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The chemistry inside innovation™

Rynite® SST35 NC010

THERMOPLASTIC POLYESTER RESIN

ISO 1043: PET-HIGF35

Common features of Rynite® thermoplastic polyester include mechanical and physical properties such as excellent balance of strength and stiffness, dimensional stability, creep resistance, heat resistance, outstanding colour stability, high surface gloss and inherent good electrical properties. It can be processed over a broad temperature range and has excellent flow properties.

The good melt stability of Rynite® thermoplastic polyester normally enables the recycling of properly handled production waste.
If recycling is not possible, we recommend, as the preferred option, incineration with energy recovery (-22 kJ/g of base polymer) in appropriately equipped installations. For disposal, local regulations have to be observed.

Rynite® thermoplastic polyester typically is used in demanding applications in the automotive, electrical and electronics, appliances, mechanical engineering industry, where they successfully replace metals and thermosets as well as other thermoplastic polymers.

Rynite® SST35 is a 35% glass fibre reinforced, super tough, modified polyethylene terephthalate for injection moulding.

It has excellent impact resistance and surface aspect.

Food compliance:
Not compliant

Product information

Resin Identification	PET-HIGF35	ISO 1043
Part Marking Code	>PET-HIGF35<	ISO 11469

Typical mechanical properties

Tensile modulus	7500	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	90	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	6	%	ISO 527-1/-2
Compressive strength	80	MPa	ISO 604
Poisson's ratio	0.34		

Thermal properties

Coefficient of linear thermal expansion (CLTE), normal	130	E-6/K	ISO 11359-1/-2
Thermal conductivity of melt	0.21	W/(m K)	ISO 22007-2
Effective thermal diffusivity, flow	1.2E-7	m^2/s	ISO 22007-4
Specific heat capacity of melt	1700	J/(kg K)	ISO 22007-4
RTI, electrical, 0.75mm	150	°C	UL 746B
RTI, electrical, 1.5mm	150	°C	UL 746B
RTI, electrical, 3.0mm	150	°C	UL 746B
RTI, impact, 0.75mm	150	°C	UL 746B
RTI, impact, 1.5mm	150	°C	UL 746B
RTI, impact, 3.0mm	150	°C	UL 746B
RTI, strength, 0.75mm	150	°C	UL 746B
RTI, strength, 1.5mm	150	°C	UL 746B
RTI, strength, 3.0mm	150	°C	UL 746B

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Flammability

Burning Behav. at 1.5mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.5	mm	IEC 60695-11-10
UL recognition	yes		UL 94
Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	0.75	mm	IEC 60695-11-10
UL recognition	yes		UL 94
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	mm/min	ISO 3795 (FMVSS 302)

Electrical properties

Relative permittivity, 100Hz	5		IEC 62631-2-1
Relative permittivity, 1000Hz	4.7		IEC 62631-2-1
Relative permittivity, 1MHz	4.4		IEC 62631-2-1
Electric strength	29	kV/mm	IEC 60243-1
Comparative tracking index	500		IEC 60112

Physical/Other properties

Density	1520	kg/m³	ISO 1183
Density of melt	1400	kg/m³	

Injection

Drying Recommended	yes	
Drying Temperature	120	°C
Drying Time, Dehumidified Dryer	4 - 6	h
Processing Moisture Content	≤0.02[1]	%
Melt Temperature Optimum	285	°C
Min. melt temperature	270	°C
Max. melt temperature	290	°C
Screw tangential speed	≤0.2	m/s
Mold Temperature Optimum	95	°C
Min. mould temperature	75	°C
Max. mould temperature	95	°C
Hold pressure range	≥80	MPa
Hold pressure time	4	s/mm
Back pressure	As low as possible	MPa
Ejection temperature	170	°C

[1]: At levels above 0.02%, strength and toughness will decrease, even though parts may not exhibit surface defects.

