

Bakelite® UP 804

Reviewed on:20.01.2017

<i>Property:</i>	<i>Standard</i>	<i>typical Value</i>	<i>Unit</i>
Density * (23 °C)	ISO 1183	2,1	g/cm ³
Apparent density (moulding compound)	ISO 60	0,92	g/cm ³
Injection - Moulding shrinkage	ISO 2577		%
Injection - Post shrinkage	ISO 2577		%
Compression - Moulding shrinkage	ISO 2577	0,15	%
Compression - Post shrinkage	ISO 2577	0,02	%
Tensile strength * (5mm/min)	ISO 527 - 1/2		MPa
Tensile modulus * (1mm/min) ^①	ISO 527 - 1/2		MPa
Compressive strength (test specimen flat tested)	ISO 604	165	MPa
Flexural strength (2mm/min)	ISO 178	105	MPa
Flexural modulus	ISO 178	14.500	MPa
Charpy impact strength * (23 °C)	ISO 179-1 eU	7,0	kJ/m ²
Charpy notched impact strength * (23 °C)	ISO 179-1 eA	4,0	kJ/m ²
Ball indentation hardness (H961/30)	ISO 2039/P1	425	MPa
Temp. of deflection under load. HDT C-8,0MPa * ISO 75-2		205	°C
Surface resistivity ^②		1E+12	Ohm
Volume resistivity ^②		1E+13	Ohm * cm
Dissipation factor * (100 Hz) ^③		0,02	
Relative permittivity * (100 Hz) ^③		6,0	
Electric strength * (1mm thickness) ^④	IEC 60243-P1	26,5	kV/mm
Proof tracking index * (Test liquid A)	IEC 6011	600	PTI
Flammability UL 94 ^⑤	UL 94	V-0 / 1,4mm (BK), V-0 / 1,5 V-1 / 1,5mm (WT)	Step/mm
Water absorption (24h / 23°C) ^⑥		13	mg
Additional characteristics		A, UL, D, LB	

Storage capability:

12 month (shorter shelf life for darker colours)
(relative humidity of 50 - 60 % and maximum storage temperature of approximate 20°C)

Product description:

Polyester moulding compound, inorganically filled, glass fibre reinforced, styrene free, high dimensional stability, very slight post shrinkage, good mechanical properties, non flammable, very good electrical properties, high temperature stability, UL listed moulding compound 1.4 mm / V-0 (BK), 1.5 mm / V-0 (BN, GY), 1.5 mm / V-1 (WT), 3.0 mm / V-0 (BK, BN, BY).

Application areas:

Explosion proof switches, safety switch housings, electric motor clamp boards, wiring devices, housing parts, oven strips, oven knobs and regulator knobs, lamp parts

Moulding conditions:

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Injection moldin

Temperature of material	70 - 100 °C
Mould temperature	160 - 180 °C
Curing time (per mm of wall thickness)	10 - 20 s
Barrel temperature - Feed zone	60 - 70 °C
Barrel temperature - Nozzle zone	70 - 100 °C
Cavity moulding pressure	>10 MPa
Back pressure	0,5 - 1 MPa
Holding pressure	ca. 60% of injection pressur

Compression molding

Mould temperature	160 - 180 °C
Curing time (per mm of wall thickness)	20 - 40 s
Cavity moulding pressure	>10 MPa

Technical Customer service:

Hexion GmbH
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D- 58642 Iserlohn - Letmathe
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Internet: www.hexion.com

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D- 58609 Iserlohn - Letmathe
Tel.: +49 (0) 2374/925-0
Fax : +49 (0) 2374/925-732

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	UL - UL listed moulding compound
E - Elastified	UV - Non fad
EL - For electrostatic coating	V - yellowing resistance
ES - Acetic acid free	Z - Special presentation cyl. pellets
G - galvanize	L - conductiv
HS - High mechanical strength	

Explanations:

- ① Elongation ϵ_1 0,05% , ϵ_2 0,25%
- ② Following IEC 60093
- ③ Following IEC 60250
- ④ Short term, electrode layout P25mm/P25mm in transformer oil equivalent to IEC 60296.
- ⑤ UL 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
- ⑥ Following 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 registrated trademark of the CWFG)

Preparation of test specimens of thermosetting moulding compounds:

Compression to ISO 295 , Injection to ISO 10724

Page 2 of 2