

ENDURATHANE CSX 271

A COLD SETTING CASTABLE POLYURETHANE RESIN SYSTEM

DESCRIPTION:

The Endurathane CSX271 is a blend of polyols fillers, catalyst and pigment which reacts at room temperature to produce a polyurethane elastomer suitable for the encapsulation of electrical components, and the making of moulds, models and prototypes.

Medium cure and medium demould times are a feature of Endurathane CSX271 which enable high productivity and good mould turnaround. The demould time and full cure can be reduced with post-curing. Endurathane CSX271 features cold processability and cure. Endurathane CSX271 also possess excellent machineability.

RECOMMENDED USES:

The low viscosity and medium pot-life of the mixed system ensure good flow for wetting out fine windings and air release. The cured encapsulant provides excellent protection against moisture penetration.

SPECIFICATION:

Polyol Component

Appearance - white or coloured viscous liquid
Viscosity at 25°C - 1300 – 1500 cPs
Specific Gravity - 1.05 – 1.08

Isocyanate Component

Property	Result
Appearance	Dark Brown Liquid
Viscosity at 25°C	150-250 cPs
Specific Gravity	1.24 ± 0.01

PROCESSING:

The two components can be processed through a suitable polyurethane dispenser – details are available on request. Smaller quantities can be mixed by hand if desired, followed by vacuum de-gassing if a completely air free casting is required. The optimum processing temperature for both components is in the range 20-25°C, lower component temperatures will result in a longer gel time and vice-versa. The system will reach full cure within approximately 24 hours at normal ambient temperatures.

TYPICAL PROPERTIES MIXED SYSTEM:

Mixing ratio by weight

55A : 100B Parts by Weight

48A : 100B Parts by Volume

Gel time @ 20°C: Typically 5 – 10 minutes
(May be catalysed to desired gel time upon request)

Shore Hardness: 45 – 50 D

CURED PROPERTIES:

Properties	Unit	Method	Value
Shore Hardness	°A/°D	ASTM D2240	95°A 50°D
Tensile Strength	MN/m ²	BS 903 Pt A2	</=5
Elongation at Break	%	BS 903 Pt A2	</=80
Tear Strength (angle)	KN/m	BS 903 Pt A3	</=18



PACKAGING

Pack Sizes by Weight

14Kg kit comprising:
Part. A - 5 Kg metal can
Part. B - 9 Kg plastic pail



STORAGE AND HANDLING PRECAUTIONS

ALL CHEMICALS MUST BE USED BY TRAINED PERSONNEL. Mix up chemicals in a well ventilated work space.

Component A (Isocyanate) must be stored in tightly closed containers and kept protected from moisture and foreign materials. Storage should be maintained at room temperature. The handling of PGL isocyanates is safe, provided the standard safety precautions for handling hazardous chemicals are established and followed. Refer to the material safety data sheet prior to use.

Component B (resin) is hygroscopic and containers must be kept closed to prevent absorption of moisture. Since Component B (Resin) contains tertiary amines, precautions to avoid skin contact and vapour inhalation should be observed.

Shelf Life: Minimum 6 months.

Clean up:

Owing to the chemical resistance of polyurethane products it is important to clean up any waste as quickly as possible. Methyl Proxitol is suitable for general cleaning.

Wear suitable protective clothing, goggles and gloves at all times when cleaning.

Storage:

Store at temperatures between 15°C and 26°C in tightly closed containers to prevent moisture and other contamination. If exposed to moisture Component A will crystallise.



HEALTH AND SAFETY ADVICE

Refer to Polymer Group Safety Data Sheets for individual products. Also refer to the *Approved Code of Practice for the Safe Use of Isocyanates*.

Component A (Isocyanate) contains methylene bisphenyl diisocyanate (MDI). It is an irritant and allergic sensitizer. It is moderately toxic. Avoid contact with skin or eyes, avoid breathing vapour and use fresh air-supplied breathing apparatus when spraying.]

Component B (Polyol) is a mild irritant.

This kit is classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

RESIN COMPONENT:

HSNO Classification: 6.3B, 6.4A
HSNO Approval Number: HSR002644
Hazard and Precautionary Statements:

Hazard:

Causes skin irritation
Causes serious eye irritation

Prevention:

Read safety data sheet before use
Read Safety Data Sheet before use
Wash hands thoroughly after handling
Wear eye/face protection.
Wear protective gloves.
Avoid release to the environment.

HARDENER COMPONENT:

HSNO Classification: 6.5B, 9.1D
HSNO Approval Number: HSR002644
Hazard and Precautionary Statements:

Hazard:

May cause an allergic skin reaction
Toxic to aquatic life

Prevention:

Read safety data sheet before use
Avoid breathing dust, fume, gas, mist, vapours, spray.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves.
Avoid release to the environment.