Property Data

Envalior
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Stanyl® HFX61S

PA46–GF35 FR(40)

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

Print Date: 2024–09–17

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/m²	ISO 179/1eU

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PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
Charpy notched impact strength (+23°C)	9 / 10	kJ/m²	ISO 179/1eA
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 61189–2–721
Relative permittivity (10GHz)	3.8 / 4	–	IEC 61189–2–721
OTHER PROPERTIES	**DRY / COND**		
Humidity absorption	2 / *	%	Sim. to ISO 62

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Density	1510 / –	kg/m³	ISO 1183