

TECHNICAL DATASHEET

PX314ZG

(Two-Component Epoxy System)

Description

PX314ZG is a general purpose, cold curing flame retardant encapsulating resin.

The system is similar to the very popular PX314R but uses a different hardener not subject to moisture inhibition.

This means that a high level of cure can be achieved under cold, damp conditions even where small shot sizes are used.

PX314ZG is a relatively low viscosity, flame retardant casting resin that has been specifically formulated for use in the electronics industry where components are required to meet BS415.

The cured product is approved to UL94V-0 @ 3mm.

Specification

Property	Resin RX314ZG	Hardener HX314ZG	Mixed PX314ZG
Colour	Black	Brown	Black
Specific Gravity g/ml	1.85	1.15	1.73
Viscosity m.Pa.s @ 25°C	60000 ± 20000	1200 - 2000	11500
Mix Ratio by Weight	8.6: 1		
Mix Ratio by Volume	5.3: 1		
Usable Life	60 minutes		
Cure Schedule	Minimum Cure	Full Cure	
	24 hours @ 25°C	48 hours @ 25°C	
	2 hours @ 60°C	8 hours @ 40°C	
	1 hour @ 80°C	2 hours @ 80°C	

These results do not constitute a specification and are quoted for guidance use only. The information given is derived from test and/or extrapolations believed to be reliable however, the product is offered for evaluation on the understanding that the customer will satisfy himself that the product is suitable for his intended use.

Typical Properties

Water Absorption (7 days @ 20°C)	0.5%
(1 hr @ 60°C)	1.1%
Oxygen Index	32%
Flammability	UL94V-0 @ 3mm
Chemical Resistance	High
Shore Hardness	D/1:88 - D/15:85
Heat Deflection Temperature	50°C
Operating Temperature	-40 to + 115°C Continuous - 40 to + 130°C short term
Thermal Conductivity	0.38 W/mK
Tensile Strength	55 – 59 mPa
Elongation at Break	Low
Compressive Yield Strength	79 – 86 mPa
Tear Resistance	Low
Lap Shear Strength	Medium
Shrinkage	Low
Coefficient Linear Expansion	Low
Volume Resistivity	12 - 14 Log ₁₀ ohmm
Electric Strength	10 MV/m (3.0mm @ 20°C)
Permittivity (ε)	4 (50 Hz, 3.0mm @ 23°C)
Loss Tangent (Tanδ)	0.045 (50 Hz, 3.0mm @ 23°C)
Comparative Tracking Index	> 600

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Packaging

PX314ZG is available in Bulk, Twinpacks & kits

Availability:

Available through sales@robnor.co.uk

Twinpacks

Twinpacks are pre-weighed resin and hardener contained in a tough flexible film, separated by a removable clip and rail.

Once the clip and rail is removed the resin and hardener can be thoroughly mixed within the bag and is then ready for use.

Mixing will normally take ~ 3 minutes depending on the operator and viscosity of the material.

Twinpacks are ideal for small to medium production runs, prototyping and on-site or field use.

Light sediment may be re-dispersed by carefully warming (to avoid distortion of the clip and rail) and kneading the pack.

The twinpack weight /volume may also be tailored to a specific size on request.

The use of twinpacks results in reduced chemical handling and less environmental impact as the waste product is inert.

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

Bulk Material

PX314ZG is a filled system and formulated to avoid sedimentation.

If sediment is found after storage, this must be re-dispersed in the original container before use.

Failure to do so may result in defective product.

Long-term sedimentation will be aggravated by storage above 25°C and should be avoided.

In bulk or kit form gentle mixing with a paddle or spatula will homogenise the material.

In bulk or kit form evacuation may be necessary for best results.

Kits

In kit form, resin and hardener are provided in separate containers to the correct ratio.

In most cases, pour the hardener into the larger resin container and use it as a mixing vessel.

Stir well using an appropriate mixer until homogeneous.

Note: Incomplete mixing will be characterised by variable or partial cure (even after extended time periods).

Cleaning

All equipment contaminated with mixed material should be cleaned before the material has hardened.

Robnor Resins TS130 is suitable non-flammable cleaning agent, although other solvents may be found suitable.

TS130 will also remove cured material provided it is allowed to soak for a number of hours.

Storage and Shelf Life

Material stored in the original unopened containers in cool dry condition between 10 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

Epoxy 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 then local exhaust ventilation (LEV) may be required especially for curing ovens.

The above is given as a guide only; please refer to RX/HX314ZG Health and Safety data or our Technical Service Department for individual/specific advice.

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