Celanese
The chemistry inside innovation™

Crastin® S600F10 NC010

THERMOPLASTIC POLYESTER RESIN

Common features of Crastin® thermoplastic polyester resin include mechanical and physical properties such as stiffness and toughness, heat resistance, friction and wear resistance, excellent surface finishes and good colourability. Crastin® thermoplastic polyester resin has excellent electrical insulation characteristics and high arc-resistant grades are available. Many flame retardant grades have UL recognition (class V-0). Crastin® thermoplastic polyester resin typically has high chemical and heat ageing resistance.

The good melt stability of Crastin® thermoplastic polyester resin normally enables the recycling of properly handled production waste.
If recycling is not possible, we recommend, as the preferred option, incineration with energy recovery (-24 kJ/g of base polymer) in appropriately equipped installations. For disposal, local regulations have to be observed.

Crastin® thermoplastic polyester resin typically is used in demanding applications in the electronics, electrical, automotive, mechanical engineering, chemical, domestic appliances and sporting goods industry.

Crastin® S600F10 NC010 is an unreinforced, lubricated, high viscosity polybutylene terephthalate resin for injection molding and extrusion applications.

Product information

Resin Identification	PBT	ISO 1043
Part Marking Code	>PBT<	ISO 11469

Rheological properties

Melt volume-flow rate	10	cm^3/10min	ISO 1133
Temperature	482	°F	
Load	4.76	lb	
Melt mass-flow rate	11	g/10min	ISO 1133
Melt mass-flow rate, Temperature	482	°F	
Melt mass-flow rate, Load	4.76	lb	
Intrinsic viscosity	1.17		ISO 307, 1628
Molding shrinkage, parallel	1.7	%	ISO 294-4, 2577
Molding shrinkage, normal	1.7	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	363000	psi	ISO 527-1/-2
Tensile stress at yield, 50mm/min	8000	psi	ISO 527-1/-2
Tensile strain at yield, 50mm/min	4	%	ISO 527-1/-2
Nominal strain at break	>50	%	ISO 527-1/-2
Tensile strain at break, 50mm/min	>50	%	ISO 527-1/-2
Flexural modulus	348000	psi	ISO 178
Flexural strength	12200	psi	ISO 178
Tensile creep modulus, 1h	334000	psi	ISO 899-1
Tensile creep modulus, 1000h	261000	psi	ISO 899-1
Charpy impact strength, 23°C	N	$ftlb/in^2$	ISO 179/1eU
Charpy impact strength, -30°C	N	$ftlb/in^2$	ISO 179/1eU
Charpy notched impact strength, 23°C	2.38	$ftlb/in^2$	ISO 179/1eA
Charpy notched impact strength, -30°C	1.9	$ftlb/in^2$	ISO 179/1eA
Izod notched impact strength, 23°C	2.38	$ftlb/in^2$	ISO 180/1A
Izod notched impact strength, -30°C	2.38	$ftlb/in^2$	ISO 180/1A
Izod impact strength, 23°C	N	$ftlb/in^2$	ISO 180/1U
Izod impact strength, -30°C	61.8	$ftlb/in^2$	ISO 180/1U

Crastin® S600F10 NC010

THERMOPLASTIC POLYESTER RESIN

Ball indentation hardness, H 961/30	20200	psi	ISO 2039-1

Thermal properties

Melting temperature, 10°C/min	435	°F	ISO 11357-1/-3
Glass transition temperature, 10°C/min	131	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	122	°F	ISO 75-1/-2
Temperature of deflection under load, 1.8 MPa, annealed	140	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	239	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa, annealed	356	°F	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	347	°F	ISO 306
Ball pressure test	374	°F	IEC 60695-10-2
Coefficient of linear thermal expansion (CLTE), parallel	0.61	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel, -40-23°C	0.444	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel, 55-160°C	1.06	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.667	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, -40-23°C	0.5	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, 55-160°C	1.11	E-4/°F	ISO 11359-1/-2
Thermal conductivity of melt	0.21	W/(m K)	ISO 22007-2
Specific heat capacity of melt	2100	J/(kg K)	ISO 22007-4
RTI, electrical, 0.75mm	266	°F	UL 746B
RTI, electrical, 1.5mm	266	°F	UL 746B
RTI, electrical, 3.0mm	266	°F	UL 746B
RTI, electrical, 6mm	266	°F	UL 746B
RTI, impact, 0.75mm	239	°F	UL 746B
RTI, impact, 1.5mm	239	°F	UL 746B
RTI, impact, 3.0mm	239	°F	UL 746B
RTI, impact, 6mm	239	°F	UL 746B
RTI, strength, 0.75mm	248	°F	UL 746B
RTI, strength, 1.5mm	248	°F	UL 746B
RTI, strength, 3.0mm	248	°F	UL 746B
RTI, strength, 6mm	248	°F	UL 746B

Flammability

Burning Behav. at 1.5mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	0.0591	in	IEC 60695-11-10
UL recognition	yes		UL 94
Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	0.1181	in	IEC 60695-11-10
UL recognition	yes		UL 94
Oxygen index	22	%	ISO 4589-1/-2
Glow Wire Flammability Index, 3.0mm	1380	°F	IEC 60695-2-12

Crastin® S600F10 NC010

THERMOPLASTIC POLYESTER RESIN

Glow Wire Ignition Temperature, 0.75mm	1380	°F	IEC 60695-2-13
Glow Wire Ignition Temperature, 1.0mm	1380	°F	IEC 60695-2-13
Glow Wire Ignition Temperature, 1.5mm	1380	°F	IEC 60695-2-13
Glow Wire Ignition Temperature, 2.0mm	1380	°F	IEC 60695-2-13
Glow Wire Ignition Temperature, 3.0mm	1340	°F	IEC 60695-2-13
FMVSS Class	SE		ISO 3795 (FMVSS 302)

