


Stanyl® 46HF5040

PA46-GF40 FR(17)

Envalior

Product Texts

40% Glass Reinforced, Heat Stabilized, Flame Retardant, High Flow

ISO 1043 PA46-GF40 FR(17)

Stanyl® 46HF5040 is an electro-friendly & flame-retarded high heat polyamide with unmatched high flow that offers an excellent combination of flame-retardancy and mechanical properties. 46HF-grades are often used in thin-walled and multi-cavity connectors such as DDR-connectors.

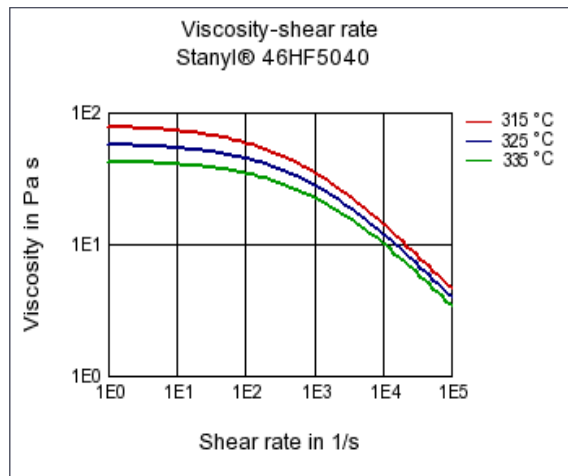
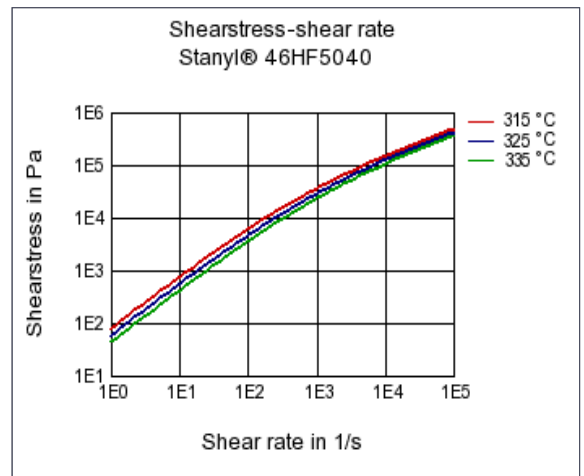
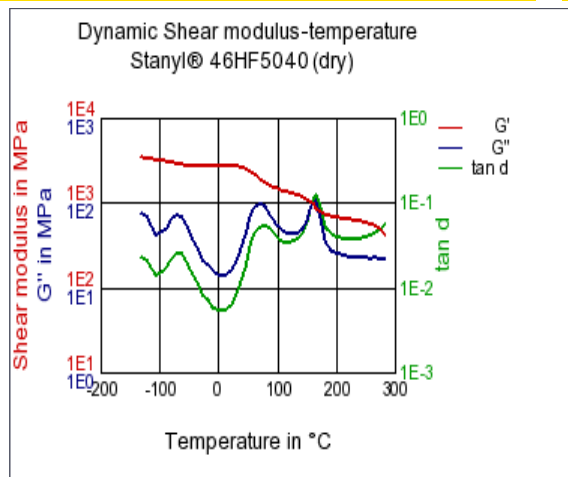
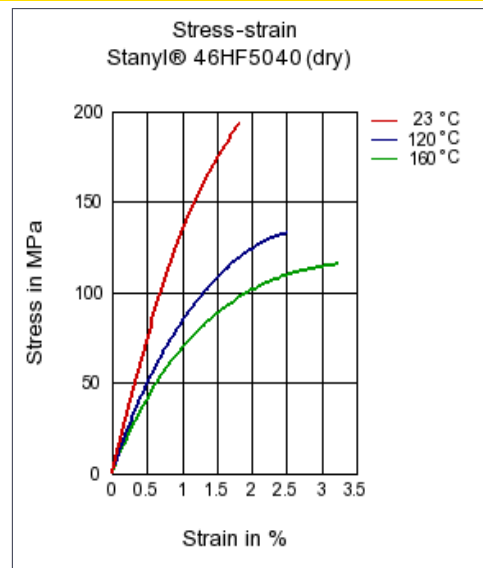
Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	15000 / 10500	MPa	ISO 527
Stress at break	190 / 130	MPa	ISO 527
Strain at break	1.8 / 3	%	ISO 527
Charpy impact strength, +23°C	50 / 70	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	40 / 40	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	13 / 14	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	14 / 14	kJ/m²	ISO 179/1eA
Thermal properties			
ISO Data			
Melting temperature, 10°C/min	295 / *	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	75 / *	°C	ISO 11357-1/-2
Temp. of deflection under load, 1.80 MPa	290 / *	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	290 / *	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	290 / *	°C	ISO 306
Coeff. of linear therm. expansion, parallel	17 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	65 / *	E-6/K	ISO 11359-1/-2
Burning behav. at 1.5 mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	-
Yellow Card available	yes / *	-	-
Burning behav. at thickness h	V-0 / *	class	IEC 60695-11-10
Thickness tested	3.0 / *	mm	-
Yellow Card available	yes / *	-	-
Oxygen index	37 / *	%	ISO 4589-1/-2
Electrical properties			
ISO Data			
Relative permittivity, 100Hz	4.3 / 12	-	IEC 62631-2-1
Relative permittivity, 1MHz	4 / 4.5	-	IEC 62631-2-1
Dissipation factor, 100Hz	60 / 3300	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	160 / 700	E-4	IEC 62631-2-1
Volume resistivity	>1E13 / 1E8	Ohm*m	IEC 62631-3-1
Surface resistivity	* / 1E14	Ohm	IEC 62631-3-2
Electric strength	30 / 20	kV/mm	IEC 60243-1
Comparative tracking index	325 / -	-	IEC 60112
Other properties			
ISO Data			
Water absorption	5.1 / *	%	Sim. to ISO 62
Humidity absorption	1.4 / *	%	Sim. to ISO 62
Density	1770 / -	kg/m³	ISO 1183

