

TECHNICAL DATA SHEET



U69-42 W A+B

Sept. 2016

ELECTRICAL POLYURETHANE RESIN SEMI-FLEXIBLE

Casting resin for mechanical and numerous electrical applications especially for low or medium voltage when requiring an extinguishing characteristic.

FEATURES:

- Two-component liquid polyurethane resin
- Solvent free
- Halogen free
- Semi-flexible
- Chemical resistance to the different engine fluids
- Meets NF F 16101 :1988

PROPERTIES:

PHYSICAL PROPERTIES :				
Composition		U69-42W A POLYOL	U69-42 B (U001B) ISOCYANATE	MELANGE
Mix ratio by weight		100	16	
Mix ratio by volume at 25°C		100	20	
Aspect		liquid	liquid	liquid
Color		white		white
Viscosity at 25°C (mPa.s)	<i>Brookfield LVT</i>	7.000	20	1.100
Specific gravity liquid component at	<i>ISO 1675: 1985</i>	1,57	1,22	-
Specific gravity cured product (g/cm ³) at	<i>ISO 2781: 1996</i>	-	-	1,55
Gel Time at 25°C (200 gr) (min.)	<i>Gel Timer TECAM</i>			50
Curing time at 25°C (200gr)	<i>Hours</i>			12-24
Final hardness at 25°C (200gr)	<i>Days</i>			7

MECHANICAL PROPERTIES at 23°C ⁽¹⁾			
Hardness	<i>ISO 868: 2003</i>	Shore D1 / D15	46 / 36
Tensile strength	<i>ISO 37: 2004</i>	MPa	7
Elongation at break	<i>ISO 37: 2004</i>	%	110

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

THERMAL AND SPECIFIC PROPERTIES ⁽¹⁾			
Working temperature	-	-	-50 / +120
Thermal conductivity	EN 993-15	W/m.K	0,7
Glass transition temperature (Tg)	ISO 11359 :2002	°C	- 5
Coefficient of thermal expansion (CTE) (-40°C to -20°C) (+20°C to +120°C)	ISO 11359 : 1999	10-6 K-1	45 140
Hot wire ignition (HWI)	UL 746 A	Category PLC	1 sur 3 mm (3) 0 sur 6 mm (3)
High current arc ignition (HAI)	UL 746 A	Category PLC	0 sur 3 mm (3) 0 sur 6 mm (3)
Water absorption (23°C – 24h)	ISO 62 : 1999		0,3
Directive 201 1/65/EU (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 electrical and electronic equipment.

DIELECTRIC AND INSULATING PROPERTIES at 23°C ⁽¹⁾			
Dielectric strength (50 Hz - 1 mm)	CEI 60243-1 E2 :1998	kV/mm	25
Dielectric constant (100 Hz)	CEI 60250 :1969	-	7,7
Dissipation factor tan \square (100 Hz)	CEI 60250 :1969	-	0,12
Volume resistivity (1000 V)	CEI 60093 E2 :1980	Ω .cm	2.1014
Tracking resistance	CEI 60112 E3 : 1979	-	IRC-600 - < 0,1

PROCESSING :

Before use Isocyanate U96-42B:

check carefully the absence of crystallisation or dimerization on each package:

- solid particle presence
- cloudy liquid

In case of crystallisation or dimerization, the product must be placed in on oven at 60°C until complete decrystallisation (16 hours maximum). Rehomogeneize and return to room temperature. After shaking the product into the package, the product must be as clear as water.

If after treatment, the product is not clear, DO NOT USE THE PRODUCT.

Settling may be observed on the polyol. In that case, it is necessary to mix the POLYOL part until both colour and aspect become homogeneous. This is not harmful for the product quality.

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.

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 :

Storage at a temperature below 5°C can provoke crystallisation and dimerization of the ISOCYANATE U69-42B. 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 specifications.