


Bakelite® UP 3720

UP-X

Momentive Specialty Chemicals

Product Texts
Product description:

Polyester moulding compound, mainly organically filled, styrene free, very slight post shrinkage, very good electrical properties, very good sliding friction properties, dimensionally stable, UL listed moulding compound 0,8 mm / V1 (ALL), 1,5 mm / V-0 (ALL).

Application areas:

Bearings, guide rails, cross bars, micro switches, regulator switch cylinders.

Property Name	Value	Unit	Standard No.
Apparent density (moulding compound)	0.64	g/cm ³	ISO 60
Moulding shrinkage (injection moulding, longitudinal)	0.7	%	ISO 2577
Post shrinkage (injection moulding, 168h/110°C)	0.15	%	ISO 2577
Moulding shrinkage (compression moulding, longitudinal)	0.35	%	ISO 2577
Post shrinkage (compression moulding, 168h/110°C)	0.1	%	ISO 2577
Tensile strength (5mm/min)	45	MPa	ISO 527-1/2
Compr. strength (test spec. flat tested)	150	MPa	ISO 604
Flexural strength (2mm/min)	90	MPa	ISO 178
Flexural modulus	8000	MPa	ISO 178
Ball indentation hardness (H 961/30)	250	MPa	ISO 2039/P1
Water absorption (24h/23°C)	45	mg	similar to ISO 62

Additional characteristics:

UL, D, LB

Preparation of Test Specimens of Thermosetting Moulding Compound

- Compression to ISO 295
- Injection to ISO 10724

Storage capability

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

Rheological properties	Value	Unit	Test Standard
ISO Data			
Molding shrinkage, parallel	0.7	%	ISO 294-4, 2577
Mechanical properties			
ISO Data			
Tensile Modulus	9000	MPa	ISO 527-1/-2
Charpy impact strength (+23°C)	9	kJ/m ²	ISO 179/1eU
Charpy notched impact strength (+23°C)	2.2	kJ/m ²	ISO 179/1eA
Thermal properties			
ISO Data			
Temp. of deflection under load, 8.00 MPa	75	°C	ISO 75-1/-2
Burning behav. at 1.5 mm nom. thickn.	V-0	class	IEC 60695-11-10
Thickness tested	1.5	mm	IEC 60695-11-10
UL recognition	UL	-	-
Burning behav. at thickness h	V-1	class	IEC 60695-11-10
Thickness tested	0.8	mm	IEC 60695-11-10
UL recognition	UL	-	-

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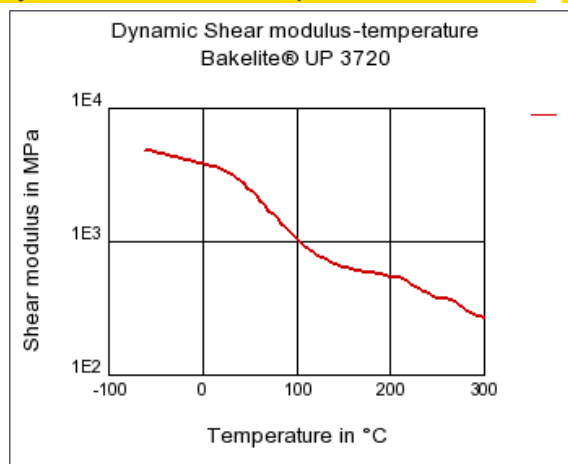
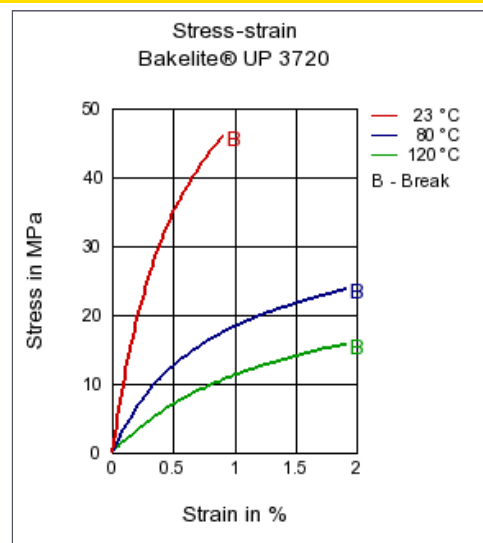
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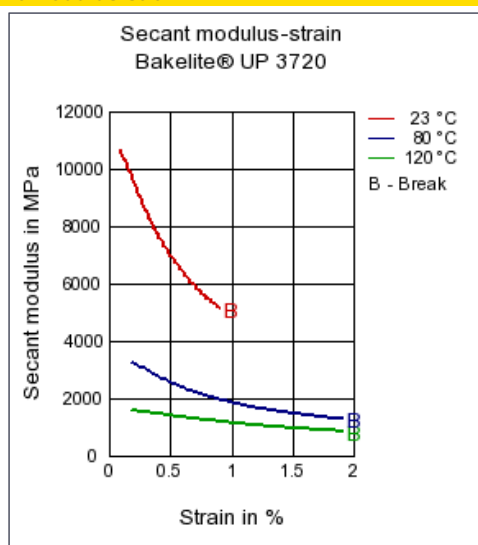
Electrical properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	5	-	IEC 60250
Dissipation factor, 100Hz	0.025	E-4	IEC 60250
Volume resistivity	1E10	Ohm*m	IEC 60093
Surface resistivity	1E11	Ohm	IEC 60093
Electric strength	32.5	kV/mm	IEC 60243-1
Comparative tracking index	600	-	IEC 60112

Other properties	Value	Unit	Test Standard
ISO Data			
Density	1750	kg/m³	ISO 1183

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, injection temperature	105	°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**Dynamic Shear modulus-temperature****Stress-strain**

Secant modulus-strain



Characteristics

Processing

Injection Molding, Transfer Molding

Other text information

Injection Molding

VERARBEITUNG			
Temperature of material:	100-110		°C
Mould temperature:	160-190		°C
Curing time:	10-20		sec
Further Information:			
Barrel temperature			
- Feed zone:	50-70		°C
- Nozzle zone:	70-100		°C
Cavity moulding pressure:	>10		MPa
Back pressure:	0.5-1		MPa
Holding pressure:	60% of injection pressure		

Compression molding

PROCESSING			
Mould temperature:	160-180		°C
Curing time:	20-40		sec
Cavity moulding pressure:	>10		MPa