

TECHNICAL DATA SHEET

# Bakelite® PF 31

Bakelite Synthetics  
PF-X

**Processing**

Injection molding, Transfer molding

## Product Text

**Product Information**

**Product description:**

Phenolic moulding compound, mainly organically filled, standard moulding compound for normal stress, UL listed moulding compound 1.5 mm / V-1 (ALL), 3.0 mm / V-0 (ALL).

**Application areas:**

General purpose for mouldings of all kinds from small to large parts, Bobbins, MCB housings, insulating caps, electrical switch gears, electrical installation material, operating elements, ashtrays, cookware fittings.

Property Name	Value	Unit	Standard No.
Apparent density (moulding compound)	0.65	g/cm <sup>3</sup>	ISO 60
Moulding shrinkage (injection moulding, longitudinal)	0.85	%	ISO 2577
Post shrinkage (injection moulding, 168h/110°C)	0.55	%	ISO 2577
Moulding shrinkage (compression moulding, longitudinal)	0.55	%	ISO 2577
Post shrinkage (compression moulding, 168h/110°C)	0.45	%	ISO 2577
Tensile strength (5mm/min)	55	MPa	ISO 527-1/2
Compr. strength (test spec. flat tested)	250	MPa	ISO 604
Flexural strength (2mm/min)	95	MPa	ISO 178

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Flexural modulus	7500	MPa	ISO 178
Ball indentation hardness (H 961/30)	300	MPa	ISO 2039/P1
Water absorption (24h/23°C)	60	mg	similar to ISO 62

## 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)

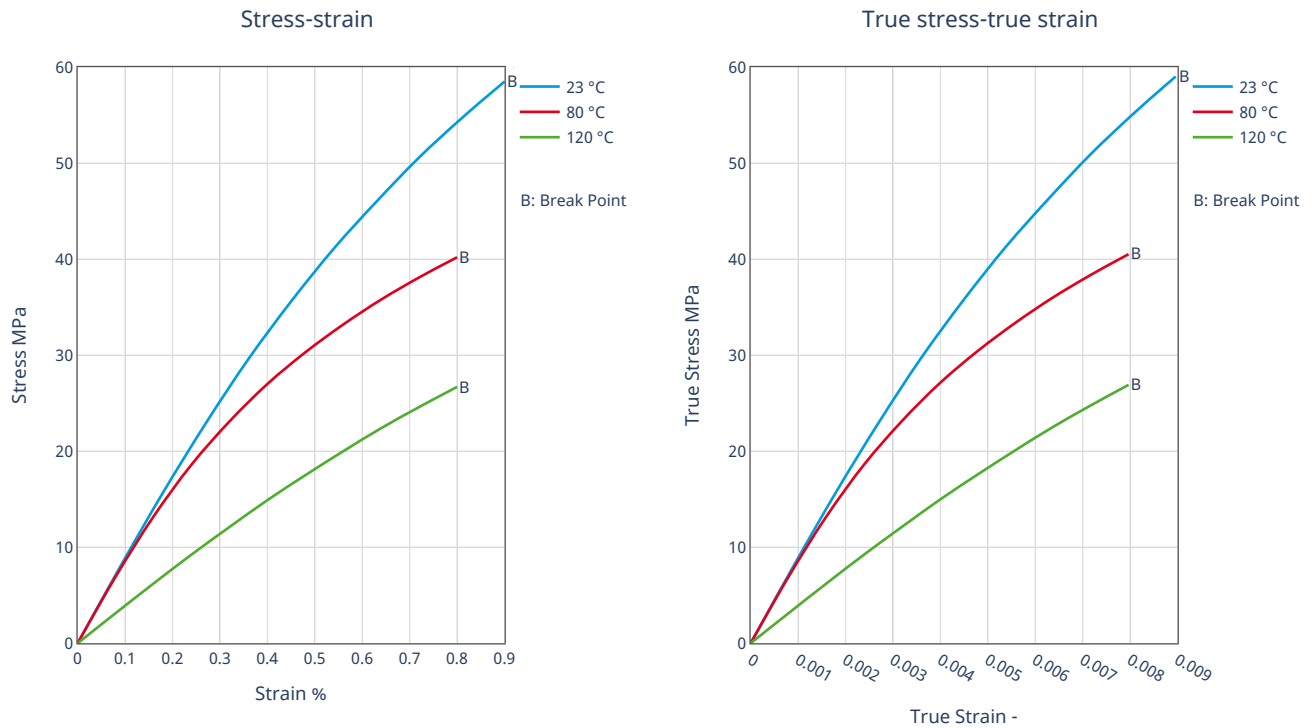
Processing/Physical Characteristics	Value	Unit	Standard
Molding shrinkage, parallel	0.85	%	ISO 294-4, 2577
Mechanical Properties	Value	Unit	Standard
Tensile modulus	8000	MPa	ISO 527
Poisson's ratio	0.35		ISO 527
Charpy impact strength, +23°C	8.5	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, +23°C	1.5	kJ/m <sup>2</sup>	ISO 179/1eA
Thermal Properties	Value	Unit	Standard
Temp. of deflection under load, 8.00 MPa	120	°C	ISO 75-1/-2
Burning behav. at 1.5 mm nom. thickn.	V-1	class	IEC 60695-11-10
Thickness tested	1.5	mm	
Yellow card available	yes		
Burning behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	3	mm	
Yellow card available	yes		
Electrical Properties	Value	Unit	Standard
Relative permittivity, 100Hz	10.5		IEC 62631-2-1
Dissipation factor, 100Hz	0.3	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	22.5	kV/mm	IEC 60243-1

