

TECHNICAL DATASHEET EL583C

Description

EL583C is a very high performance "self healing" polyurethane resin system. EL583C has been designed to give environmental protection to a wide range of delicate electrical and electronic components and modules. EL583C is particularly suited to transducers, connectors and seals used in the automotive, telecommunications and defence industries. The combination of properties and the ease of use of the material will lend itself to a wide range of applications. EL583C is available in bulk, kit and twinpack form. The standard colour is translucent but other colours are available on request.

Features

Excellent electrical properties
Low moisture absorption
High water resistance
Low viscosity
Long usable life

Specification

Property	Resin	Hardener	Mixed
Colour	Translucent	Yellow	Translucent
Density g/ml	0.96	0.93	0.95
Viscosity Poise	10	6	8

Mix Ratio by Weight	2.00:1
Mix Ratio by Volume	2.10:1
Usable Life	60 - 120 Minutes (150g mass @ 25°C)
Gel Time	2 - 4 hours (150g mass @ 25°C)

Cure Schedule

Minimum cure	Full cure
24hrs @ 25°C	72hrs @ 25°C
12hrs @ 40°C	24hrs @ 40°C
3hrs @ 60°C	6hrs @ 60°C

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. For maximum properties a post cure may be required - call Robnor Technical Service Department for advice.

Typical Properties

Water absorption	0.06% (24 hours @ 23°C)
Water absorption	0.21% (168 hours @ 23°C)
Flame retardant	No
Shore A hardness	Not measurable
Thermal conductivity	0.25 (W/m. K)
Co-efficient of thermal expansion	150 - 200 ppm/°C
Operating temperature range *	-60 to +100°C (application & geometry dependent)
Volume Resistivity	1.4 x E14 ohm.cm
Surface Resistivity	16 E10 ohm
Electric strength	20 kV/mm
Dielectric constant	3.9 @ 100 Hz
Dielectric constant	3.7 @ 1 kHz
Dielectric constant	3.6 @ 10 kHz

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Buy On-line: www.resins-online.com

Packaging

EL583C is available in bulk, kit and twinpack form.

Availability:

Available through distribution www.resins-online.com and sales@robnor.co.uk

Twinpacks

Twinpacks are pre-weighed resin and hardener components contained in a tough flexible film, separated by a removable clip and rail. Once the clip and rail is removed the resin and hardener is thoroughly mixed within the bag and is immediately ready for use. Mixing will normally take ~ 3 minutes for EL583C due to the low viscosity; but pay special attention to the corners. Twinpacks are ideal for small to medium production runs, prototyping and on-site or field use. The twinpack weight/volume may also be tailored to a specific size on request.

For further mixing details please visit www.robnor.co.uk

Bulk Materials

EL583C is an unfilled system and therefore sedimentation will not occur. Under cold conditions i.e. below 15°C the hardener may crystallise. Heating to 60°C and stirring may recover this until the material is clear. Avoid breathing vapours produced by this process. The bulk resin and hardener materials can be dispensed from suitable dispensing machinery and Robnor Resins produce a range of these machines, details that can be provided on request.

Kits

Resin and hardener can be pre-packed in separate containers in the correct ratio to form a simple kit. Simply pouring the hardener into the resin can that is then used as the mixing vessel effects mixing. It is of paramount importance to ensure that there is complete transfer of the hardener to the resin and that the two components are effectively and completely mixed before use.

Note: Incomplete mixing will be characterised by erratic or even partially incomplete curing of material even after extended time periods.

Cleaning Equipment

All equipment should be cleaned before the compound has hardened. Robnor Resins' TS130 is a suitable non-flammable cleaning agent, although other solvents may be found suitable.

TS130 is also suitable for removing cured resins - data available on request.

Storage and Shelf Life

Material stored in the original unopened containers under cool dry condition between 15° 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 RL/HL583C Health and Safety data or our Technical Service Department for individual/specific advice.

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