TECHNICAL DATA SHEET

U25112 / U2050

January 2016

POLYURETHANE RESIN

DESCRIPTION

Casting resin for mechanical and numerous electrical applications especially for low or medium voltage. Example: transformers, electronic cards and components.

PROPERTIES

- Two-component liquid polyurethane resin
- Very good thermal behaviour
- Solvent free
- Semi-flexible

PHYSICAL PROPERTIES				
		U25112	**U2050**	
Composition		**POLYOL**	**ISOCYANATE**	**MIXED**
Mix ratio by weight Mix ratio by volume at 25°C		100 100	14 18	
Aspect		liquid	liquid	liquid
Colour		black	dark-amber	black
Viscosity at 25°C (mPa.s)	BROOKFIELD LVT	6,000	125	2,400
Specific gravity liquid component (25°C) Specific gravity cured product (23°C)	ISO 1675 : 1988	1.57 -	1.22 -	- 1.55
Gel Time at 25°C (200 g) (min.)	Gel Timer TECAM			30
Curing time at 25°C (200gr)	Hours			12 - 24
Final hardness at 25°C (200gr)	Days			7

MECHANICAL PROPERTIES at 23°C (1)			
Hardness	ISO 868 : 2003	Shore D1 / D15	55 / 48
Tensile strength	ISO 37 : 2004	MPa	5
Elongation at break	ISO 37 : 2004	%	50

(1): Average values obtained on standard specimens / Hardening 16 hours at 80°C.

ABchimie
1230, route de la porte – ZA La Rivoire – 38630 CORBELIN - 04 74 83 12 19

PROCESSING

Before use it is necessary to mix the POLYOL part until both colour and aspect become homogeneous. Both parts (POLYOL and ISOCYANATE) have to be mixed at a temperature higher than 18°C according to the mix ratio indicated on the technical data sheet. Before casting check that parts or moulds are free of any trace of moisture.

THERMAL AND SPECIFIC PROPERTIES (1)			
Working temperature	-	°C	-50 / +130
Thermal conductivity	ISO 2582 :1978	W/m.K	0.73
Glass transition temperature (Tg)	ISO 11359 : 2002	°C	-8
Coefficient of thermal expansion (CTE) (-50°C to -10°C) (+5°C to +130°C)	ISO 11359 : 1999	10-6 K^{-1}	 55 155
Auto-extinguishing	to UL94 : 1999	6 mm thickness	V0 (File E113398)
Water absorption (23°C – 24 Hours)	ISO 62 :1999	%	0.3
Directive 2002/95/CE (ROHS) (2)	-	-	conform

(1) Average values obtained on standard specimens / hardening 16 hours at 80 °C.

(2) European directive on the restriction of the use of certain hazardous substances elect rical and electronic equipment.

DIELECTRIC AND INSULATING PROPERTIES AT 23°C (1)			
Dielectric strength (50 Hz - 1 mm)	CEI 60243-1 E2 :1998	kV/mm	22
Dielectric constant ε (100 Hz)	CEI 60250 : 1969	-	7
Dissipation factor tan δ (100 Hz)	CEI 60250 : 1969	-	0.14
Volume resistivity (1000 V)	CEI 60093 E2 : 1980	□.cm	5.1014

HANDLING PRECAUTIONS

Normal health and safety precautions should be observed when handling these products :

- ensure good ventilation,
- wear gloves, glasses and protective clothes.

For further information, please consult the product safety data sheet.

STORAGE CONDITIONS

Shelf life is 12 months for the POLYOL and 12 months for ISOCYANATE in a dry place and in their original unopened containers at a temperature between 15 to 25°C.
Any open can must be tightly closed under dry inert gas (dry air, nitrogen, etc.).

GUARANTEE

The information contained in this technical data sheet result from research and tests conducted in our Laboratories under precise conditions. It is the responsibility of the user to determine the suitability of ABchimie products, under their own conditions before commencing with the proposed application. ABchimie guarantee the conformity of their products with their specifications but cannot guarantee the compatibility of a product with any particular application. ABchimie disclaim all responsibility for damage from any incident which results from the use of these products. The responsibility of ABchimie is strictly limited to reimbursement or replacement of products which do not comply with the published.

ABchimie - 1230, route de la porte – ZA La Rivoire – 38630 CORBELIN - 04 74 83 12 19