	MPa	ISO 178
	Flexural Strength	99	MPa	ISO 178
	Notched Charpy at 23°C	3.7	kJ/m <sup>2</sup>	ISO 179
	Notched Charpy at -30°C	3.1	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	4.7	kJ/m <sup>2</sup>	ISO 180	
THERMAL	Melting Temperature, 10°C/min	263	°C	ISO 11357
	HDT at 0.45 MPa	230	°C	ISO 75
	HDT at 1.80 MPa	80	°C	ISO 75
	Ball Pressure, 3.0 mm	240	°C	IEC 60695

	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
	High Volt, Low Current Arc Resistance	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

- Very fast crystallization
- Excellent processability
- Excellent whiteness

### RoHS

No intentional additives or ingredients used in U4840NL are among those in the European directive 2011/65/EC (RoHs), as amended.

## Process Guidelines for Molding

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

\*\* Melt pressure

#### Product Data Sheet Disclaimer

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