Electrical properties

Relative permittivity, 100Hz	3.6		IEC 62631-2-1
Relative permittivity, 1MHz	3.2		IEC 62631-2-1
Dissipation factor, 100Hz	10.4	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	200	E-4	IEC 62631-2-1
Volume resistivity	>1E13	Ohm.m	IEC 62631-3-1
Surface resistivity	1E15	Ohm	IEC 62631-3-2
Electric strength	660	kV/in	IEC 60243-1
Comparative tracking index	600		IEC 60112
Electric Strength, Short Time, 1mm	660	V/mil	IEC 60243-1
Electric Strength, Short Time, 2mm	381	V/mil	IEC 60243-1

Physical/Other properties

Humidity absorption, 2mm	0.2	%	Sim. to ISO 62
Water absorption, 2mm	0.4	%	Sim. to ISO 62
Density	0.0469	lb/in^3	ISO 1183
Density of melt	69.3	lb/ft^3	

Emissions

Odor test	3	class	VDA 270

Injection

Drying Recommended	yes	
Drying Temperature	248	°F
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.04	%
Melt Temperature Optimum	482	°F
Min. melt temperature	464	°F
Max. melt temperature	500	°F
Mold Temperature Optimum	176	°F
Min. mold temperature	140	°F
Max. mold temperature	266	°F
Hold pressure range	≥8700	psi
Hold pressure time	0.102	s/mil
Hold Pressure Time (h is the max. wall thickness of the part in mm)	1.5h^2+2	s
Back pressure	as low as possible	psi
Ejection temperature	322	°F

Crastin® S600F10 NC010

THERMOPLASTIC POLYESTER RESIN

Extrusion

Drying Temperature	230 - 266	°F
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.04	%
Melt Temperature Optimum	482	°F
Melt Temperature Range	464 - 500	°F

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
BMW	GS93016-PBT	(Impact Resistant)
Ford	WSK-M4D636-A	

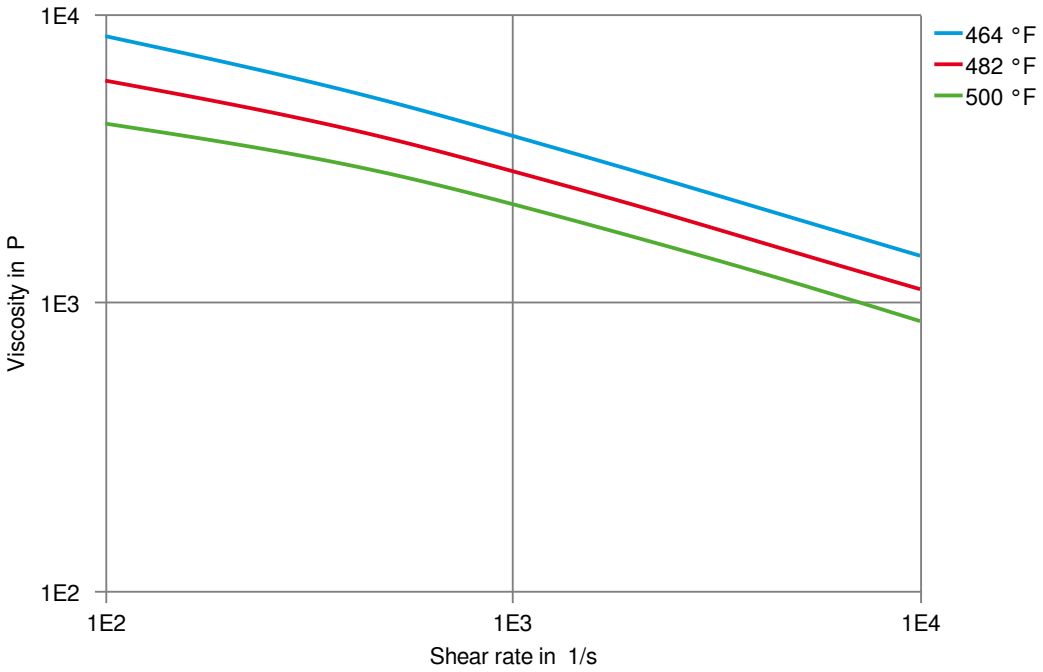
Characteristics

Processing	Injection Molding, Extrusion, Other Extrusion, Coating
Additives	Release agent

