

Bakelite® PF 4285

Reviewed on: 01.08.2006

Property:	Standard	typical Value	Unit
Density * (23 °C)	ISO 1183	1,72	g/cm ³
Apparent density (moulding compound)	ISO 60		g/cm ³
Injection - Moulding shrinkage	ISO 2577	0,1	%
Injection - Post shrinkage	ISO 2577	0,0	%
Compression - Moulding shrinkage	ISO 2577		%
Compression - Post shrinkage	ISO 2577		%
Tensile strength * (5mm/min)	ISO 527 - 1/2	120	MPa
Tensile modulus * (1mm/min) ^①	ISO 527 - 1/2	17.000	MPa
Compressive strength (test specimen flat tested)	ISO 604	250	MPa
Flexural strength (2mm/min)	ISO 178	225	MPa
Flexural modulus	ISO 178	18.500	MPa
Charpy impact strength * (23 °C)	ISO 179-1 eU	16,0	kJ/m ²
Charpy notched impact strength * (23 °C)	ISO 179-1 eA		kJ/m ²
Ball indentation hardness (H961/30)	ISO 2039/P1	400	MPa
Temp. of deflection under load.. HDT C-8,0MPa	ISO 75-2	190	°C
Surface resistivity * ^②		1,0E11	Ohm
Volume resistivity * ^②		1,0E12	Ohm * cm
Dissipation factor * (100 Hz) ^③		0,03	
Relative permittivity * (100 Hz) ^③		6,0	
Electric strength * (1mm thickness) ^④	IEC 60243-P1	30	kV/mm
Proof tracking index * (Test liquid A)	IEC 6011	175	PTI
Flammability UL 94 ^⑤	UL 94		Step/mm
Water absorption (24h / 23°C) ^⑥		10	mg
Additional characteristics			

Storage capability:

2 years (10 month at max. 30°C)
(relative humidity of 50 - 60 % and maximum storage temperature of approximate 20°C)

Product description:

Phenolic moulding compound, inorganically filled, glass fibre reinforced, very good media and temperature resistance.

Application areas:

Commutators: wind screen wipers, adjustment motors, starter motors, ABS-systems, vacuum cleaners, power tools.

This data sheet is valid until 01.08.2007. Should this material be purchased after the validity date stated, please request an up-to-date data sheet.

Page 1 of 2

Moulding conditions:

Bakelite® PF 4285

Reviewed on: 01.08.2006

Injection molding

Temperature of material	80 - 100 °C
Mould temperature	160 - 190 °C
Curing time (per mm of wall thickness)	10 - 20 s
Barrel temperature - Feed zone	60 - 75 °C
Barrel temperature - Nozzle zone	80 - 100 °C
Cavity moulding pressure	>15 MPa
Back pressure	0,5 - 2 MPa
Holding pressure	ca. 60% of injection pressure

Compression molding

Mould temperature	160 - 190 °C
Curing time (per mm of wall thickness)	20 - 40 s
Cavity moulding pressure	>15 MPa

Technical Customer service:

Hexion
Gennaer Str. 2 - 4
D- 58642 Iserlohn - Letmathe
e-mail: ATE-Formmassen@hexion.com
Internet: www.hexion.com

Postfach 7154
D- 58609 Iserlohn - Letmathe
Tel.: +49 (0) 2374/925-214
Fax : +49 (0) 2374/925-336

Additional characteristics (see Datasheet):

.5 - Improved electrical properties	HT - Resistant to high temperatures
.7 - Allowed for contact with food	LB - High arc resistance
.9 - Ammonia free	M - Dishwasher proof
A - High surface quality	P - Prod. of test spec. only comp. moulding
Cu - Copper adhesive	T - Low coefficient of friction
D - Low shrinkage / good dimensional stability	Typ - Standardized moulding compounds
E - Elastified	UL - UL listed moulding compound
EL - For electrostatic coating	UV - Non fade
ES - Acetic acid free	V - yellowing resistance
G - galvanize	Z - Special presentation cyl. pellets
HS - High mechanical strength	L - conductiv

Explanations

- ①Elongation ϵ_t 0,05% , ϵ_b 0,25%
- ②Following IEC 60093
- ③Following IEC 60250
- ④Short term, electrode layout P25mm/P25mm in transformer oil equivalent to IEC 60296.
- ⑤UL 94 colour designation:
ALL = all colours, BG = beige, BK = black, BN = brown, BL = blue, GN = green,
GY = grey, NC = natural, OR = orange, RD = red, WT = white, YL = yellow
- ⑥Following ISO 62

Properties marked with * are elements of the database CAMPUS
(Computer Aided Material Preselection by Uniform Standards) and are based on the
obliging introduced guide lines of the norm comitee of plastic.
(CAMPUS: is a registered trademark of the CWFG)

Preparation of test specimens of thermosetting moulding compounds:

Compression to ISO 295 , Injection to ISO 10724

Page 2 of 2