

FICHE TECHNIQUE

U 4291 A+B

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Flexible polyurethane resin

U4291 A+B is a flexible, two-part polyurethane resin that has a low viscosity and low embedment stress. The resin has been developed for encapsulation of delicate components requiring environmental protection in harsh damp conditions. The material may be supplied in Kit Twinpack and Bulk form.

Features

- Low mixed viscosity
- Fast curing
- Low embedment stress
- Low water absorption
- Excellent electrical insulation characteristics
- Non-toxic
- RoHS & WEEE Compliant

Specification

<i>Properties</i>	Resin A	Hardener B	Mixed
Colour	Clear	Amber	Clear Amber
Specific Gravity g/ml	1.02	1.05	1.02
Viscosity m.Pa.s @ 25°C	1000	200	600
Mix Ratio by Weight		3.88: 1	
Mix Ratio by Volume		4.0: 1	
Usable Life (100g @ 25°C)		15 minutes	
No Flow Gel Time (100g @ 25°C)		30 minutes	

Approvals

RoHS compliant	Yes
UL94-V0	No
REACH (SVHC concentration)	0%

Cure Schedule

Minimum cure	Full cure
24 hours @ 20°C	1 week
4 hours @ 60°C	4 hours
2 hour @ 80°C	2 hours

The above are typical values and will vary depending on the cured mass and application. Hotter temperatures may be used for faster cure but will result in higher post cure shrinkage and higher cure exotherm. Experimentation and testing is suggested to avoid side effects.

Typical Properties

Peak Exotherm (250g @ 20°C)	45
Shrinkage % (volume)	0.2
Thermal conductivity	0.22 W/mK
Temperature range	-50 to +120°C (application & geometry dependent)
Dielectric Strength	18 kV/mm
Volume Resistivity	1014 ohm-mm
Shore A Hardness	15
Heat Deflection	Flexible
Flame retardant	No
Loss Tangent	0.02 @ 50 Hz
Permittivity	3.2 @ 50 Hz
Comparative tracking index	>600
Water Absorption	0.6% (30 days @ 25°C)
Elongation at break	≈75%

Packaging

U4291 A+B is available in Twinpacks & Kits

Storage and Shelf Life

Material stored in the original unopened containers under cool dry condition between 10 and 25°C will have a shelf life of at least one-year. Once used the containers must be kept sealed to prevent effects from water, air or contaminants.

Health and Safety

Polyurethane resin systems may cause sensitisation by skin contact or inhalation may be corrosive, harmful or toxic. It is therefore strongly recommended that skin and eye contact is avoided by the using of appropriate personal protective equipment such as gloves, safety glasses or goggles and overalls. Wash any contamination from the skin immediately and thoroughly and do not eat, smoke or drink in the working vicinity.

Under normal working conditions a good source of ventilation is adequate, however if the material is heated, or where vapour levels are likely to exceed the occupational exposure limits appropriate respiratory protection must be worn. Local exhaust ventilation (LEV) may be required especially for curing ovens or where large volumes of material are curing.

The above is given as a guide only; please refer to U4291 A and B Health and Safety data or our Technical Service Department for individual/specific advice.

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