Crastin® S600F10 NC010

THERMOPLASTIC POLYESTER RESIN

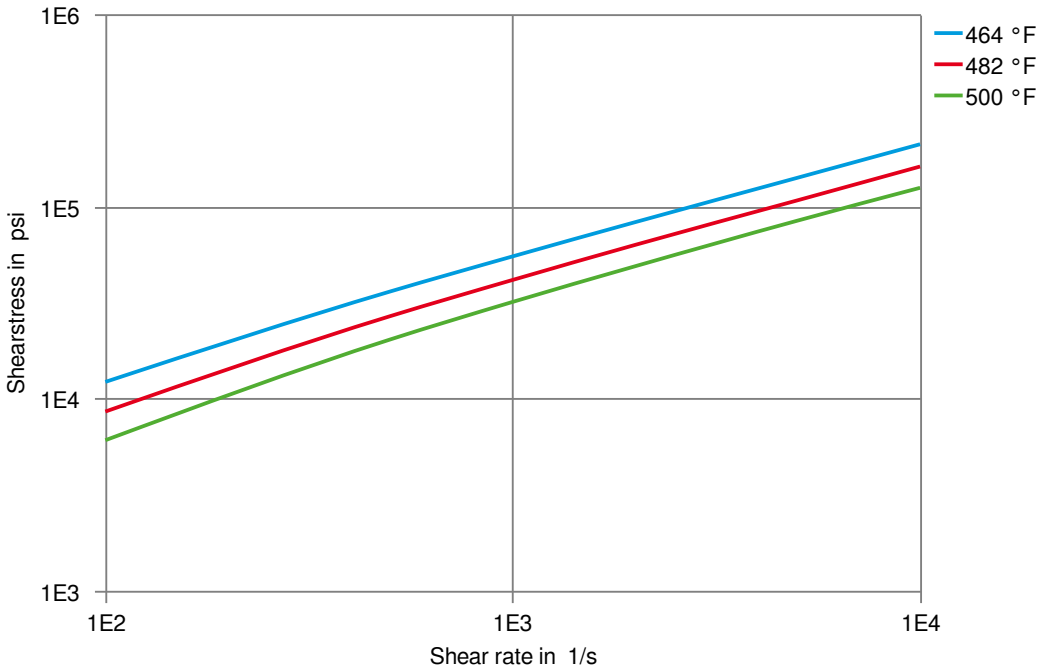
Viscosity-shear rate



Crastin® S600F10 NC010

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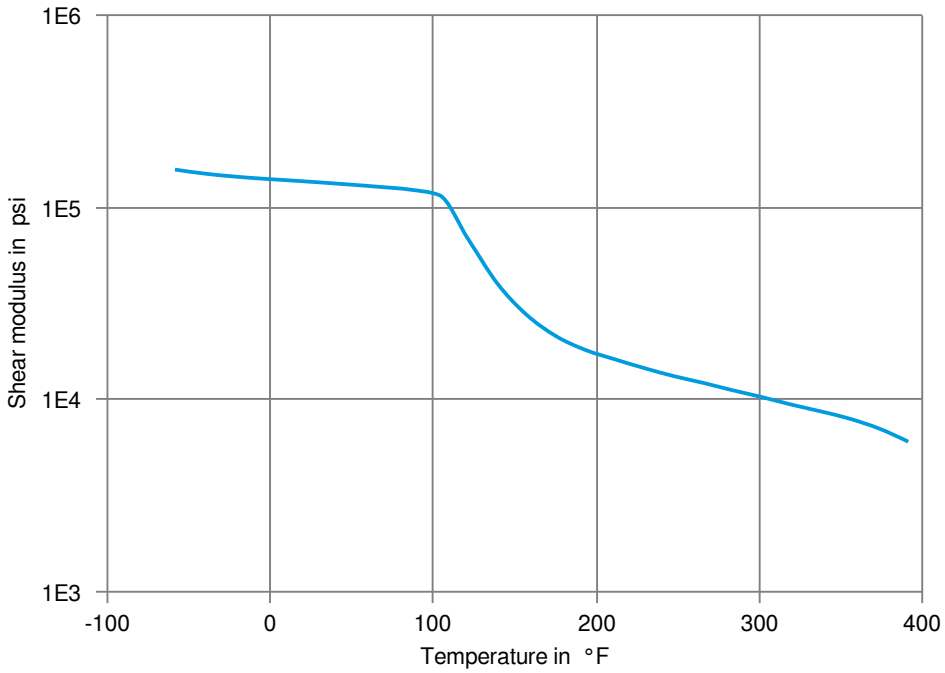
Shearstress-shear rate



Crastin® S600F10 NC010

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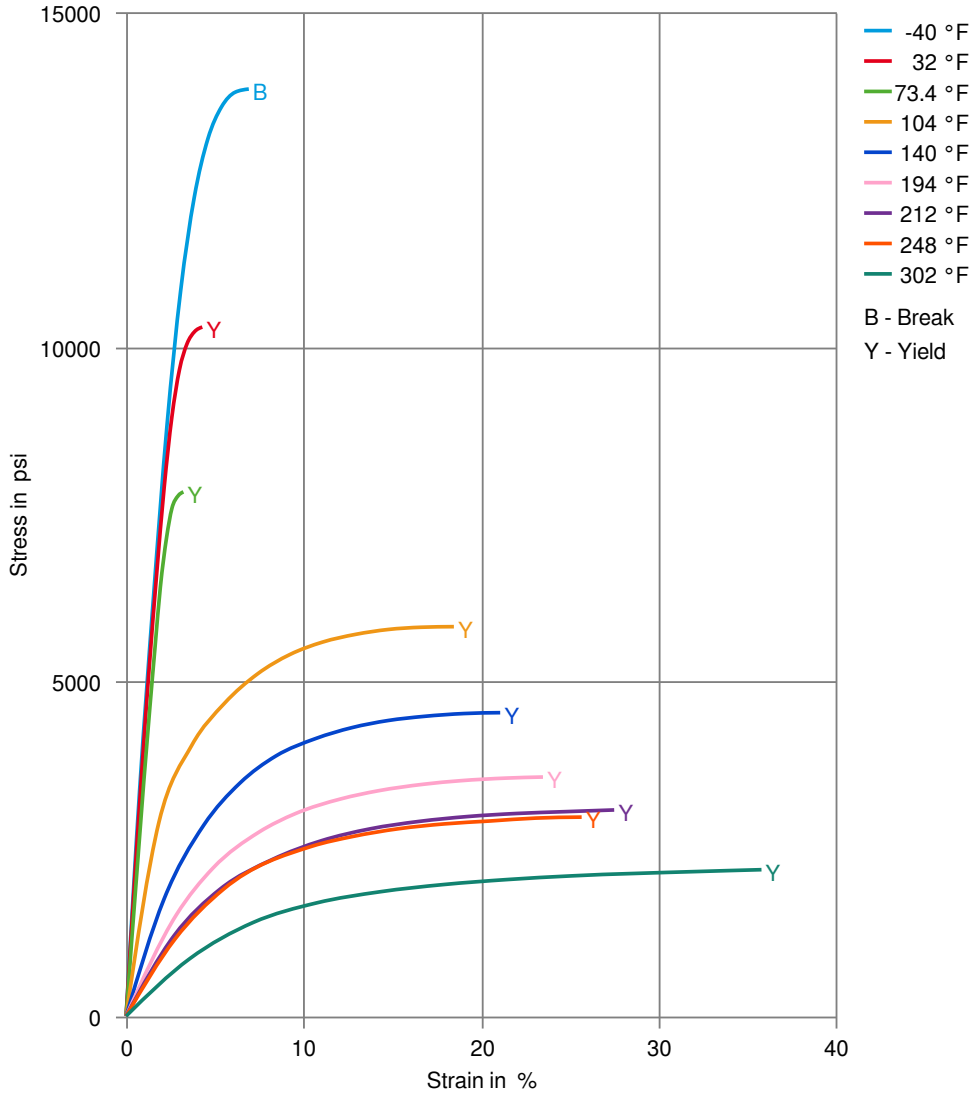
Dynamic Shear modulus-temperature



