

EPOXIDUR® EP 3581 T-1

Epoxy; Epoxide

RASCHIG GmbH

Message:

Glass-fibre reinforced and inorganically filled epoxy moulding compound

Good mechanical strength, very good electrical isolation properties and dimensional stability even at high temperatures. Very good sealing connection on metal and EPOXIDUREP 3581 T-1 part surfaces

Sensor encapsulation in the automobile industry

This product meets the allowed upper limits for heavy metals and PCAs and also conforms to the requirements of the EU directives 2002/95 (RoHS), 2002/96 (WEEE) and 2006/122 (PFOS)

General Information	
Filler / Reinforcement	Glass\Inorganic
Features	Good Dimensional Stability
	Good Electrical Properties
	Good Strength
Uses	Automotive Applications
Agency Ratings	EU 2002/96/EC (WEEE)
	EU 2006/122/EC
RoHS Compliance	RoHS Compliant
Appearance	Black
Forms	Granules
Processing Method	Compression Molding
	Encapsulating
	Injection Molding

Physical	Nominal Value	Unit	Test Method
Density	1.93 to 1.98	g/cm ³	ISO 1183
Apparent Density	0.80 to 0.90	g/cm ³	ISO 60
Molding Shrinkage - Flow	0.40 to 0.60	%	ISO 2577
Water Absorption (23°C, 24 hr)	< 0.10	%	ISO 62
Post Shrinkage ¹	< 0.050	%	ISO 2577
Maximum Service Temperature			IEC 60216
<50 h	250	°C	
20,000 h	180	°C	
Compression Molding Molding Pressure	> 5.00	MPa	
Compression Molding Temperature	150 to 190	°C	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	15000 to 18000	MPa	ISO 527-2
Tensile Stress	70.0 to 90.0	MPa	ISO 527-2

Flexural Modulus	15000 to 20000	MPa	ISO 178
Flexural Stress	140 to 160	MPa	ISO 178
Compressive Stress	200 to 250	MPa	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	2.0 to 4.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength	12 to 14	kJ/m ²	ISO 179/1eU
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
1.8 MPa, Unannealed	> 200	°C	ISO 75-2/A
8.0 MPa, Unannealed	160 to 180	°C	ISO 75-2/C
CLTE - Flow (50 to 150°C)	1.5E-5 to 2.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.40 to 0.60	W/m/K	ASTM E1461
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+13 to 1.0E+14	ohms	IEC 60093
Volume Resistivity	1.0E+14 to 1.0E+15	ohms · cm	IEC 60093
Electric Strength	25 to 35	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
	7.00		
100 Hz	5.00		
	6.00		
1 MHz	4.00		
Dissipation Factor			IEC 60250
100 Hz	0.030 to 0.050		
1 MHz	0.010 to 0.030		
Arc Resistance	PLC 4		ASTM D495
Comparative Tracking Index	250	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.60 mm, Tested by RASCHIG)	HB		UL 94
Glow Wire Flammability Index	900	°C	IEC 60695-2-12
Glow Wire Ignition Temperature	900	°C	IEC 60695-2-13
Injection	Nominal Value	Unit	
Middle Temperature	50.0 to 70.0	°C	
Front Temperature	70.0 to 90.0	°C	
Processing (Melt) Temp	90.0 to 105	°C	
Mold Temperature	150 to 190	°C	
Back Pressure	0.500 to 1.50	MPa	
Screw Speed	40 to 80	rpm	

NOTE

1. 168 h / 110°C

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