Property Data

Envalior
Imagine the Future

Stanyl® HFX33S

PA46–GF20 FR(40)

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

Print Date: 2026–07–31

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/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	7.5 / –	kJ/m²	ISO 179/1eA

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THERMAL PROPERTIES	DRY / COND		
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
Coeff. of linear therm. expansion (parallel)	0.25 / *	E-4/°C	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	0.72 / *	E-4/°C	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	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 / *	-	-
ELECTRICAL PROPERTIES	DRY / COND		
Electric strength	30 / -	kV/mm	IEC 60243-1
Comparative tracking index	500 / -	V	IEC 60112
Relative permittivity (1GHz)	3.5 / -	-	IEC 61189-2-721
OTHER PROPERTIES	DRY / COND		
Humidity absorption	2.8 / *	%	Sim. to ISO 62
Density	1370 / -	kg/m³	ISO 1183

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