Crastin® S600F10 NC010

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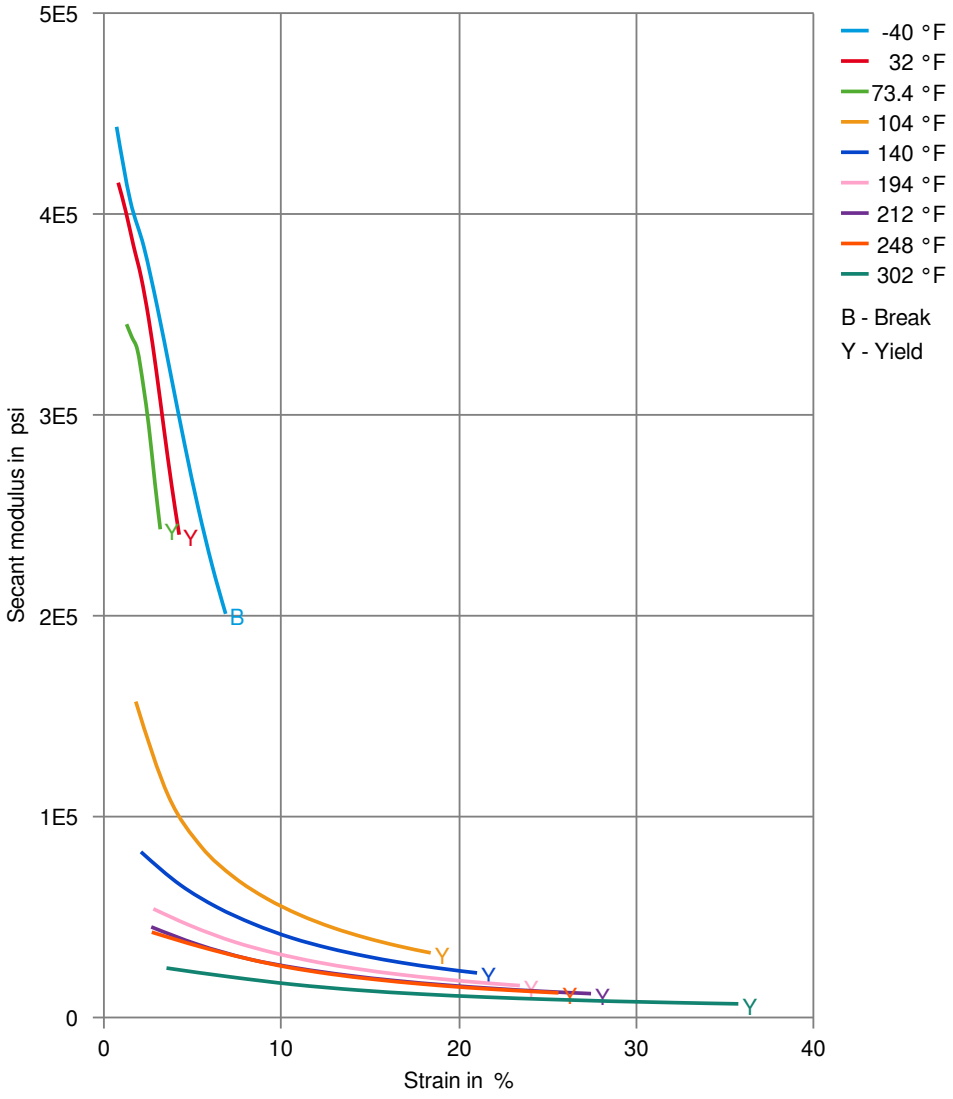
Stress-strain