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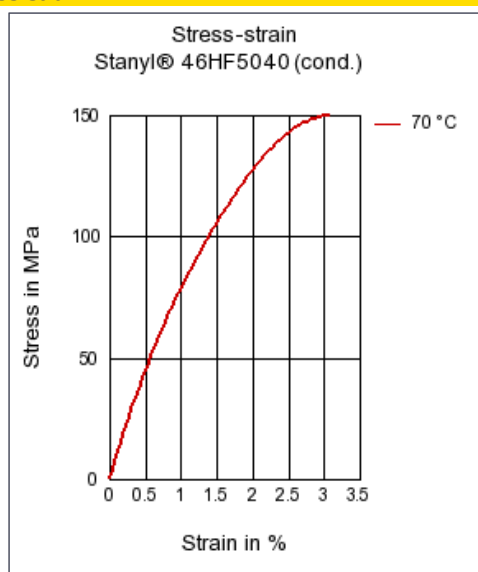
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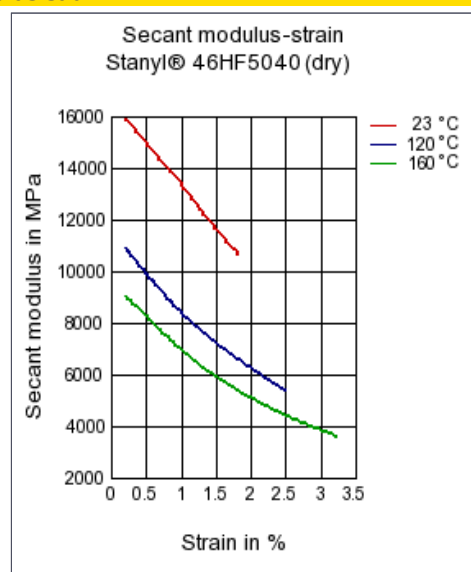
Material specific properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	80 / *	cm³/g	ISO 307, 1157, 1628
Rheological calculation properties			
ISO Data			
Density of melt	1570	kg/m³	-
Thermal conductivity of melt	0.335	W/(m K)	-
Spec. heat capacity of melt	1550	J/(kg K)	-
Eff. thermal diffusivity	1.4E-7	m²/s	-

Diagrams**Viscosity-shear rate****Shearstress-shear rate****Dynamic Shear modulus-temperature****Stress-strain**

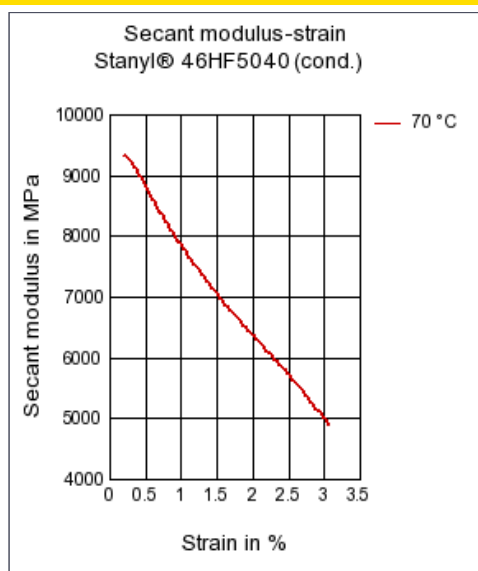
Stress-strain



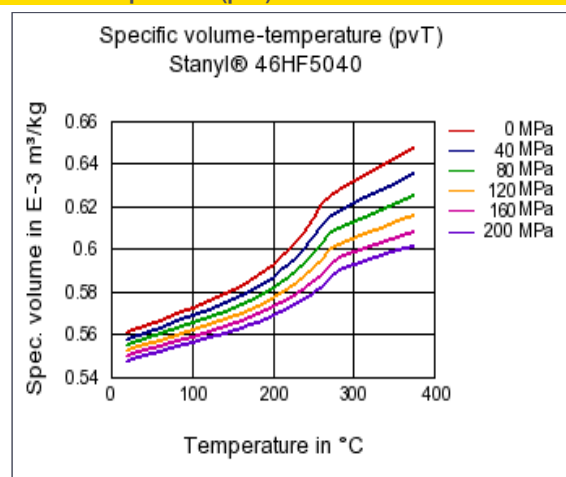
Secant modulus-strain



Secant modulus-strain



Specific volume-temperature (pvT)



Characteristics

Processing

Injection Molding

Additives

Lubricants, Release agent

Delivery form

Pellets

Special Characteristics

Flame retardant, Platable, Heat stabilized or stable to heat

Other text information

Injection Molding

[Injection Molding Recommendations](#)

[Hot runner recommendations for molding high heat performance Engineering Materials](#)

[Steel recommendations for molds screws and barrels](#)

[Supporting document for Stanyl quality processing](#)

[Trouble shooting guideline for injection molding](#)

Chemical Media Resistance

Alcohols



Ethanol (23 °C)

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Hydrocarbons Toluene (23 °C)**Ketones** Acetone (23 °C)**Ethers** Diethyl ether (23 °C)**Other** Ethyl Acetate (23 °C) Water (23 °C)