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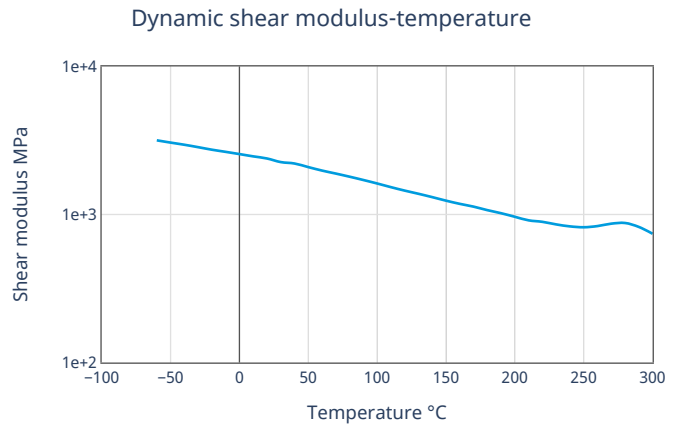
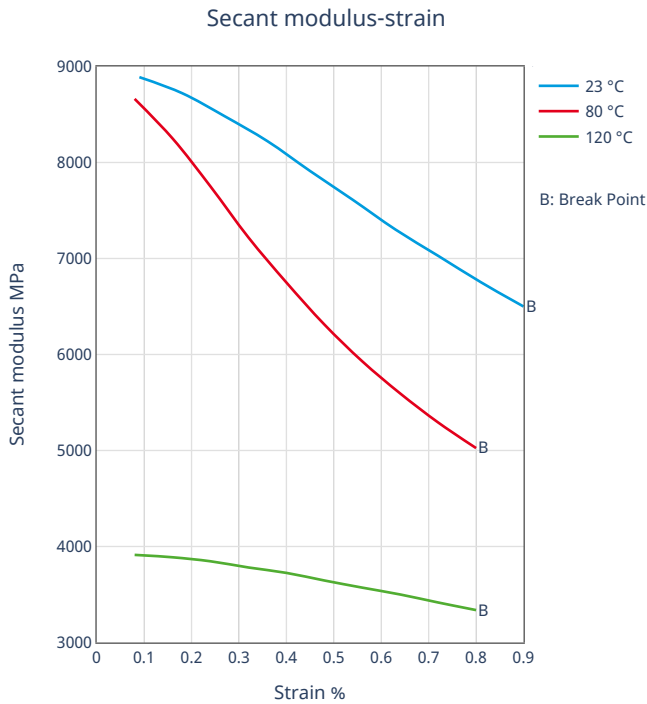
Electrical Properties	Value	Unit	Standard
Comparative tracking index	125		IEC 60112
Other Properties	Value	Unit	Standard
Density	1420	kg/m <sup>3</sup>	ISO 1183
Test Specimen Production	Value	Unit	Standard
Injection molding, injection temperature	115	°C	ISO 10724
Injection molding, injection velocity	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

## Diagrams



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## 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