Product Information

INVISTA U4503 PA66 Resin

Product Description

INVISTA U4503 is a general purpose, PA66 feedstock resin produced with reduced viscosity for higher flow. Primary use is compounding.

Provide outputMode ou		Properties (dry)	Value	Units	Method
Indication mean and couplements Los Density 1.14 g/cm ³ ISO 1183 Mold shrinkage, 2.0 mm, parallel 1.0 % ISO 294-4 Mold shrinkage, 2.0 mm, transverse 1.0 % ISO 294-4 Water absorption - 24 hours 2.1 % ISO 62 Water absorption - equilibrium @ 50% RH 2.6 % ISO 62 Vater absorption - equilibrium @ 50% RH 2.6 % ISO 527 Elongation at yield 4.3 % ISO 527 Elongation at yield 4.3 % ISO 527 Elongation at break 26 % ISO 527 Flexural modulus 3000 MPa ISO 178 Flexural modulus 2900 MPa ISO 178 Notched Charpy at 23°C 4.6 KJ/m ² ISO 179 Unnotched Charpy at 23°C NB KJ/m ² ISO 179 Unnotched Charpy at 23°C NB KJ/m ² ISO 179 Unnotched Charpy at 23°C NB KJ/m ² ISO 179 Notched	Viscosity	RV in formic acid, nominal	45	-	ASTM D789
Indication mean and couplements Los Density 1.14 g/cm ³ ISO 1183 Mold shrinkage, 2.0 mm, parallel 1.0 % ISO 294-4 Mold shrinkage, 2.0 mm, transverse 1.0 % ISO 294-4 Water absorption - 24 hours 2.1 % ISO 62 Water absorption - equilibrium @ 50% RH 2.6 % ISO 62 Vater absorption - equilibrium @ 50% RH 2.6 % ISO 527 Elongation at yield 4.3 % ISO 527 Elongation at yield 4.3 % ISO 527 Elongation at break 26 % ISO 527 Flexural modulus 3000 MPa ISO 178 Flexural modulus 2900 MPa ISO 178 Notched Charpy at 23°C 4.6 KJ/m ² ISO 179 Unnotched Charpy at 23°C NB KJ/m ² ISO 179 Unnotched Charpy at 23°C NB KJ/m ² ISO 179 Unnotched Charpy at 23°C NB KJ/m ² ISO 179 Notched		VN at 0.5% in sulfuric acid, nominal	145	mL/g	ISO 307
Image: Properties of the system of		RV at 1% in sulfuric acid, nominal	2.65	-	-
Mold shrinkage, 2.0 mm, transverse1.0%ISO 294-4Water absorption - 24 hours2.1%ISO 62Water absorption - equilibrium @ 50% RH2.6%ISO 62Tensile strength at yield85MPaISO 527Elongation at yield4.3%ISO 527Elongation at break26%ISO 527Tensile modulus3000MPaISO 527Flexural modulus2900MPaISO 178Flexural strength96MPaISO 178Notched Charpy at 23°C4.6kJ/m²ISO 179Unnotched Charpy at -30°CNBkJ/m²ISO 179Unnotched Izod at 23°CNBkJ/m²ISO 179Votched Izod at 23°C4.0kJ/m²ISO 179Notched Izod at 23°CNBkJ/m²ISO 179Melting temperature, 10°C/min259°CISO 11357HDT at 0.45 MPa190°CISO 75	Physical	Density	1.14	g/cm ³	ISO 1183
Water absorption - 24 hours2.1%150 62Water absorption - equilibrium @ 50% RH2.6%1SO 527Tensile strength at yield85MPa1SO 527Elongation at yield4.3%1SO 527Elongation at break26%1SO 527Tensile modulus3000MPa1SO 527Flexural modulus2900MPa1SO 178Flexural strength96MPaISO 178Notched Charpy at 23°C4.6KJ/m²ISO 179Unnotched Charpy at -30°CNBKJ/m²ISO 179Unnotched Charpy at -30°CNBKJ/m²ISO 179Notched Izod at 23°C4.0KJ/m²ISO 179Melting temperature, 10°C/min259°CISO 11357HDT at 0.45 MPa190°CISO 75		Mold shrinkage, 2.0 mm, parallel	1.0	%	ISO 294-4
Water absorption - 24 hours2.1%150 62Water absorption - equilibrium @ 50% RH2.6%1SO 527Tensile strength at yield85MPa1SO 527Elongation at yield4.3%1SO 527Elongation at break26%1SO 527Tensile modulus3000MPa1SO 527Flexural modulus2900MPa1SO 178Flexural strength96MPaISO 178Notched Charpy at 23°C4.6KJ/m²ISO 179Unnotched Charpy at -30°CNBKJ/m²ISO 179Unnotched Charpy at -30°CNBKJ/m²ISO 179Notched Izod at 23°C4.0KJ/m²ISO 179Melting temperature, 10°C/min259°CISO 11357HDT at 0.45 MPa190°CISO 75		Mold shrinkage, 2.0 mm, transverse	1.0	%	ISO 294-4
Tensile strength at yield85MPaISO 527Elongation at yield4.3%ISO 527Elongation at break26%ISO 527Tensile modulus3000MPaISO 527Flexural modulus2900MPaISO 178Flexural strength96MPaISO 178Notched Charpy at 23°C4.6KJ/m²ISO 179Notched Charpy at -30°C3.9KJ/m²ISO 179Unnotched Charpy at -30°CNBKJ/m²ISO 179Notched Izod at 23°CNBKJ/m²ISO 179Notched Izod at 23°C4.0KJ/m²ISO 179Notched Izod at 23°C9°CISO 11357HDT at 0.45 MPa190°CISO 1307		Water absorption - 24 hours	2.1	%	ISO 62