Crastin® S600F10 NC010

THERMOPLASTIC POLYESTER RESIN

Secant modulus-strain

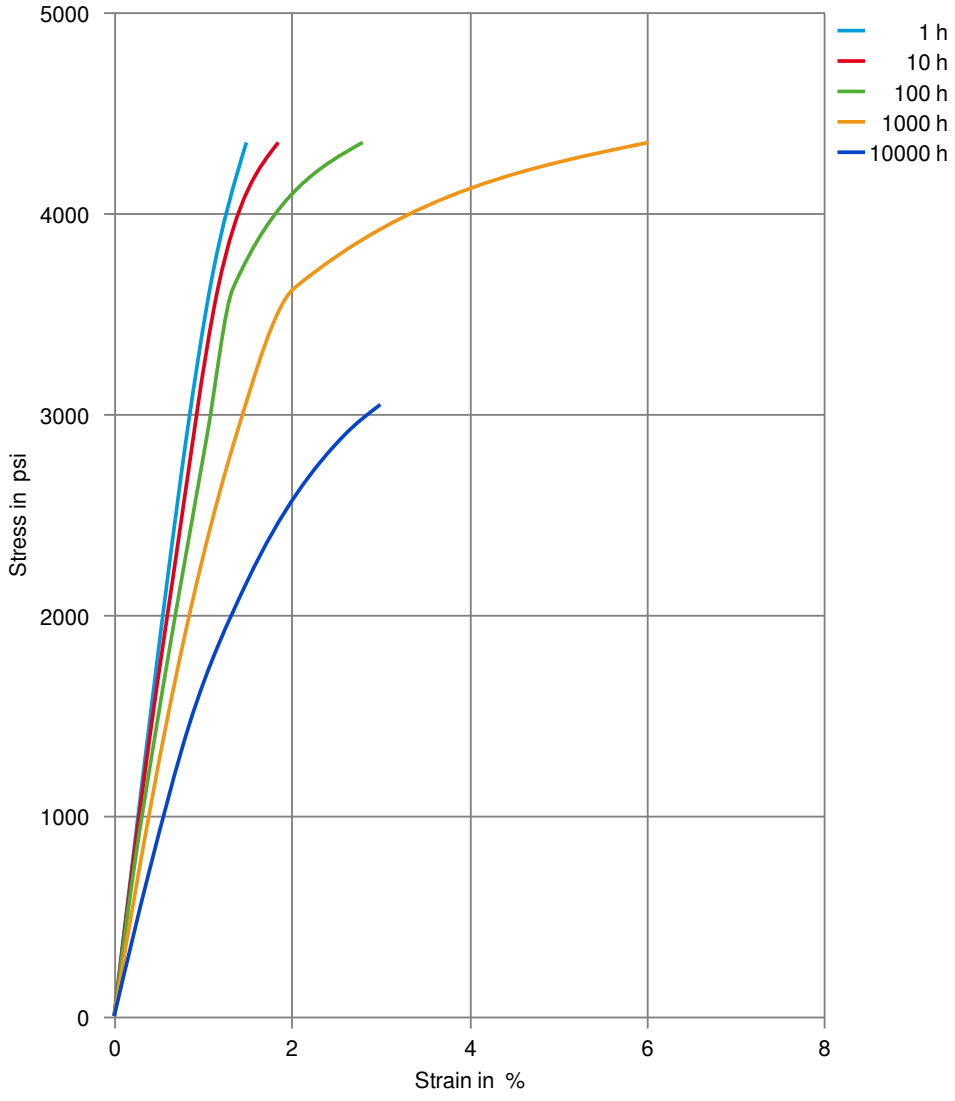


Revised: 2026-08-12 Source: Celanese Materials Database

Crastin® S600F10 NC010

THERMOPLASTIC POLYESTER RESIN

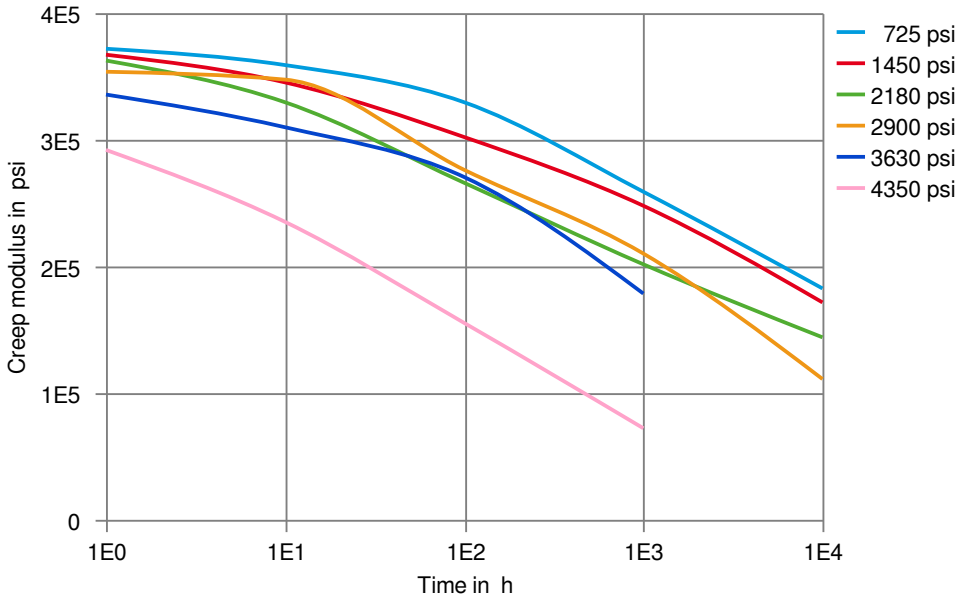
Stress-strain (isochronous) 73.4 °F