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Release agent
Special characteristics	Heat stabilised or stable to heat

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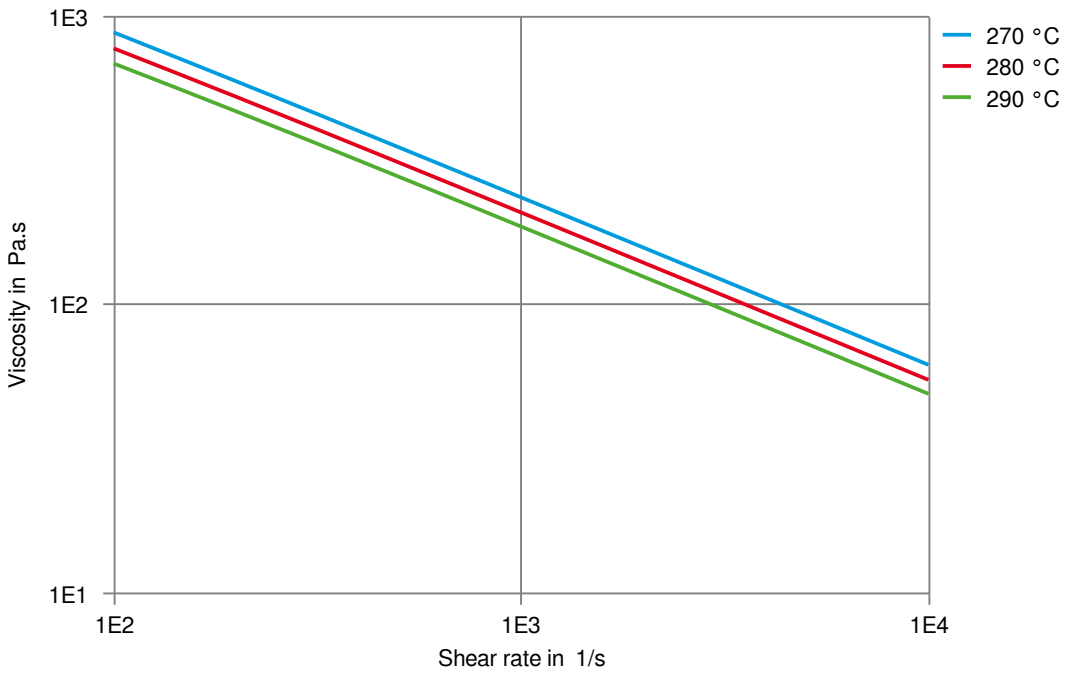
Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
Stellantis - Chrysler	MS.50103 / CPN-3587	Natural
Stellantis - Chrysler	MS.50103 / CPN-3594	Natural

Viscosity-shear rate



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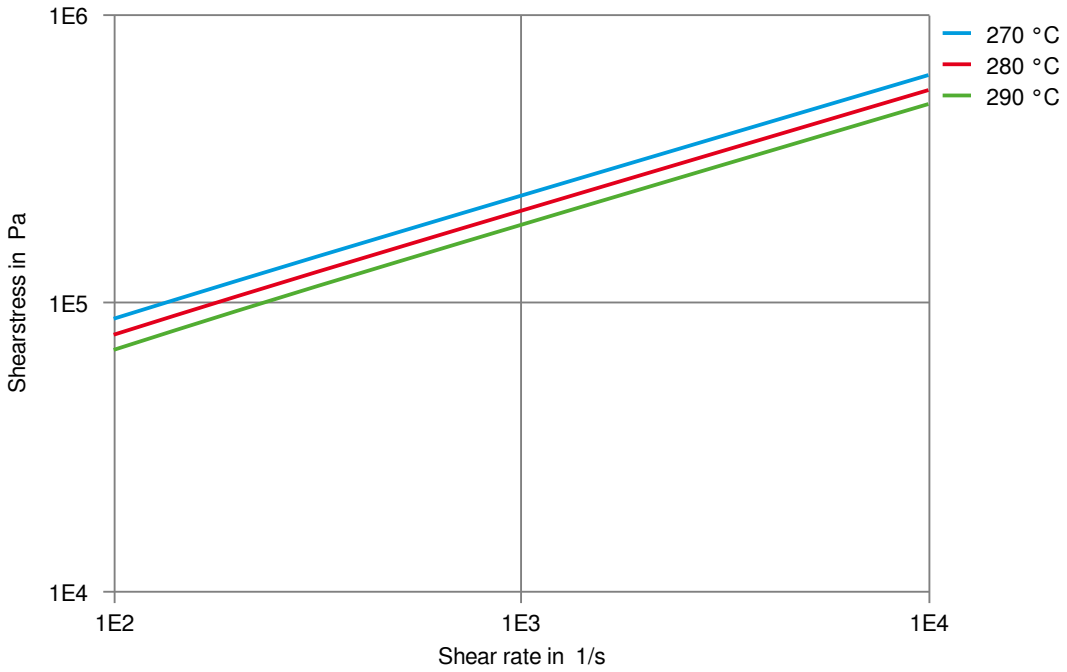
Shearstress-shear rate



