

Stanyl® HFX33S

PA46-GF20 FR(40)

20% Glass Reinforced, High Flow, Halogen free and free of red phosphorous

Stanyl® HFX33S 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)	1.5 / *	%	ISO 294-4
Mechanical properties			
	dry / cond		
Tensile modulus	7800 / 4800	MPa	ISO 527-1/-2
Tensile modulus (120°C)	4000 / -	MPa	ISO 527-1/-2
Tensile modulus (160°C)	3500	MPa	ISO 527-1/-2
Stress at break	120 / 80	MPa	ISO 527-1/-2
Stress at break (120°C)	67 / -	MPa	ISO 527-1/-2
Stress at break (160°C)	58	MPa	ISO 527-1/-2
Strain at break	2.8 / 4	%	ISO 527-1/-2
Strain at break (120°C)	5.1 / -	%	ISO 527-1/-2
Strain at break (160°C)	5.9	%	ISO 527-1/-2
Flexural modulus	7000 / 4600	MPa	ISO 178
Flexural modulus (120°C)	4000	MPa	ISO 178
Flexural modulus (160°C)	3600	MPa	ISO 178
Flexural strength	170 / 115	MPa	ISO 178
Flexural strength (120°C)	95	MPa	ISO 178
Flexural strength (160°C)	85	MPa	ISO 178
Charpy impact strength (+23°C)	37 / 51	kJ/m ²	ISO 179/1eU
Charpy notched impact strength (+23°C)	7.5 / -	kJ/m ²	ISO 179/1eA



Property Data

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Thermal properties			
Melting temperature (10°C/min)	295 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	276 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	284 / *	°C	ISO 75-1/-2
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 / *	-	-
Electrical properties			
Electric strength	30 / -	kV/mm	IEC 60243-1
Comparative tracking index	575 / -	V	IEC 60112
Relative permittivity (1GHz)	3.5 / -	-	IEC 60250
Other properties			
Humidity absorption	2.8 / *	%	Sim. to ISO 62
Density	1370 / -	kg/m ³	ISO 1183

