

**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 <sup>3</sup>	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
<b>ISO Data</b>			
Molding shrinkage, parallel	0.7	%	ISO 294-4, 2577
<b>Mechanical properties</b>			
<b>ISO Data</b>			
Tensile Modulus	9000	MPa	ISO 527-1/2
Charpy impact strength (+23°C)	9	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength (+23°C)	2.2	kJ/m <sup>2</sup>	ISO 179/1eA
<b>Thermal properties</b>			
<b>ISO Data</b>			
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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**Electrical properties****ISO Data**

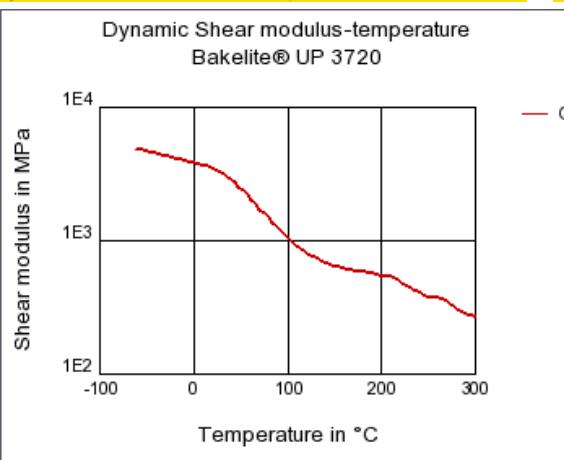
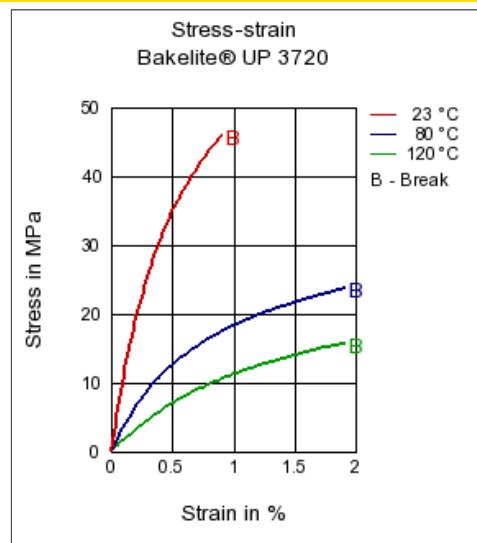
	Value	Unit	Test Standard
Relative permittivity, 100Hz	5	-	IEC 60250
Dissipation factor, 100Hz	0.025	E-4	IEC 60250
Volume resistivity	1E10	Ohm*m	IEC 60093
Surface resistivity	1E11	Ohm	IEC 60093
Electric strength	32.5	kV/mm	IEC 60243-1
Comparative tracking index	600	-	IEC 60112

**Other properties****ISO Data**

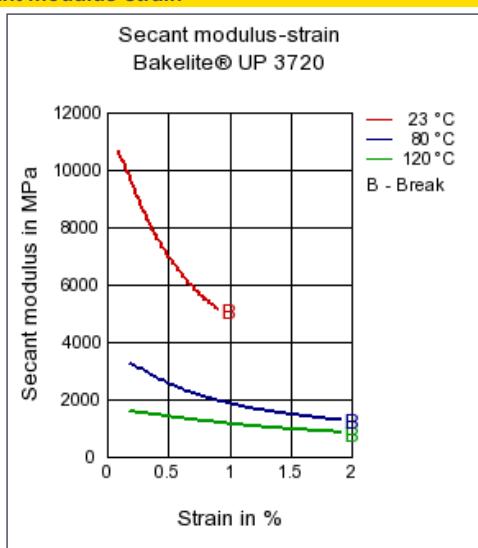
	Value	Unit	Test Standard
Density	1750	kg/m <sup>3</sup>	ISO 1183

**Test specimen production****ISO Data**

	Value	Unit	Test Standard
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