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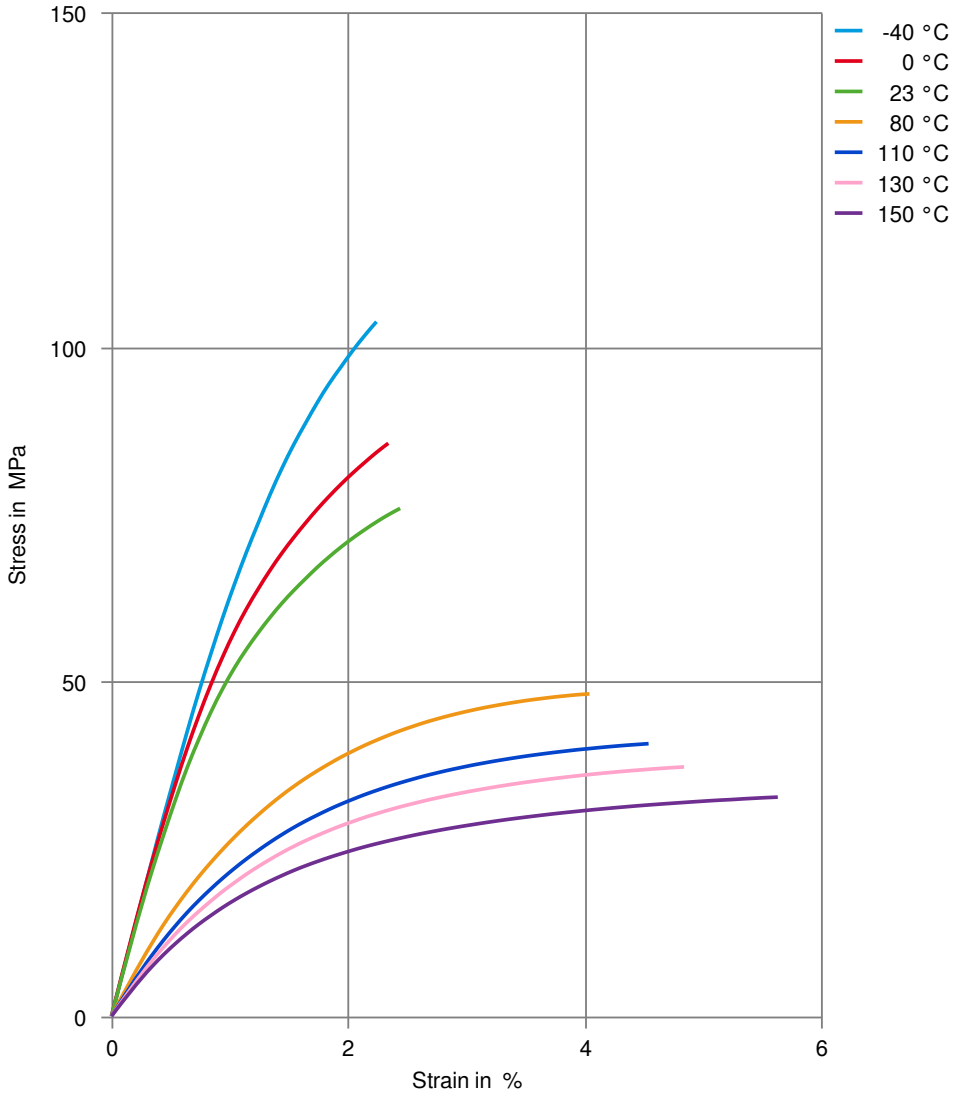
Stress-strain