Crastin® S600F10 NC010

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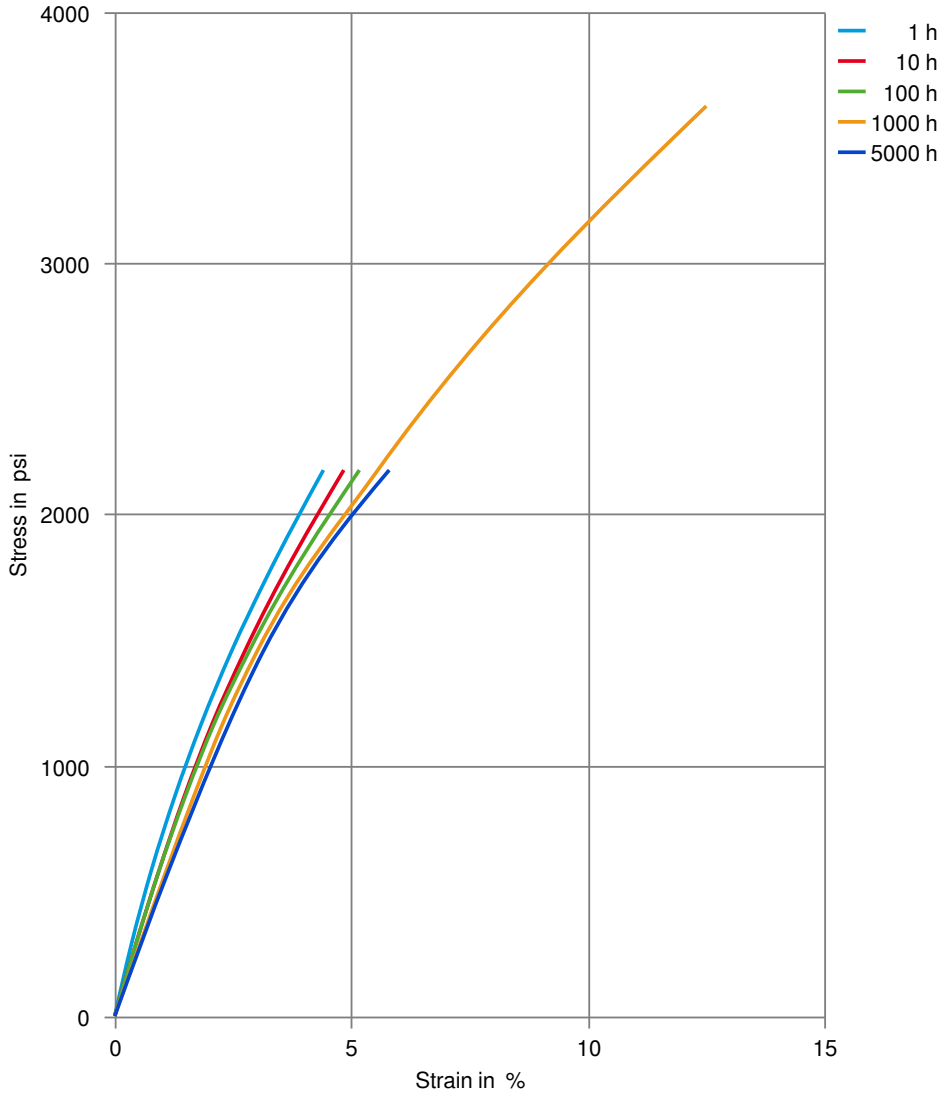
Creep modulus-time 73.4 °F



Crastin® S600F10 NC010

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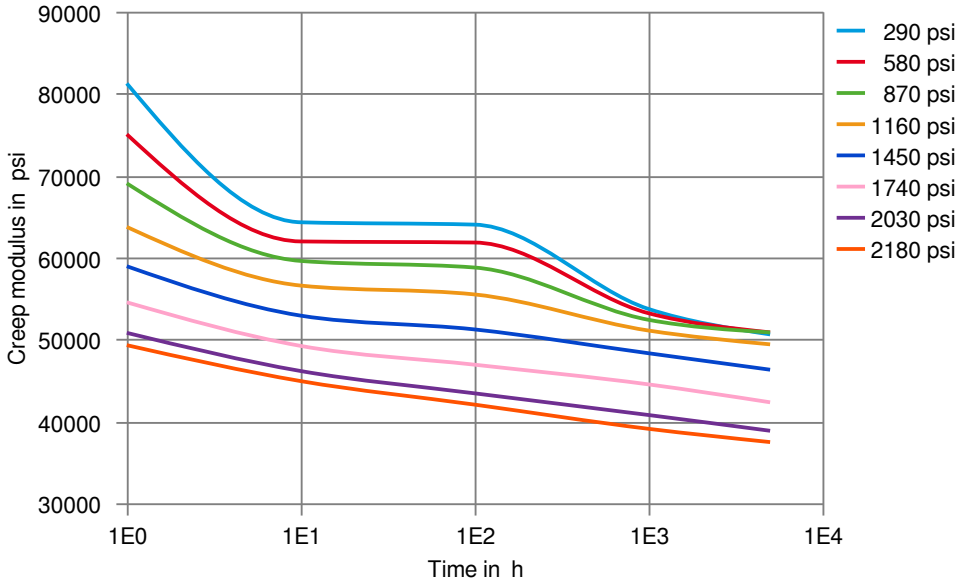
Stress-strain (isochronous) 140 °F



