Property Data

Envalior
Imagine the Future

Stanyl® HFX82S

PA46–GF45 FR(40)

45% Glass Fiber Reinforced, Halogen free and free of red phosphorous

Print Date: 2026–06–30

Stanyl® HFX82S 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)	0.3 / *	%	ISO 294–4
Molding shrinkage (normal)	0.9 / *	%	ISO 294–4
MECHANICAL PROPERTIES	DRY / COND		
Tensile modulus	15200 / 10300	MPa	ISO 527–1/–2
Tensile modulus (120°C)	7700 / –	MPa	ISO 527–1/–2
Tensile modulus (160°C)	6500	MPa	ISO 527–1/–2
Stress at break	180 / 130	MPa	ISO 527–1/–2
Stress at break (120°C)	100 / –	MPa	ISO 527–1/–2
Stress at break (160°C)	80	MPa	ISO 527–1/–2
Strain at break	2.2 / 2.8	%	ISO 527–1/–2
Strain at break (120°C)	3.5 / –	%	ISO 527–1/–2
Strain at break (160°C)	3.5	%	ISO 527–1/–2
Flexural modulus	14000 / 10200	MPa	ISO 178
Flexural modulus (120°C)	8300	MPa	ISO 178
Flexural modulus (160°C)	7300	MPa	ISO 178
Flexural strength	255 / 195	MPa	ISO 178
Flexural strength (120°C)	150	MPa	ISO 178
Flexural strength (160°C)	120	MPa	ISO 178
Charpy impact strength (+23°C)	70 / –	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	13 / –	kJ/m²	ISO 179/1eA

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PROPERTIES	*TYPICAL DATA*	*UNIT*	*TEST METHOD*
THERMAL PROPERTIES	***DRY / COND***		
Melting temperature (10°C/min)	286 / *	°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)	282 / *	°C	ISO 75–1/–2
Coeff. of linear therm. expansion (parallel)	0.15 / *	E–4/°C	ISO 11359–1/–2
Coeff. of linear therm. expansion (normal)	0.6 / *	E–4/°C	ISO 11359–1/–2
ELECTRICAL PROPERTIES	***DRY / COND***		
Electric strength	40 / –	kV/mm	IEC 60243–1
Comparative tracking index	600 / –	V	IEC 60112
Relative permittivity (1GHz)	4.2 / 4.4	–	IEC 61189–2–721
OTHER PROPERTIES	***DRY / COND***		
Humidity absorption	1.6 / *	%	Sim. to ISO 62
Density	1600 / –	kg/m³	ISO 1183

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