Celanese
The chemistry inside innovation™

COOLPOLY® D5522

Thermally conductive LCP for thin wall applications.
CoolPoly® D5522 offers thermal conductivity, excellent mechanical strength, surface appearance, low warpage, and excellent dimensional stability. Application for this grade is for a part with thin wall design in automotive and electronics. The D series is electrically non-conductive and can be used for its dielectric properties.

Rheological properties

Moulding shrinkage range, parallel	0.1	%	ISO 294-4, 2577
Moulding shrinkage range, normal	0.6	%	ISO 294-4, 2577

Typical mechanical properties

Tensile Modulus	14000	MPa	ISO 527-1/-2
Stress at break, 50mm/min	143	MPa	ISO 527-1/-2
Strain at break, 50mm/min	2.7	%	ISO 527-1/-2
Flexural Modulus	13000	MPa	ISO 178
Flexural Strength	160	MPa	ISO 178
Charpy impact strength, 23°C	29	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	10	kJ/m²	ISO 179/1eA

Thermal properties

Melting temperature, 10°C/min	330	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	240	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	8	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	60	E-6/K	ISO 11359-1/-2
Spec. heat capacity solid	1380	J/(kg K)	Internal
Thermal conductivity in plane, in flow	2.5	W/(m K)	ASTM E 1461
Thermal conductivity in plane, cross flow	1	W/(m K)	ASTM E 1461
Thermal conductivity through plane	0.6	W/(m K)	ASTM E 1461

Electrical properties

Relative permittivity, 1MHz	3.63		IEC 62631-2-1
Dissipation factor, 1MHz	280	E-4	IEC 62631-2-1
Volume resistivity	>1E13	Ohm.m	IEC 62631-3-1
Surface resistivity	>1E14	Ohm	IEC 62631-3-2
Electric strength	30	kV/mm	IEC 60243-1

Other properties

Humidity absorption, 2mm	0.03	%	Sim. to ISO 62
Density	1640	kg/m³	ISO 1183

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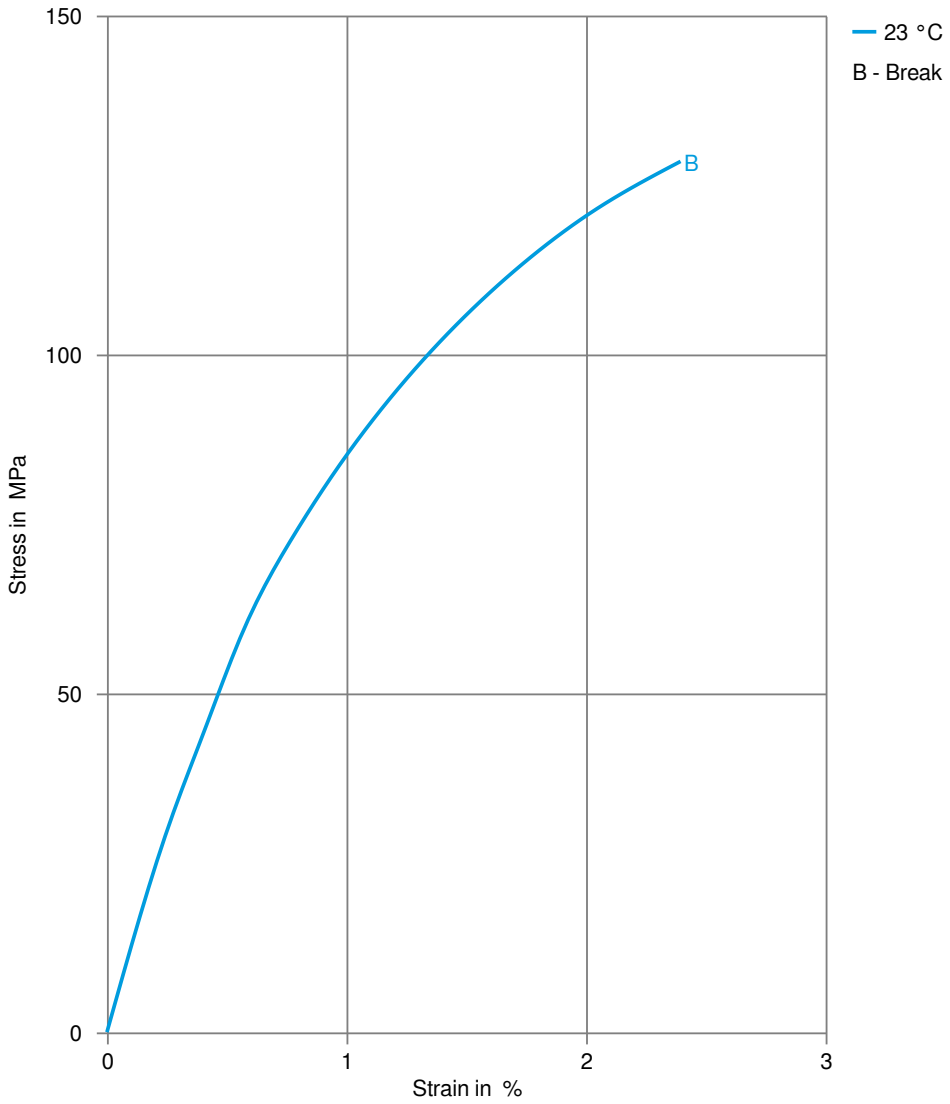
Injection

Drying Temperature	150 °C
Drying Time, Dehumidified Dryer	6 h
Max. mould temperature	120 - 140 °C
Injection speed	medium-fast

Stress-strain



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Secant modulus-strain