Crastin® S600F10 NC010

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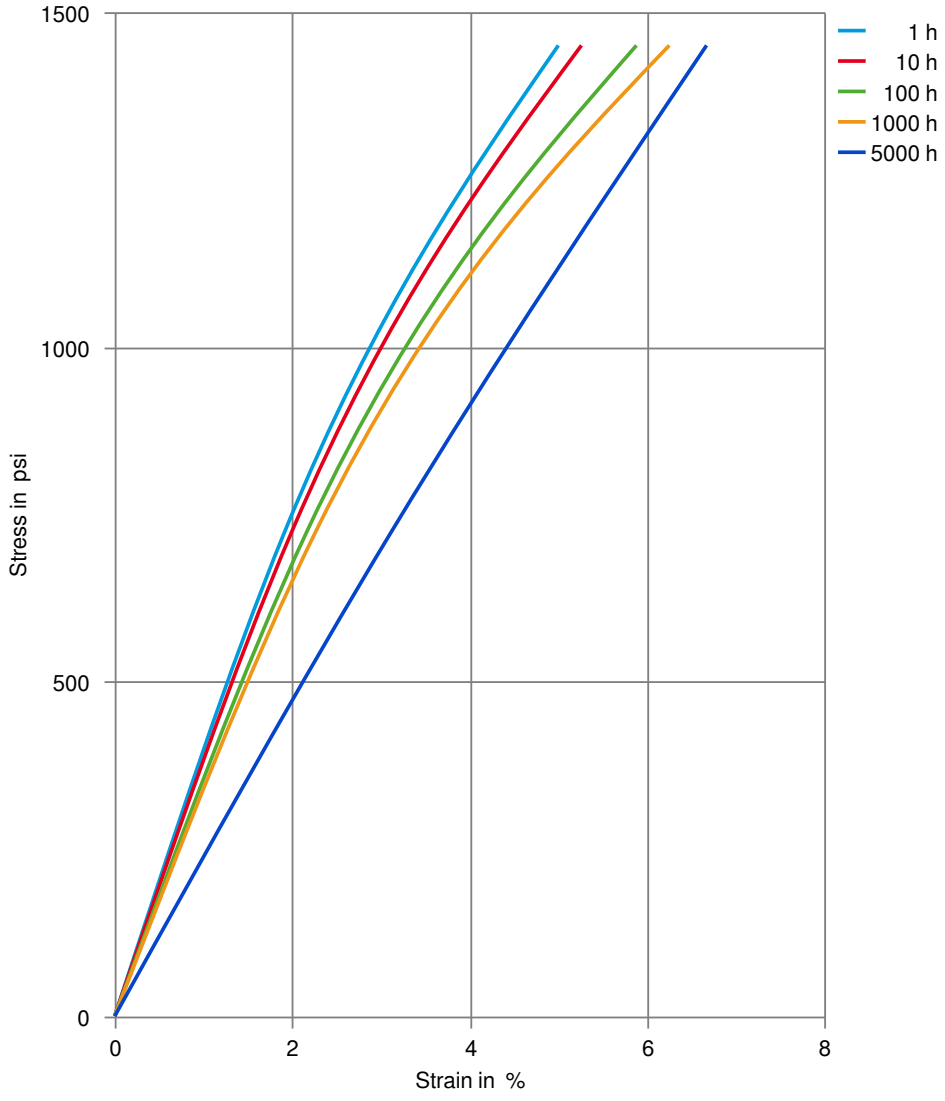
Creep modulus-time 140 °F



Crastin® S600F10 NC010

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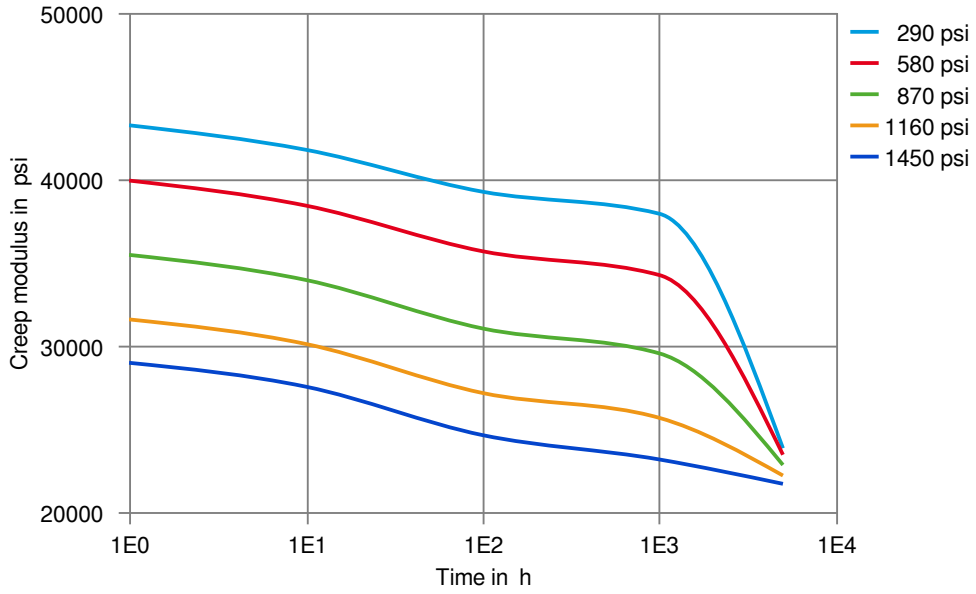
Stress-strain (isochronous) 230 °F



