

**PRODUCT INFORMATION**

**ULTIFIL 2001 - 810NL**

2 PART EPOXIDE

FLAME RETARDANT UL94VO

UL RECOGNISED

**NON-HALOGEN ANTIMONY or PHOSPHORUS**

BLACK

CLASS F



**ULTIFIL 2001-810NL**

**GENERAL DESCRIPTION**

**Ultifil 2001 - 810NL** is a filled, black pigmented, flame retardant, two-component epoxide resin system. The system features room temperature processing, good thermal shock resistance of the cured product, and good thermal conductivity. Flame retardant to UL94VO File No. E174454 is achieved without the use of antimony, phosphorus or halogen flame-retardants, with the added benefit of a comparatively low mixed viscosity and good surface finish on components.

**APPLICATION**

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

**SPECIFICATION**

**PROPERTIES OF THE BASE -**

Viscosity @ 25°C	poise	150
Specific gravity		1.78
Appearance		Opaque, medium viscosity black liquid.

**PROPERTIES OF THE HARDENER -**

Viscosity @ 25°C	poise	1.00
Specific gravity		1.00

**PROPERTIES OF THE MIXTURE -**

Mix ratio base: hardener		6.25:1 pbw 3.5:1 pbv
Viscosity @ 25°C	poise	35 - 45
Specific gravity		1.61
Usable life 500 grams mass		1/ 2 - 1 hours.

**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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## ULTIFIL 2001-810NL

### 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 measure 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.

### CURE SCHEDULE

500 grams mass hard	36 hrs	at room temp.
full	72 hrs	at room temp.
Elevated temperature cure (recommended)	4 hrs	at 60°C.

### STORAGE

24 months shelf life, stored between 10°C and 30°C.  
Filled epoxide systems can have a tendency to settle.  
Ensure the base is stirred before mixing.

### HEALTH & SAFETY

See relevant Material Safety Data Sheet.

**ULTIFIL 2001-810NL**

**PROPERTIES OF CURED COMPOUND**

Shore D hardness	DIN 53505	87	
Thermal Class	ASTMD2307	155°C (20k Hrs)	
Flammability File number E174454	UL94	V0	
Tensile strength	ISO527	50	mPa
Elongation at break	ISO527	2%	
Deflection temperature	DIN 53458	63	°C
Thermal Conductivity	ISO 8894-1	0.44	W/M/K
Coefficient of linear thermal expansion	DIN 53752	58	$\times 10^{-6}K^{-1}$
Water absorption	ISO 62	0.18%	
Dielectric strength	IEC 243	180	Kv/cm.
Dielectric constant	IEC 250	4.7	50Hz
Dissipation factor	IEC 250	0.06	50Hz
Volume resistivity Log10 ohm	IEC 93	>14	$\Omega/cm$
Tracking index	IEC112	>600	V

**PACKAGING**

In kits: 1 kg kit  
1 kg Link Pack  
7.25 kg Kit

In bulk Base:Hardener  
5 x 6.25kg : 5 kg  
6 x 26kg : 25kg

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