

TECHNICAL DATA SHEET

Bakelite® PF 51

Bakelite Synthetics

PF-NF

Processing

Injection molding, Transfer molding

Product Text

Product Information

Product description:

Phenolic moulding compound, organically filled, reinforced with cotton fibres, increased notched impact strength.

Application areas:

Contactor cross bar, MCB housings, handwheels.

Property Name	Value	Unit	Standard No.
Apparent density (moulding compound)	0.6	g/cm ³	ISO 60
Moulding shrinkage (injection moulding, longitudinal)	0.8	%	ISO 2577
Post shrinkage (injection moulding, 168h/110°C)	0.5	%	ISO 2577
Moulding shrinkage (compression moulding, longitudinal)	0.5	%	ISO 2577
Post shrinkage (compression moulding, 168h/110°C)	0.55	%	ISO 2577
Compr. strength (test spec. flat tested)	225	MPa	ISO 604
Flexural strength (2mm/min)	90	MPa	ISO 178
Flexural modulus	8000	MPa	ISO 178
Ball indentation hardness (H 961/30)	280	MPa	ISO 2039 /P1

Bakelite® PF 51

Bakelite Synthetics

Water absorption (24h/23°C)	85	mg	similar to ISO 62
-----------------------------	----	----	-------------------

Additional characteristics: special presentation cylindrical pellets, preparation of test specimen only in compression moulding process

Preparation of Test Specimens of Thermosetting Moulding Compound

- Compression to ISO 295
- Injection to ISO 10724

Storage capability

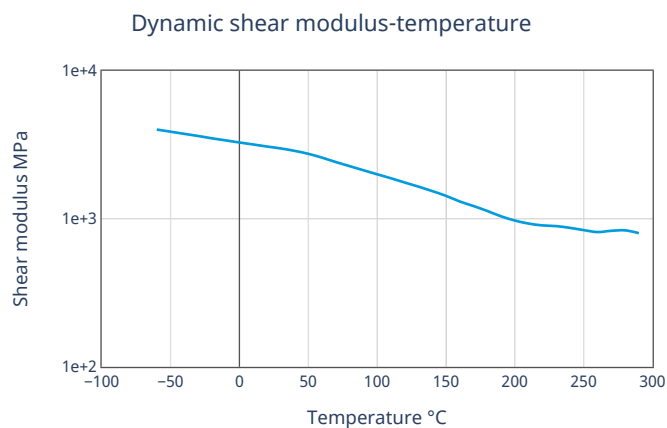
2 years (relative humidity of 50-60% and maximum storage temperature of approximately 20°C)

Processing/Physical Characteristics	Value	Unit	Standard
Molding shrinkage, parallel	0.8	%	ISO 294-4, 2577
Mechanical Properties	Value	Unit	Standard
Charpy impact strength, +23°C	7	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, +23°C	2.7	kJ/m ²	ISO 179/1eA
Thermal Properties	Value	Unit	Standard
Temp. of deflection under load, 8.00 MPa	120	°C	ISO 75-1/-2
Electrical Properties	Value	Unit	Standard
Relative permittivity, 100Hz	17.5		IEC 62631-2-1
Dissipation factor, 100Hz	0.25	E-4	IEC 62631-2-1
Volume resistivity	1E9	Ohm*m	IEC 62631-3-1
Surface resistivity	1E10	Ohm	IEC 62631-3-2
Electric strength	10.5	kV/mm	IEC 60243-1
Comparative tracking index	125		IEC 60112
Other Properties	Value	Unit	Standard
Density	1420	kg/m ³	ISO 1183
Test Specimen Production	Value	Unit	Standard
Injection molding, injection temperature	115	°C	ISO 10724
Injection molding, injection velocity	170	mm/s	ISO 10724
Injection molding, hold pressure	100	MPa	ISO 10724
Injection molding, cure time	25	min	ISO 10724
Compression molding, mold temperature	160	°C	ISO 295
Compression molding, cure time	1	min	ISO 295

Bakelite® PF 51

Bakelite Synthetics

Diagrams



Processing Information

Injection molding

VERARBEITUNG

Temperature of material:	80 - 100	°C
Mould temperature:	160 - 190	°C
Curing time:	10-20	sec

Further Information:

Barrel temperature

- Feed zone:	60-75	°C
- Nozzle zone:	80-100	°C
Cavity moulding pressure:	>15	MPa
Back pressure:	0.5-2	MPa
Holding pressure:	60% of injection pressure	

Compression molding

PROCESSING

Mould temperature:	160-190	°C
Curing time:	20-40	sec
Cavity moulding pressure:	>15	MPa