Crastin® S600F10 NC010

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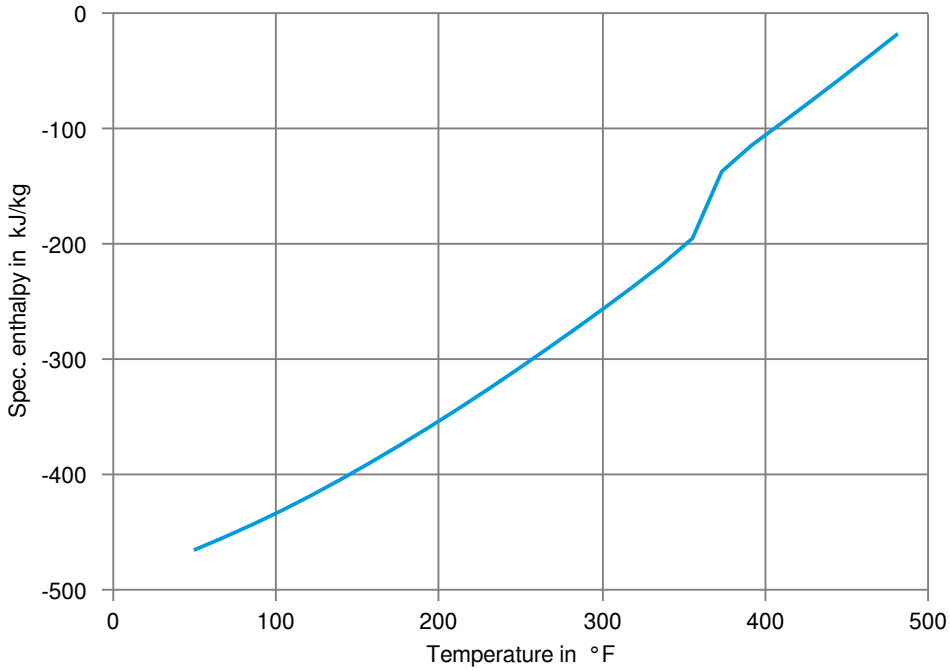
Creep modulus-time 230 °F



Crastin® S600F10 NC010

THERMOPLASTIC POLYESTER RESIN

Spec. enthalpy/mass-temp. (DSC)



Crastin® S600F10 NC010

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Chemical Media Resistance

Acids

- ✔ Acetic Acid (5% by mass), 23°C
- ✔ Citric Acid solution (10% by mass), 23°C
- ✔ Lactic Acid (10% by mass), 23°C
- ✘ Hydrochloric Acid (36% by mass), 23°C
- ✘ Nitric Acid (40% by mass), 23°C
- ✘ Sulfuric Acid (38% by mass), 23°C
- ✘ Sulfuric Acid (5% by mass), 23°C
- ✘ Chromic Acid solution (40% by mass), 23°C

Bases

- ✘ Sodium Hydroxide solution (35% by mass), 23°C
- ✔ Sodium Hydroxide solution (1% by mass), 23°C
- ✔ Ammonium Hydroxide solution (10% by mass), 23°C

Alcohols

- ✔ Isopropyl alcohol, 23°C
- ✔ Methanol, 23°C
- ✔ Ethanol, 23°C

Hydrocarbons

- ✔ n-Hexane, 23°C
- ✔ Toluene, 23°C
- ✔ iso-Octane, 23°C

Ketones

- ✔ Acetone, 23°C

Ethers

- ✔ Diethyl ether, 23°C

Mineral oils

- ✔ SAE 10W40 multigrade motor oil, 23°C
- ✘ SAE 10W40 multigrade motor oil, 130°C
- ✘ SAE 80/90 hypoid-gear oil, 130°C
- ✔ Insulating Oil, 23°C

Standard Fuels

- ✘ ISO 1817 Liquid 1 - E5, 60°C
- ✘ ISO 1817 Liquid 2 - M15E4, 60°C
- ✘ ISO 1817 Liquid 3 - M3E7, 60°C
- ✘ ISO 1817 Liquid 4 - M15, 60°C
- ✔ Standard fuel without alcohol (pref. ISO 1817 Liquid C), 23°C
- ✔ Standard fuel with alcohol (pref. ISO 1817 Liquid 4), 23°C
- ✔ Diesel fuel (pref. ISO 1817 Liquid F), 23°C
- ✔ Diesel fuel (pref. ISO 1817 Liquid F), 90°C
- ✘ Diesel fuel (pref. ISO 1817 Liquid F), >90°C

Salt solutions

- ✔ Sodium Chloride solution (10% by mass), 23°C
- ✔ Sodium Hypochlorite solution (10% by mass), 23°C

Crastin® S600F10 NC010

THERMOPLASTIC POLYESTER RESIN

- ✔ Sodium Carbonate solution (20% by mass), 23°C
- ✔ Sodium Carbonate solution (2% by mass), 23°C
- ✔ Zinc Chloride solution (50% by mass), 23°C

Other

- ✔ Ethyl Acetate, 23°C
- ✘ Hydrogen peroxide, 23°C
- ✘ DOT No. 4 Brake fluid, 130°C
- ✘ Ethylene Glycol (50% by mass) in water, 108°C
- ✔ 1% nonylphenoxy-polyethyleneoxy ethanol in water, 23°C
- ✔ 50% Oleic acid + 50% Olive Oil, 23°C
- ✔ Water, 23°C
- ✘ Water, 90°C
- ✔ Phenol solution (5% by mass), 23°C

Symbols used:

✔ possibly resistant
Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

✘ not recommended - see explanation
Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

Revised: 2026-08-12 Source: Celanese Materials Database

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