Stanyl® 46HF5050

PA46-GF50 FR(17) DSM Engineering Plastics

Product Texts

50% Glass Reinforced, Heat Stabilized, Flame Retardant, High Flow

ISO 1043 PA46-GF50 FR(17)

Stanyl website

Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	18000 / 15000	MPa	ISO 527-1/-2
Stress at break	200 / 135	MPa	ISO 527-1/-2
Strain at break	1.5 / 2.3	%	ISO 527-1/-2
Charpy impact strength (+23°C)	40 / 45	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	40 / 40	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	15 / 15	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	15 / 15	kJ/m²	ISO 179/1eA

Thermal properties	dry / cond	Unit	Test Standard
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	20 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	30 / *	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	IEC 60695-11-10
UL recognition	UL / *	-	-
Burning behav. at thickness h	V-0 / *	class	IEC 60695-11-10
Thickness tested	0.4 / *	mm	IEC 60695-11-10
UL recognition	UL / *	-	-

Electrical properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	4.3 / -	-	IEC 60250
Relative permittivity, 1MHz	4 / -	-	IEC 60250
Dissipation factor, 100Hz	60 / -	E-4	IEC 60250
Dissipation factor, 1MHz	160 / -	E-4	IEC 60250
Volume resistivity	>1E13 / 1E8	Ohm*m	IEC 60093
Surface resistivity	* / 1E14	Ohm	IEC 60093
Electric strength	30 / 20	kV/mm	IEC 60243-1
Comparative tracking index	350 / -	-	IEC 60112

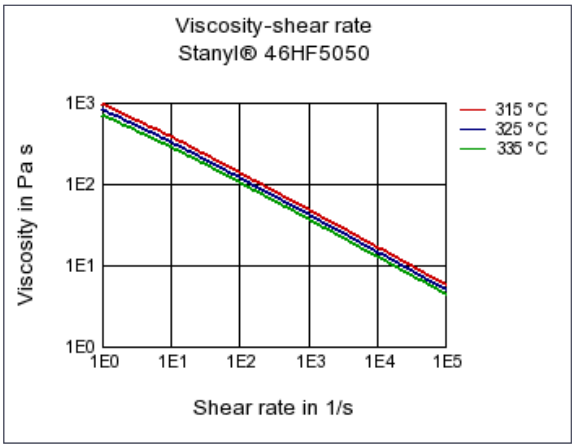
Other properties	dry / cond	Unit	Test Standard
ISO Data			
Water absorption	4.3 / *	%	Sim. to ISO 62
Humidity absorption	1.2 / *	%	Sim. to ISO 62
Density	1870 / -	kg/m³	ISO 1183

Material specific properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	70 / *	cm³/g	ISO 307, 1157, 1628

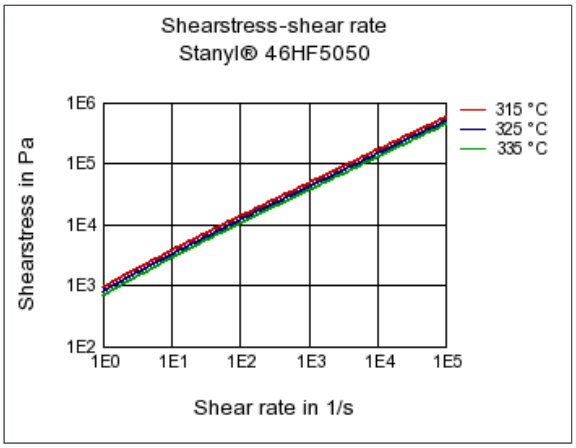
Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	1630	kg/m³	-
Thermal conductivity of melt	0.359	W/(m K)	-
Spec. heat capacity of melt	1710	J/(kg K)	-
Eff. thermal diffusivity	1.29E-7	m²/s	-

Diagrams

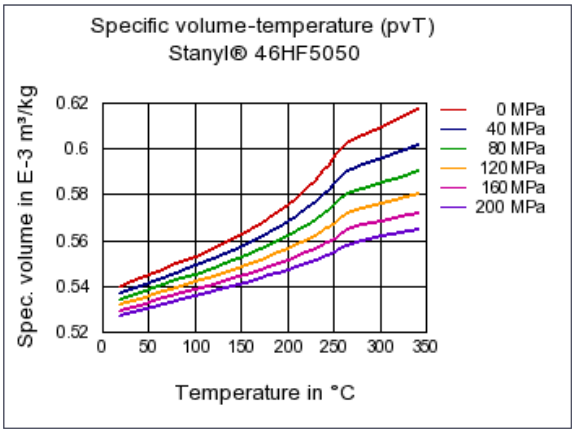
Viscosity-shear rate



Shearstress-shear rate



Specific volume-temperature (pvT)



Characteristics

Processing
Injection Molding

Special Characteristics
Flame retardant, Platable, Heat stabilized or stable to heat

Additives
Lubricants, Release agent

Other text information

Injection Molding
Injection Molding Recommendations