

Technical Data Sheet

K273 Underwater Use Epoxy Mortar System



DESCRIPTION:

K273 epoxy is an economical highly filled heavy duty epoxy mortar designed for underwater application and also many other uses.

TYPICAL FEATURES | BENEFITS:

- Simple 1:1 mix ratio.
- Two colours differentiate resin and hardener.
- User friendly.
- Very hard when cured
- Highly durable; high compressive strength
- Chemically resistant mortar
- Cure above +12°C.
- General purpose
- Hand mouldable
- Many uses, handy, paintable
- Easy mix recognition
- Underwater application

PERFORMANCE DATA:

Properties		Values
Minimum application temperature: Air		+12°C
Flash point:	~ Resin ~ Hardener	>140°C >140°C
Tensile strength:		35 - 47.6 MPa
Tensile shear strength:		9 - 10 MPa
Compressive strength:		75 MPa
Flexural strength:		17 - 18 MPa
Modulus of elasticity:		2 x 10 ³ to 2.2 x 10 ³ MPa
Coefficient of linear expansion:		(25-60) (mm/mm/°) x10-6
Water absorption: ASTM D570: 10 days @25°C:		0.5 - 0.8% by weight
Maximum operating temperature:		+65°C
Potable Water Contact: -Suitable - Refer: Note 1 - Below Contact delay time with potable water after application.		Above +12°C minimum 24 hrs Below +12°C minimum 48 hrs
Adhesion Properties to correctly prepared surface:	~ Concrete ~ Metal ~ Timbers ~ PVC ~ Polyethylene ~ Polypropylene	Excellent Excellent Excellent Excellent Poor Refer: Note #2. -Below Poor Refer: Note #2. -Below
Appearance:	~ Resin ~ Hardener	Very thixotropic white mixture Very thixotropic black mixture
SG kg/litre:	~ Resin ~ Hardener	1.85 1.85
Density Kg/Litre -cured:		1.85
Coverage:		Use as required: (0.001m ³ = 1 Litre) e.g. 1 litre covers 1m ² @ 1mm thick
Pot Life: (Usable Life) Pot life is based on 100gram samples. Large quantities of mixed epoxy will generate heat and the pot life may be significantly reduced.	+12°C– 50%RH +15°C– 50%RH +20°C– 50%RH	40 - 50 minutes 20 - 30 minutes 15 - 20 minutes
Cure Time - Concrete Failure:		+18°C –50%RH 4 - 5 hours
Clean up:		Wash hands with warm soapy water after any skin contact Solvent HA for tools.
NZ Dangerous Goods Class:		~ K273 Refer: SDS
Packaging:		~ K273 Kit ~ Other sizes 8 Litre TBA
Shelf Life:		24 months from date of manufacture. (After this period consult with allnex).

Note #1.

Potable water: if the tank being mortared is for potable water use/storage. Take care to ensure the mix ratio is 1:1 and that the mortar is very uniformly mixed. Allow to cure and then wash and rinse out the tank prior to filling.

Suitable for potable water when mixed and cured correctly.

Note #2.

For bonding around Polyethylene & Polypropylene pipes in tanks/troughs etc. use allnex LM3000 followed by the use of K102.

Note well

Once K273 is mixed the it develops a fast exothermic reaction.

The product should be mixed and applied immediately.

Overworking the material will cause it to become sticky.

RECOMMENDED USES:

- Grouting bolts into concrete: Horizontal & Vertical.
- Bonding pipes, concrete and PVC. Bends in concrete pipes.
- Re-forming edges; stair nosing's, usable overhead.
- Patching floor holes.
- Underwater application / repairs
- Fixing pipes | concrete.
- Fixing floors, tanks, concrete blocks, kerbs.
- Filling holes, forming plinths.
- Chemically resistant mortar.

NOT RECOMMENDED:

- Application below +12°C air temperature.
- Bonding Polypropylene and Polyethylene.
- Application to incorrectly prepared surfaces.
- Application to unsound substrates

HEALTH & SAFETY: Refer safety data sheets (SDS).

- Wear gloves wherever possible.
- Wash hands with warm, soapy water after any skin contact.
- Re-seal all containers tightly.

SURFACE PREPARATION:

The surface to be filled/repared must be clean and sound.

Remove all dust, dirt, oil, scale, laitance, paint or any other contaminates.

Concrete: Acid etch | Shot blast | Diamond grind | Needle gun.

Metals: Degrease with Acetone > Abrade with medium grit abrasive paper > Degrease with Acetone again.

Timber: Prepare by way of mechanical sanding using 80 grit paper.

Bolt Grouting: Blow hole clear with clean, dry oil free compressed air.

Spalled Concrete Control Joints: Diamond cut the spalled edges so that the face is vertical. Vacuum clean. > Fill > Recut

Note

K80 is best for Spalled Concrete Control Joints

MIXING RATIO

K273 Mixing Ratio - By weight

Element	Value
Resin	1 part
Hardener	1 part

K273 Mixing Ratio - By volume

Element	Value
Resin	1 part
Hardener	1 part

Refer: Cautions Section

The mix ratio must not be altered.

The mix ratio is the only acceptable formula.

Adding more hardener will make the mix softer and it will be uncured.

Increased hardener levels will result in a weaker product.

MIXING METHOD:

Carefully mix the product according to the stated mix ratio. Mix until uniform and no streakiness is evident. (Uniform grey colour)

May be hand mixed and moulded.

Mixing is often easiest with spade on the floor.

APPLICATION METHOD:

Hand moulded | Trowel | Spade.

Apply into place and smooth. – Non sag.

May be wetted with water to get a smooth glass like surface. - Excessive use of water will weaken the product.

Note

The installation of this product is speciality work and consideration should be given to the use of a competent installer.

CAUTION:

K273 is a two part epoxy that is mixed in a one-to-one ratio. Only this ratio will produce a hard, non-softening product. Adding more hardener (with the aim of making the product cure faster) will not work and will only result in making the product softer. The more hardener that is added, then the softer it will become. No matter how long it is left, it will never harden.

Only the stated mix ratio will work and exhibit the stated performance data.

Note well

The consequences of having soft K273 due to poor mixing may be far reaching and costly to repair.

This is a job that must be done once, and done right. Many people do not understand the consequences.

One to one ratio mixing means just exactly that.

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Note

K273 is very tough and hard but it is not flexible. It will fill non-moving joints but will not bridge actively moving joints.

OTHER EPOXIES AVAILABLE:

- K36 - Clear Laminating Resin.
- K78 - Crack Repair.
- K80 - Pourable Grout.
- K83 – Machinable Epoxy Grout
- K102 - High Viscosity Mortar.
- K106 - Structural 24 hour Adhesive.
- K125 - Concrete Repair Paste.
- K130 - Control Joint Filler.
- K138- High Strength, Structural Heat Resistant Adhesive.
- K214 - General Purpose Adhesive
- K219- Structural 5 Minute Adhesive.
- K273- Underwater Cure Mortar.
- K2005 - High Peel Strength Structural Adhesive.
- Fairing Cream - Sandable Smoothing Paste.
- Truestik EA - Flexible Adhesive – Multipurpose.

EPOXY SELECTION:

Refer: Epoxy Selection Chart.

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