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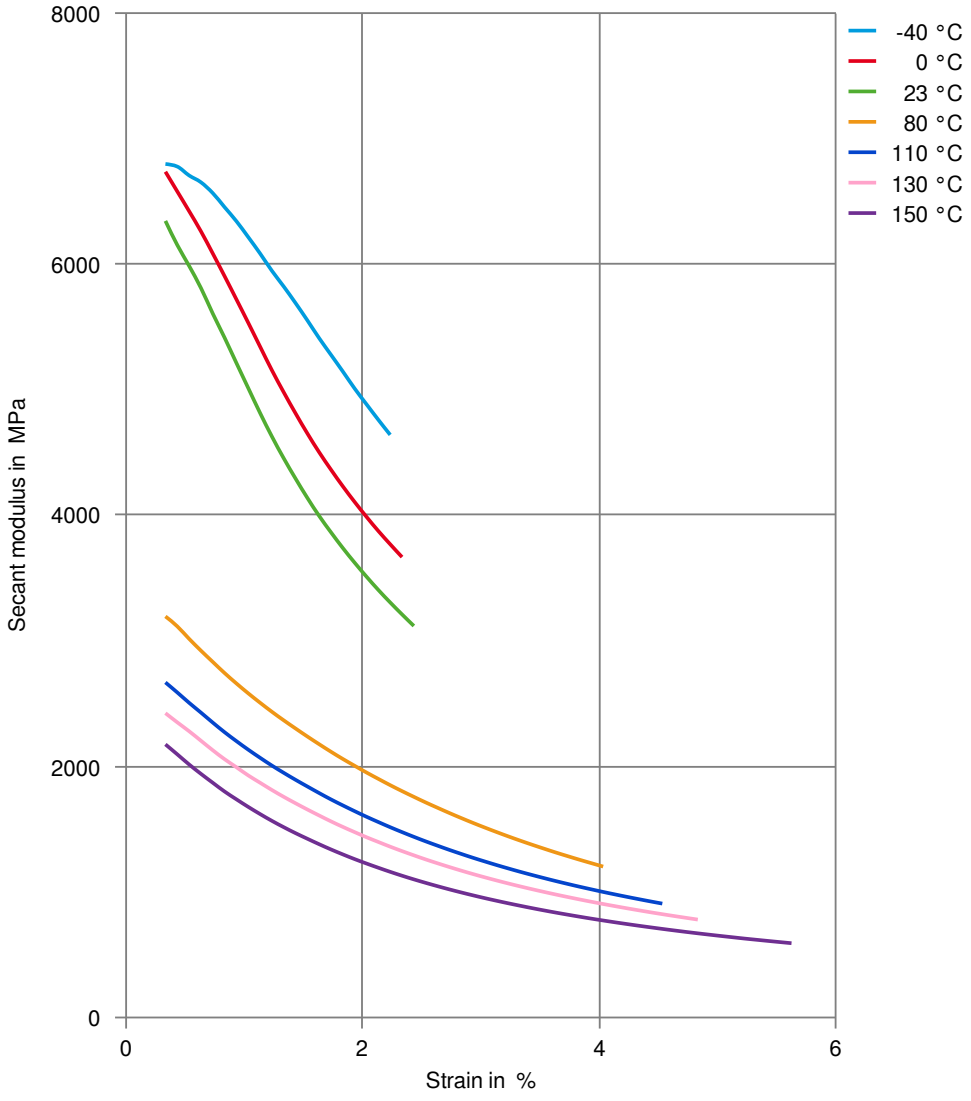
Secant modulus-strain



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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

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- ✔ 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).