Product Information

INVISTA U4800 PA66 Resin

Product Description

INVISTA U4800 is a general purpose, natural PA66 resin suitable for compounding, injection molding, and extrusion applications where ease of processing, excellent color, and physical property retention are desired.

RV in formic acid, nominal48-ASTM D789VN at 0.5% in sulfuric acid, nominal150mL/gISO 307RV at 1% in sulfuric acid, nominal2.7Density1.14g/cm³ISO 1183Mold shrinkage, 2.0 mm, parallel1.5%ISO 294.4Mold shrinkage, 2.0 mm, transverse1.8%ISO 294.4Vater absorption - 24 hours1.8%ISO 62Vater absorption - 24 hours1.8%ISO 62Vater absorption - equilibrium @ 50% RH2.6%ISO 527Elongation at yield4.2%ISO 527Elongation at yield4.2%ISO 527Fensile strength at yield3100MPaISO 527Fensile modulus3100MPaISO 178Fexural modulus2900MPaISO 178Fexural strength94MPaISO 179Notched Charpy at 23°CNBK/m²ISO 179Notched Charpy at 23°CNBK/m²ISO 179Notched Izod at 23°CNBK/m²ISO 179Notched Izod at 23°CNBK/m²ISO 180Notched Izod at 23°CNBK/m²ISO 1357Notched Izod at 23°CNBK/m²ISO 1357NDT at 0.45 MPa200°CISO 1357HDT at 0.45 MPa200°CISO 1357HDT at 0.45 MPa200°CISO 75HDT at 1.80 MPa72°CISO 75HDT at 1.80 MPa72°C		Properties (dry)	Value	Units	Method
RV at 1% in sulfuric acid, nominal2.7-Density1.14g/cm3ISO 1183Mold shrinkage, 2.0 mm, parallel1.5%ISO 294.4Mold shrinkage, 2.0 mm, transverse1.8%ISO 294.4Water absorption - 24 hours1.8%ISO 62Water absorption - equilibrium @ 50% RH2.6%ISO 527Elongation at yield82MPaISO 527Elongation at yield4.2%ISO 527Elongation at break40%ISO 527Flexural modulus3100MPaISO 527Flexural modulus2900MPaISO 178Flexural strength94MPaISO 178Notched Charpy at 23°CNBKJ/m2ISO 179Unnotched Charpy at -30°CNBKJ/m2ISO 179Notched Izod at 23°CNBKJ/m2ISO 179Notched Izod at 23°CNBKJ/m2ISO 179IDT at 0.45 MPa200°CISO 1357HDT at 1.80 MPa72°CISO 1357	Viscosity	RV in formic acid, nominal	48	_	ASTM D789
Provide Mold shrinkage, 2.0 mm, parallel1.5%150 294-4Mold shrinkage, 2.0 mm, transverse1.8%150 294-4Water absorption - 24 hours1.8%150 62Water absorption - equilibrium @ 50% RH2.6%150 62Water absorption - equilibrium @ 50% RH2.6%150 527Elongation at yield4.2%150 527Elongation at break40%150 527Flexural modulus3100MPa150 527Flexural modulus2900MPa150 178Flexural strength94MPa150 178Notched Charpy at 23°C5.4kJ/m²150 179Unnotched Charpy at -30°CNBkJ/m²150 179Unnotched Charpy at -30°CNBkJ/m²150 180Melting temperature, 10°C/min261°C150 11357HDT at 0.45 MPa200°C150 75HDT at 1.80 MPa72°C150 75		VN at 0.5% in sulfuric acid, nominal	150	mL/g	ISO 307
Provide Mold shrinkage, 2.0 mm, parallel1.5%150 294-4Mold shrinkage, 2.0 mm, transverse1.8%150 294-4Water absorption - 24 hours1.8%150 62Water absorption - equilibrium @ 50% RH2.6%150 62Water absorption - equilibrium @ 50% RH2.6%150 527Elongation at yield4.2%150 527Elongation at break40%150 527Flexural modulus3100MPa150 527Flexural modulus2900MPa150 178Flexural strength94MPa150 178Notched Charpy at 23°C5.4kJ/m²150 179Unnotched Charpy at -30°CNBkJ/m²150 179Unnotched Charpy at -30°CNBkJ/m²150 180Melting temperature, 10°C/min261°C150 11357HDT at 0.45 MPa200°C150 75HDT at 1.80 MPa72°C150 75		RV at 1% in sulfuric acid, nominal	2.7	-	_
