

ENDURATHANE CSX 270 SERIES

AN ULTRA-VERSATILE, FAST, COLD SETTING, SOLID CASTABLE POLYURETHANE RESIN SYSTEM

DESCRIPTION:

The Endurathane CSX270 series 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 the 270 series which enable high productivity and good mould turnaround. The demould time and full cure can be reduced with post-curing. The 270 series feature cold processability and cure as low as 0 °C. The Endurathane 270 series 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 mPas
Specific Gravity - 1.05 – 1.08

Isocyanate Component

Property	Type1	Type2	Type200
Appearance	Dark Brown Liquid	Dark Brown Liquid	Clear Amber Liquid
Viscosity at 25°C	180 cPs	40 cPs	120 cPs
Specific Gravity	1.24 ± 0.01	1.22 ± 0.01	1.18 ± 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

		Parts by Weight	Parts by Volume
CSX271	Type 1 Iso: Polyol	57A : 100B	50A : 100B
CSX272	Type 2 Iso : Polyol	57A : 100B	50A : 100B
CSX27-200	Type 200 Iso: Polyol	110A : 100B	100A : 100B

The choice of isocyanate determines the final properties. E.g. the resiliency increases down the series **Type1 < Type2 < Type200**, with Type1 having the lowest resiliency and Type200 having the highest resiliency.

Gel time @ 20°C - Typically 4 – 10 minutes (May be catalysed to desired gel time upon request)
Shore D Hardness - 40 – 65 D (depending on Isocyanate used)

CURED PROPERTIES:

Properties	Unit	Method	Value
Shore Hardness	°A/°D	ASTM D2240	80°A/30°D - 70°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

System Available in:	Pack Sizes by Weight
CSX271	Type1 : 5.0 Kg Pt.A metal can : Polyol : 8.75 Kg Pt.B plastic pail
CSX272	Type2 : 5.0 Kg Pt.A metal can : Polyol : 8.75 Kg Pt.B plastic pail
CSX27200	Type200 : 9.65 Kg Pt.A plastic jerry : Polyol : 8.75 Kg Pt.B 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 sensitiser. 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.