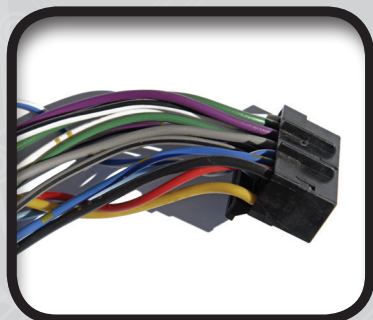


TORZEN™ U4820L NC01 PA66 RESIN

POTENTIAL APPLICATIONS



VALUE IN USE FOR TORZEN™ U4820L RESIN:

A balance of good mechanical properties, fast cycling, whiteness, ease of ejection from mold, and UL RTI recognition down to 0.71mm

APPLICATION SPACE:

Electrical and electronics, appliances, household

TARGETED AND/OR VALIDATED PARTS:

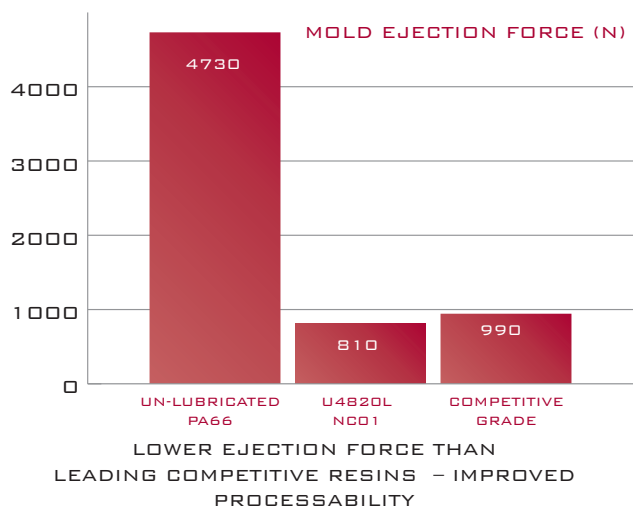
- Aerosol valves
- Cable ties
- Wiring devices
- Connectors (E&E, automotive)

COMPARATIVE ANALYSIS: TORZEN™ U4820L RESIN VS COMPETITIVE GRADES

		TORZEN™ U4820L PA66 resin	Leading Competitors' Products
Tensile Strength	MPa	82	82
Elongation @ Break	%	50	35
Tensile Modulus	MPa	3200	3100 - 3400
Notched Charpy @ 23°C	kJ/m ²	5	6
HDT @ 0.45 MPa	deg C	204	200 - 205
Density	g/cm ³	1.14	1.14
Flammability Classification @ 0.71mm	UL94	V-2	V-2

TORZEN™ U4820L PA66 RESIN SHOWS AN EXCELLENT BALANCE OF PROPERTIES

PERTINENT APPLICATION LEVEL DATA



TORZEN™ U4820L PA66 RESIN - UL™ RECOGNITION WITH RTI RATING

Thickness (mm)	Tensile RTI		Electrical RTI		Impact RTI	
	TORZEN™ U4820L PA66 resin	Zytel® 101F*	TORZEN™ U4820L PA66 resin	Zytel® 101F*	TORZEN™ U4820L PA66 resin	Zytel® 101F*
0.71	85	85	130	130	75	75
1.5	85	85	130	130	75	75
3	85	85	130	130	75	75

TORZEN™ U4820L PA66 RESIN COMPARES WELL WITH LEADING COMPETITIVE OFFERINGS.

* UL Yellow Card data of Zytel® 101F

Properties (dry)		Value	Units	Method
Physical	Density	1.14	g/cm ³	ISO 1183
	Mold Shrinkage, 2.0 mm, Parallel	1.9	%	ISO 294-4
	Mold Shrinkage, 2.0 mm, Transverse	1.8	%	ISO 294-4
	Water Absorption - 24 hours	1.4	%	ISO 62
	Water Absorption - Equilibrium @ 50% RH		%	ISO 62
Mechanical	Tensile Strength at Yield (50 mm/min)	82	MPa	ISO 527
	Tensile Strength at Break	-	MPa	ISO 527
	Elongation at Yield	4.2	%	ISO 527
	Elongation at Break	50	%	ISO 527
	Tensile Modulus (1 mm/min)	3200	MPa	ISO 527
	Flexural Modulus	2900	MPa	ISO 178
	Flexural Strength	95	MPa	ISO 178
	Notched Charpy at 23°C	4.6	kJ/m ²	ISO 179
	Notched Charpy at -30°C	4.3	kJ/m ²	ISO 179
	Unnotched Charpy at 23°C	NB	kJ/m ²	ISO 179
	Unnotched Charpy at -30°C	310	kJ/m ²	ISO 179
Notched Izod at 23°C	4.1	kJ/m ²	ISO 180	
Thermal	Melting Temperature, 10°C/min	261	°C	ISO 11357
	HDT at 0.45 MPa	204	°C	ISO 75
	HDT at 1.82 MPa	66	°C	ISO 75
	CLTE, 2.0 mm, Parallel, 23 - 55 °C	1.0	10 ⁻⁴ /°C	ASTM E831
	CLTE, 2.0 mm, Transverse, 23 - 55 °C	0.8	10 ⁻⁴ /°C	ASTM E831
Electrical	Surface Resistivity	3E+14	ohms	IEC 60093
	Volume Resistivity, 2.0 mm	4E+14	ohm-cm	IEC 60093
	Dielectric Strength, 1.0 mm	32	kV/mm	IEC 60243
	Comparative Tracking Index, 3.0 mm	600	volts	IEC 60112
Flammability	Flammability Classification (0.40 mm)	V-2	—	UL 94
	Glow Wire Flammability Index (0.71 mm)	960	°C	IEC 60695-2-12
	Glow Wire Flammability Index (1.5 mm)	960	°C	IEC 60695-2-12
	Glow Wire Flammability Index (3.0 mm)	960	°C	IEC 60695-2-12
	Glow Wire Ignition Temperature (0.71 mm)	960	°C	IEC 60695-2-13
	Glow Wire Ignition Temperature (1.5 mm)	900	°C	IEC 60695-2-13
	Glow Wire Ignition Temperature (3.0 mm)	750	°C	IEC 60695-2-13

Product Description

TORZEN™ U4820L NC01 resin is a general purpose PA66 resin suitable for injection molding and extrusion applications where fast cycles are required. It is lubricated internally and externally for excellent machine feed and mold release. Available in natural and black.

General Information

Material Status

Commercial: Active

Availability

North America, South America, Europe, Asia

Features

Good color retention and processability

RoHS

No intentional additives or ingredients used in TORZEN™ U4820L NC01 are among those in the European directive 2002/95/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 - 300 °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)	0.18 wt%
Suggested Moisture (min)	0.08 wt%
Screw Speed	75 - 180 rpm

* Initial moisture below 0.25 wt%. Use dehumidified air.

** Melt pressure

INVISTA Engineering Polymers

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