Mold shrinkage, 2.0 mm, transverse1.8%ISO 294-4Water absorption - 24 hours1.8%ISO 62Water absorption - equilibrium @ 50% RH2.6%ISO 527Tensile strength at yield82MPaISO 527Elongation at yield4.2%ISO 527Elongation at break40%ISO 527Tensile modulus3100MPaISO 527Flexural modulus2900MPaISO 178Flexural strength94MPaISO 178Notched Charpy at 23°C5.4kJ/m²ISO 179Unnotched Charpy at -30°C4.2kJ/m²ISO 179Notched Izod at 23°CNBkJ/m²ISO 180Melting temperature, 10°C/min261°CISO 11357HDT at 0.45 MPa200°CISO 75HDT at 1.80 MPa72°CISO 75		Density	1.14	g/cm ³	ISO 1183
Vater absorption - equilibrium @ 50% RH2.6%ISO 62Tensile strength at yield82MPaISO 527Elongation at yield4.2%ISO 527Elongation at break40%ISO 527Tensile modulus3100MPaISO 527Flexural modulus2900MPaISO 178Flexural strength94MPaISO 178Notched Charpy at 23°C5.4KJ/m2ISO 179Notched Charpy at -30°C4.2KJ/m2ISO 179Unnotched Charpy at -30°CNBKJ/m2ISO 179Notched Izod at 23°CNBKJ/m2ISO 179Notched Izod at 23°C4.7KJ/m2ISO 179Notched Izod at 23°C4.7KJ/m2ISO 1357Motting temperature, 10°C/min261°CISO 11357HDT at 0.45 MPa200°CISO 75HDT at 1.80 MPa72°CISO 75		Mold shrinkage, 2.0 mm, parallel	1.5	%	ISO 294-4
Vater absorption - equilibrium @ 50% RH2.6%ISO 62Tensile strength at yield82MPaISO 527Elongation at yield4.2%ISO 527Elongation at break40%ISO 527Tensile modulus3100MPaISO 527Flexural modulus2900MPaISO 178Flexural strength94MPaISO 178Notched Charpy at 23°C5.4KJ/m2ISO 179Notched Charpy at -30°C4.2KJ/m2ISO 179Unnotched Charpy at -30°CNBKJ/m2ISO 179Notched Izod at 23°CNBKJ/m2ISO 179Notched Izod at 23°C4.7KJ/m2ISO 179Notched Izod at 23°C4.7KJ/m2ISO 1357Motting temperature, 10°C/min261°CISO 11357HDT at 0.45 MPa200°CISO 75HDT at 1.80 MPa72°CISO 75	sical	Mold shrinkage, 2.0 mm, transverse	1.8	%	ISO 294-4
Tensile strength at yield82MPaISO 527Elongation at yield4.2%ISO 527Elongation at break40%ISO 527Tensile modulus3100MPaISO 527Flexural modulus2900MPaISO 178Flexural strength94MPaISO 178Notched Charpy at 23°C5.4kJ/m²ISO 179Unnotched Charpy at -30°C4.2kJ/m²ISO 179Unnotched Charpy at -30°CNBkJ/m²ISO 179IDT at 0.45 MPa200°CISO 11357HDT at 1.80 MPa72°CISO 75	Phys	Water absorption - 24 hours	1.8	%	ISO 62
Floration at yield4.2%ISO 527Elongation at break40%ISO 527Tensile modulus3100MPaISO 527Flexural modulus2900MPaISO 178Flexural strength94MPaISO 178Notched Charpy at 23°C5.4kJ/m²ISO 179Unnotched Charpy at 23°CNBkJ/m²ISO 179Unnotched Charpy at 30°CNBkJ/m²ISO 179Unnotched Izod at 23°C0CISO 1357HDT at 0.45 MPa200°CISO 75HDT at 1.80 MPa72°CISO 75		Water absorption - equilibrium @ 50% RH	2.6	%	ISO 62
Floringation at break 40 % 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 5.4 kJ/m² ISO 179 Notched Charpy at -30°C 4.2 kJ/m² ISO 179 Unnotched Charpy at -30°C NB kJ/m² ISO 179 Unnotched Charpy at -30°C NB kJ/m² ISO 179 Vinotched Izod at 23°C 4.7 kJ/m² ISO 180 Melting temperature, 10°C/min 261 °C ISO 11357 HDT at 1.80 MPa 72 °C ISO 75		Tensile strength at yield	82	MPa	ISO 527
Tensile modulus3100MPaISO 527Flexural modulus2900MPaISO 178Flexural strength94MPaISO 178Notched Charpy at 23°C5.4kJ/m²ISO 179Notched Charpy at -30°C4.2kJ/m²ISO 179Unnotched Charpy at 23°CNBkJ/m²ISO 179Unnotched Charpy at 23°CNBkJ/m²ISO 179Unnotched Charpy at 23°CNBkJ/m²ISO 179Unnotched Charpy at 23°CNBkJ/m²ISO 179Unnotched Charpy at -30°CNBkJ/m²ISO 179IDT at 1.80 MPa200°CISO 11357HDT at 1.80 MPa72°CISO 75		Elongation at yield	4.2	%	ISO 527
Flexural modulus2900MPaISO 178Flexural strength94MPaISO 178Notched Charpy at 23°C5.4KJ/m²ISO 179Notched Charpy at -30°C4.2KJ/m²ISO 179Unnotched Charpy at 23°CNBKJ/m²ISO 179Unnotched Charpy at 23°CNBKJ/m²ISO 179Notched Izod at 23°CNBKJ/m²ISO 179Notched Izod at 23°C4.7KJ/m²ISO 180Melting temperature, 10°C/min261°CISO 11357HDT at 0.45 MPa200°CISO 75HDT at 1.80 MPa72°CISO 75		Elongation at break	40	%	ISO 527