Image: Point of the section of the		Water absorption - equilibrium @ 50% RH	2.6	%	ISO 62
Floringation at break26%ISO 527Tensile modulus3000MPaISO 527Flexural modulus2900MPaISO 178Flexural strength96MPaISO 178Notched Charpy at 23°C4.6kJ/m²ISO 179Notched Charpy at -30°C3.9kJ/m²ISO 179Unnotched Charpy at 23°CNBkJ/m²ISO 179Unnotched Charpy at -30°CNBkJ/m²ISO 179NBkJ/m²ISO 179NBkJ/m²Unnotched Izod at 23°C4.0kJ/m²ISO 180HDT at 0.45 MPa190°CISO 75	Mechanical	Tensile strength at yield	85	MPa	ISO 527
Tensile modulus3000MPaISO 527Flexural modulus2900MPaISO 178Flexural strength96MPaISO 178Notched Charpy at 23°C4.6kJ/m²ISO 179Notched Charpy at -30°C3.9kJ/m²ISO 179Unnotched Charpy at 23°CNBkJ/m²ISO 179Unnotched Charpy at -30°CNBkJ/m²ISO 179Unnotched Charpy at -30°CNBkJ/m²ISO 179Unnotched Charpy at -30°CNBkJ/m²ISO 179Unnotched Charpy at -30°CNBkJ/m²ISO 179Notched Izod at 23°C4.0kJ/m²ISO 180Melting temperature, 10°C/min259°CISO 11357HDT at 0.45 MPa190°CISO 75		Elongation at yield	4.3	%	ISO 527
Flexural modulus2900MPaISO 178Flexural strength96MPaISO 178Notched Charpy at 23°C4.6kJ/m²ISO 179Notched Charpy at -30°C3.9kJ/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 179Notched Izod at 23°C4.0kJ/m²ISO 180Melting temperature, 10°C/min259°CISO 11357HDT at 0.45 MPa190°CISO 75		Elongation at break	26	%	ISO 527
Notched Charpy at -30°C3.9kJ/m²ISO 179Unnotched Charpy at 23°CNBkJ/m²ISO 179Unnotched Charpy at -30°CNBkJ/m²ISO 179Notched Izod at 23°C4.0kJ/m²ISO 180Melting temperature, 10°C/min259°CISO 11357HDT at 0.45 MPa190°CISO 75		Tensile modulus	3000	MPa	ISO 527
Notched Charpy at -30°C3.9kJ/m²ISO 179Unnotched Charpy at 23°CNBkJ/m²ISO 179Unnotched Charpy at -30°CNBkJ/m²ISO 179Notched Izod at 23°C4.0kJ/m²ISO 180Melting temperature, 10°C/min259°CISO 11357HDT at 0.45 MPa190°CISO 75		Flexural modulus	2900	MPa	ISO 178
Notched Charpy at -30°C3.9kJ/m²ISO 179Unnotched Charpy at 23°CNBkJ/m²ISO 179Unnotched Charpy at -30°CNBkJ/m²ISO 179Notched Izod at 23°C4.0kJ/m²ISO 180Melting temperature, 10°C/min259°CISO 11357HDT at 0.45 MPa190°CISO 75		Flexural strength	96	MPa	ISO 178
Notched Charpy at 23°CNBkJ/m²ISO 179Unnotched Charpy at 23°CNBkJ/m²ISO 179Unnotched Charpy at -30°CNBkJ/m²ISO 179Notched Izod at 23°C4.0kJ/m²ISO 180Melting temperature, 10°C/min259°CISO 11357HDT at 0.45 MPa190°CISO 75		Notched Charpy at 23°C	4.6	kJ/m²	ISO 179
Image: NBNBNBNBNBNBNDUnnotched Charpy at -30°CNBKJ/m²ISO 179Notched Izod at 23°C4.0KJ/m²ISO 180Melting temperature, 10°C/min259°CISO 11357HDT at 0.45 MPa190°CISO 75		Notched Charpy at -30°C	3.9	kJ/m²	ISO 179
Notched Izod at 23°C4.0kJ/m²ISO 173Melting temperature, 10°C/min259°CISO 11357HDT at 0.45 MPa190°CISO 75		Unnotched Charpy at 23°C	NB	kJ/m²	ISO 179
Melting temperature, 10°C/min259°CISO 100HDT at 0.45 MPa190°CISO 75		Unnotched Charpy at -30°C	NB	kJ/m²	ISO 179
HDT at 0.45 MPa 190 °C ISO 75		Notched Izod at 23°C	4.0	kJ/m²	ISO 180
HDT at 0.45 MPa 190 °C ISO 75	Thermal	Melting temperature, 10°C/min	259	°C	ISO 11357
		HDT at 0.45 MPa	190	°C	ISO 75
HDT at 1.80 MPa 62 °C ISO 75		HDT at 1.80 MPa	62	°C	ISO 75

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General Information

Material Status

Commercial: Active

Availability

- North America
- South America
- Europe
- Asia

Features

- High flow for ease of processing
- Stable viscosity
- Good whiteness

RoHS

No intentional additives or ingredients used in U4503 are among those in European directive 2011/65/EC (RoHS), as amended.

Process Guidelines for Molding					
Drying temperature	80°C				
Drying time*	8 - 12 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 moister (min)	0.10 wt%				
Screw Speed	75 - 180 rpm				

* Initial moisture below 0.5 wt%. Use dehumidified air. ** Melt pressure

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