



# TECHNICAL BULLETIN

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### PRODUCT INFORMATION

#### ULTIFIL 3000-010

ULTIFIL 3000-010  
2 PART POLYURETHANE  
RESILIENT  
LONG USABLE POT LIFE  
LOW MIXED VISCOSITY  
CLASS B

#### ULTIFIL 3000-010 TWO PART POLYURETHANE COMPOUND

##### GENERAL DESCRIPTION

**Ultifil 3000-010** is a black, resilient, two-part polyurethane infill compound. The system has a low viscosity and is easily processed. Good bubble release features leave an aesthetically pleasing surface finish on the cured product. The resin exhibits good adhesion to cases and minimum pressure on inserts, together with excellent moisture resistance, electrical and mechanical properties.

##### APPLICATION

For the encapsulation, sealing and potting of electronic and electrical components.

##### SPECIFICATION

###### PROPERTIES OF THE BASE -

Viscosity @ 25°C	poise	35 - 45
Specific gravity		1.27 - 1.33
Appearance		Black.

###### PROPERTIES OF THE HARDENER -

Viscosity @ 25°C	poise	1 - 2
Specific gravity		1.20 - 1.26
Appearance		Brown.

**NOTE:** Due to the introduction of improvements from time to time the right is reserved to supply products that may differ slightly from those illustrated or described in this publication.

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#### PROPERTIES OF THE MIXTURE -

Mix ratio base: hardener	3.8:1 pbv
	4:1 pbw
Viscosity @ 25°C poise	16 - 22
Specific gravity	1.24 - 1.30
Usable life 500 grams mass	75 mins at room temp.

#### WORKSHOP PRACTICE

Most problems occur with 2 part systems due to the failure to mix correctly. The following procedure is recommended: -

Stir the base component prior to mixing to ensure any settled filler is included. The stirring process should scrape the bottom and the sides of the container and be sufficient to ensure there are no dead areas of unmixed material but should also be a relatively slow process stirring a horizontal circular motion so that minimal air is included into the mix. If time permits this initial stir is made easier if the base component only is heated to 30-40°C and stirred some hour before the 2 components are mixed. Use of still warm base component will reduce the usable life of the mixture. The base and hardener can be measured out by weight, volume or by using all of the pre-weighed kit, but it should be noted the usable life of the mixture decreases as the weight of the mix increases. Ensure the base and hardener are mixed thoroughly using the scraping minimal air inclusion method described previously. This mixing process can take up to 4-5minutes, and it is recommended that, if the usable life allows, extra time is spent mixing at this stage where failure to mix is most frequent.

Water contamination of components, cases or the compound will cause problems of foaming on potted components. When using polyurethane compounds **WATER CONTAMINATION SHOULD BE AVOIDED.**

#### CURE SCHEDULE

500 grams mass hard	16 hrs at room temp.
full	72 hrs at room temp.

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#### PROPERTIES OF CURED COMPOUND

Shore A hardness	DIN 53505	85-90	
Tensile strength	ISO527	11	mPa
Elongation at break	ISO527	55%	
Deflection temperature	DIN 53458	<ambient	°C
Thermal Conductivity	ISO 8894-1	0.22	W/M/K
Coefficient of linear thermal expansion	DIN 53752	120	x10 <sup>-6</sup> K <sup>-1</sup>
Water absorption	ISO 62	0.21%	
Dielectric strength	IEC 243	176	Kv/cm.
Dielectric constant	IEC 250	4.5	50Hz
Volume resistivity Log10 ohm	IEC 93	>13	Ω/cm
Tracking index	IEC112	>600	V

#### STORAGE

Between 5°C and 30°C in sealed containers. Avoid contamination with moisture. Shelf life 12 months.

#### PACKAGING

5 kg kits.  
26 kg kegs.  
30.75 kg kegs.

#### HEALTH & SAFETY

See relevant Material Safety Data Sheet.

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