

TECHNICAL DATA SHEET

U6000FREE (A+B)

Nov 2023

Soft electrical polyurethane resin

PRODUCT DESCRIPTION

U6000 FREE A+B is a 2K-polyurethane resin for electrical applications including low and medium voltages. It applies to over molding of card, electronic components, transformers and sensors, suitable for automated and manual application. Due to its limited toxicity no mandatory training for the user.

MAIN CHARACTERISTICS

- Low toxicity (< 0.1% free isocyanate)
- No solvent, no halogen
- Semi flexible
- UV Resistance
- Chemical resistance to motor fluids

MIXING

Before use, check each pack of hardener (U6000 FREE B) for crystallisation:

- Presence of solid particles
- Cloudy liquid

In the event of crystallisation, the product must be placed in an oven at 60°C until complete decrystallisation (maximum 16 hours). Return to room temperature before use. After shaking the packaging, the product should be perfectly clear.

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

The resin (U6000 FREE A) may settle. In this case, the A part must be mixed again to obtain a uniform colour and appearance. This does not affect the quality of the product.

The two parts (resin A and hardener B) must be mixed at a temperature equal to or greater than 18°C, in accordance with the mixing ratio indicated in these technical instructions. Before proceeding

Before casting, make sure that the parts or moulds are free of all traces of moisture.

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 Safety Data Sheets.

PROPERTIES

Liquid product

PHYSICAL PROPERTIES				
Composition		POLYOL (part A)	ISOCYANATE (part B)	MIX
Mix ratio by weight		100	21	
Mix ratio by volume at 25 °C		100	29	
Aspect		liquid	liquid	liquid
Colour		white	transparent	white
Viscosity (mPa.s)	RTV Brookfield	6100	1200	2.600
Specific gravity (25°C – g/cm3) - For cured product	ISO 1675 : 1985 ISO 2781 : 1996	1,57 -	1,15 -	- 1,50
Gel time (25°C) (200 gr) (min.)	Gel Timer TECAM			45

Cured product

MECHANICAL PROPERTIES at 23°C ⁽¹⁾			
Hardness	ISO 868 : 2003	Shore A1/ D1	91 / 41
Tensile Strength	ISO 527 : 1993	MPa	3,5
Elongation at break	ISO 527 : 1993	%	20
THERMAL and SPECIFIC PROPERTIES A 23°C ⁽¹⁾			
Working temperature		°C	-40 / +120
Thermal conductivity	ISO 8301 : 1999	W/m.K	0.6
Glass transition temperature (Tg)	ISO 11359 : 1999	°C	-20
Coefficient of thermal expansion (CTE) [-70 à -40] °C [+10 à +50]°C	ISO 11359 : 1999	10 ⁻⁶ K ⁻¹	50 150
Dielectric constant ε (100 Hz)	CEI 60250 : 1969		8
Dissipation factor tan δ (100 Hz)	CEI 60250 : 1969		0.04
Volume resistivity (1000 V)	CEI 62631-3-1 : 2016		5.10 ¹²

(1) Average values obtained on standard specimens / Hardening 16 hours at 80°C and 24 hours at 23°C.

CONDITIONNING

U6000 FREE (kit A+B)

Cartridge 400mL, ratio 1/4
Kit 1kg (A+B)
Kit 6.05kg (A+B)

REFERENCES

U6000FREE C400
U6000FREE K1K
U6000FREE K6.05K

U6000FREE, part A and part B are in compliance with REACH and RoHS regulations. A certificate may be sent on request (info@abchimie.com).

STORAGE AND DATE OF USE:

Storage temperature : +5 to +30°C, in original packaging.

Storage at a temperature below 5°C can cause crystallization and dimerization of the part B (ISOCYANATE)

Date of use : 12 months after manufacturing, 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...).

For information and advice regarding transportation, handling, storage and disposal of chemical products, users shall refer to the actual Safety Data Sheets containing physical, ecological, toxicological and other safety-related data.

All information is given in good faith but without warranty. Properties are given as a guide only and should not be taken as a specification. ABchimie cannot be held responsible for the performance of its products within any application determined by the customer, who must satisfy themselves as to the suitability of the product.