

Stanyl[®] TC170

PA*—GF20

Thermal conductive material, 20% Glass Reinforced, Laser Markable

Print Date: 2024-03-27

Stanyl[®] TC170 is thermal conductive & electrical insulating high heat polyamide designed for thermal management of electrical components

PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
RHEOLOGICAL PROPERTIES			
	DRY / COND		
Molding shrinkage (parallel)	0.25 / *	%	ISO 294-4
Molding shrinkage (normal)	0.6 / *	%	ISO 294-4
MECHANICAL PROPERTIES			
	DRY / COND		
Tensile modulus	13000 / 7100	MPa	ISO 527-1/-2
Tensile modulus (120°C)	4900 / -	MPa	ISO 527-1/-2
Tensile modulus (160°C)	4000	MPa	ISO 527-1/-2
Tensile modulus (180°C)	3500	MPa	ISO 527-1/-2
Stress at break	130 / 80	MPa	ISO 527-1/-2
Stress at break (120°C)	58 / -	MPa	ISO 527-1/-2
Stress at break (160°C)	45	MPa	ISO 527-1/-2
Stress at break (180°C)	37	MPa	ISO 527-1/-2
Strain at break	2.4 / 5	%	ISO 527-1/-2
Strain at break (120°C)	7 / -	%	ISO 527-1/-2
Strain at break (160°C)	8	%	ISO 527-1/-2
Strain at break (180°C)	8	%	ISO 527-1/-2
Flexural modulus	12000 / 7000	MPa	ISO 178
Flexural modulus (120°C)	4800	MPa	ISO 178
Flexural modulus (160°C)	4100	MPa	ISO 178
Flexural strength	200 / 135	MPa	ISO 178
Flexural strength (120°C)	80	MPa	ISO 178

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Property Data

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<i>PROPERTIES</i>	<i>TYPICAL DATA</i>	<i>UNIT</i>	<i>TEST METHOD</i>
Flexural strength (160°C)	65	MPa	ISO 178
Charpy impact strength (+23°C)	55 / 60	kJ/m ²	ISO 179/1eU
Charpy impact strength (-30°C)	47 / 49	kJ/m ²	ISO 179/1eU
Charpy notched impact strength (+23°C)	9 / 13	kJ/m ²	ISO 179/1eA
Charpy notched impact strength (-30°C)	7.5 / 7.5	kJ/m ²	ISO 179/1eA
<i>THERMAL PROPERTIES</i>			
<i>DRY / COND</i>			
Temp. of deflection under load (1.80 MPa)	210 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	0.2 / *	E-4/°C	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	0.9 / *	E-4/°C	ISO 11359-1/-2
Thermal conductivity in plane	2.1	W/(m K)	ASTM E1461
Thermal conductivity through plane	0.9	W/(m K)	ASTM E1461
Burning Behav. at 1.5 mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	IEC 60695-11-10
UL recognition	No / *	-	-
<i>ELECTRICAL PROPERTIES</i>			
<i>DRY / COND</i>			
Volume resistivity	>1E13 / 4E12	Ohm*m	IEC 62631-3-1
Comparative tracking index	350 / -	V	IEC 60112
<i>OTHER PROPERTIES</i>			
<i>DRY / COND</i>			
Humidity absorption	1.6 / *	%	Sim. to ISO 62
Density	1590 / -	kg/m ³	ISO 1183

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