

Stanyl® HFX61S

PA46-GF35 FR(40)

35% Glass Reinforced, High Flow, Halogen free and free of red phosphorous

Stanyl® HFX61S is an electro-friendly & halogen-free flame-retarded high heat polyamide that offers an excellent combination of high CTI, flow and weld-line strength. HFX-grades are often used in connectors such as USB type C.

Properties	Typical Data	Unit	Test Method
Rheological properties			
	dry / cond		
Molding shrinkage (parallel)	0.4 / *	%	ISO 294-4
Molding shrinkage (normal)	1.1 / *	%	ISO 294-4
Mechanical properties			
	dry / cond		
Tensile modulus	11800 / 8400	MPa	ISO 527-1/-2
Tensile modulus (120°C)	6400 / -	MPa	ISO 527-1/-2
Tensile modulus (160°C)	5700	MPa	ISO 527-1/-2
Stress at break	140 / 100	MPa	ISO 527-1/-2
Stress at break (120°C)	83 / -	MPa	ISO 527-1/-2
Stress at break (160°C)	70	MPa	ISO 527-1/-2
Strain at break	2.4 / 3.3	%	ISO 527-1/-2
Strain at break (120°C)	4 / -	%	ISO 527-1/-2
Strain at break (160°C)	4.4	%	ISO 527-1/-2
Flexural modulus	10500 / 8000	MPa	ISO 178
Flexural modulus (120°C)	6900	MPa	ISO 178
Flexural modulus (160°C)	6300	MPa	ISO 178
Flexural strength	210 / 200	MPa	ISO 178
Flexural strength (120°C)	135	MPa	ISO 178
Flexural strength (160°C)	115	MPa	ISO 178
Charpy impact strength (+23°C)	50 / 60	kJ/m ²	ISO 179/1eU
Charpy notched impact strength (+23°C)	9 / 10	kJ/m ²	ISO 179/1eA



Properties	Typical Data	Unit	Test Method
Thermal properties dry / cond			
Melting temperature (10°C/min)	295 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	285 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	0.17 / *	E-4/°C	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	0.7 / *	E-4/°C	ISO 11359-1/-2
Coeff. of linear therm. expansion (parallel)	0.3	E-4/°C	ASTM D696
Coeff. of linear therm. expansion (normal)	0.4	E-4/°C	ASTM D696
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	Yes / *	-	-
Burning Behav. at 3.0 mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
Thickness tested	3 / *	mm	IEC 60695-11-10
UL recognition	Yes / *	-	-
Relative Temperature Index - electrical	120	°C	UL746B
RTI electrical (Thickness (1) tested)	0.18	mm	UL746B
Electrical properties dry / cond			
Volume resistivity	>1E13 / 1E11	Ohm*m	IEC 62631-3-1
Electric strength	30 / 24	kV/mm	IEC 60243-1
Comparative tracking index	550 / -	V	IEC 60112
Relative permittivity (100Hz)	4.4 / 11	-	IEC 62631-2-1
Relative permittivity (1 MHz)	4.1 / 5	-	IEC 62631-2-1
Relative permittivity (1GHz)	3.9 / 4.1	-	IEC 60250
Relative permittivity (10GHz)	3.8 / 4	-	IEC 60250
Other properties dry / cond			
Humidity absorption	2 / *	%	Sim. to ISO 62
Density	1510 / -	kg/m³	ISO 1183