Notched Charpy at -30°C4.2kJ/m²ISO 179Unnotched Charpy at 23°CNBkJ/m²ISO 179Unnotched Charpy at -30°CNBkJ/m²ISO 179Notched Izod at 23°C4.7kJ/m²ISO 180Melting temperature, 10°C/min261°CISO 11357HDT at 0.45 MPa200°CISO 75HDT at 1.80 MPa72°CISO 75		Tensile modulus	3100	MPa	ISO 527
Notched Charpy at -30°C4.2kJ/m²ISO 179Unnotched Charpy at 23°CNBkJ/m²ISO 179Unnotched Charpy at -30°CNBkJ/m²ISO 179Notched Izod at 23°C4.7kJ/m²ISO 180Melting temperature, 10°C/min261°CISO 11357HDT at 0.45 MPa200°CISO 75HDT at 1.80 MPa72°CISO 75	ical	Flexural modulus	2900	MPa	ISO 178
Notched Charpy at -30°C4.2kJ/m²ISO 179Unnotched Charpy at 23°CNBkJ/m²ISO 179Unnotched Charpy at -30°CNBkJ/m²ISO 179Notched Izod at 23°C4.7kJ/m²ISO 180Melting temperature, 10°C/min261°CISO 11357HDT at 0.45 MPa200°CISO 75HDT at 1.80 MPa72°CISO 75	chan	Flexural strength	94	MPa	ISO 178
Vint of the second se	Med	Notched Charpy at 23°C	5.4	kJ/m²	ISO 179
Unnotched Charpy at -30°CNBkJ/m²ISO 179Notched Izod at 23°C4.7kJ/m²ISO 180Melting temperature, 10°C/min261°CISO 11357HDT at 0.45 MPa200°CISO 75HDT at 1.80 MPa72°CISO 75		Notched Charpy at -30°C	4.2	kJ/m²	ISO 179
Notched Izod at 23°C4.7kJ/m²ISO 180Melting temperature, 10°C/min261°CISO 11357HDT at 0.45 MPa200°CISO 75HDT at 1.80 MPa72°CISO 75		Unnotched Charpy at 23°C	NB	kJ/m²	ISO 179
Melting temperature, 10°C/min 261 °C ISO 11357 HDT at 0.45 MPa 200 °C ISO 75 HDT at 1.80 MPa 72 °C ISO 75		Unnotched Charpy at -30°C	NB	kJ/m²	ISO 179
HDT at 0.45 MPa 200 °C ISO 75 HDT at 1.80 MPa 72 °C ISO 75		Notched Izod at 23°C	4.7	kJ/m²	ISO 180
HDT at 1.80 MPa 72 °C ISO 75	Thermal	Melting temperature, 10°C/min	261	°C	ISO 11357
HDT at 1.80 MPa 72 °C ISO 75 CLTE, 2.0 mm, Parallel, 23 - 55°C 0.9 10-4/°C ISO 11359		HDT at 0.45 MPa	200	°C	ISO 75
E CLTE, 2.0 mm, Parallel, 23 - 55°C 0.9 10-4/°C ISO 11359		HDT at 1.80 MPa	72	°C	ISO 75
		CLTE, 2.0 mm, Parallel, 23 - 55°C	0.9	10 ⁻⁴ / °C	ISO 11359
CLTE, 2.0 mm, Transverse, 23 – 55°C 1.1 10-4/ °C ISO 11359		CLTE, 2.0 mm, Transverse, 23 – 55°C	1.1	10 ⁻⁴ / °C	ISO 11359



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	Properties (dry)	Value	Units	Method
Electrical	Surface Resistivity	2E+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
Flammability	Flammability Classification at 0.71 mm	V-2	-	UL 94
	Flammability Classification at 0.71 mm	V-2	-	UL 94
	Flammability Classification at 0.71 mm	V-2	-	UL 94
	Glow-Wire Flammability at 0.71 mm	960	°C	IEC 60695
	Glow-Wire Flammability at 0.71 mm	960	°C	IEC 60695
	Glow-Wire Flammability at 0.71 mm	960	°C	IEC 60695
	Glow-Wire Flammability at 0.71 mm	960	°C	IEC 60695
	Glow-Wire Flammability at 0.71 mm	960	°C	IEC 60695
	Glow-Wire Flammability at 0.71 mm	960	°C	IEC 60695

General Information

Material Status

Commercial: Active

Availability

- North America
- South America
- Europe
- Asia

Features

- Lowe moisture
- Excellent whiteness

RoHS

No intentional additives or ingredients used in U4800 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 - 280°C			
Middle	275 - 290°C			
Front	275 - 290°C			
Nozzle	275 - 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 moister (min)	0.10 wt%			
Screw Speed	75 - 180 rpm			

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

** Melt pressure

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