

IRS 2013

Low Stress Flexible Epoxy Encapsulant Potting Compound

Description

IRS 2013 is a black, flexible epoxy encapsulant resin system. Its low viscosity and fast room temperature cure make it an ideal potting compound when low stress or adhesion to flexible substrates is required.



Key Properties

- Low viscosity, unfilled system
- Excellent potting and encapsulation system with good flow properties
- Cures quickly at room temperature, but with relatively low exotherm
- High flexibility and low exotherm results in a low stress system
- Good adhesion to a wide range of substrates, but very high peel strengths on flexible substrates
- Good shock resistance due to flexibility
- Excellent electrical properties
- Good chemical resistance to solvents, oils, fuels, acids and bases
- Black, high gloss finish
- Available in easy-to-use twinpacks

Typical Properties

Property	
Mix ratio	5:1
Mixed viscosity	5,000 cps
Density	1.15 g/cm ³
Hardness, Shore D	70
Dielectric strength	13 kV/mm
Relative permittivity	<5
Operating temperature	-40°C to 150°C
Colour	Black



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Cure Schedule

Bondline Temperature	Pot Life	Full Cure
RT (23°C)	30 minutes	8 hours

Cure time will depend on cross sectional area, ambient conditions, and mixing method. The above data is given as a guide only. 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.

Lap Shear Adhesion

Substrate	
Aluminium to Aluminium	20 MPa

Peel Strength

Substrate	
Rubber to Rubber	25 N/cm

Storage and Shelf Life

12 months at 25 +/- 10 °C

Many epoxy resin systems are prone to crystallization as epoxy resin is a super-cooled fluid. This condition may give the product a gritty or grainy appearance (or hazy in clear products). Products in this state will not usually cure to normal and expected properties. In extreme cases it may appear solid and cured. Fluctuating temperatures (within 5 to 50 °C) aggravate this phenomenon. Heating the individual component to 50 to 60 °C while stirring can usually restore products to original state.

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, 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 IRS2013 safety data sheet individual/specific advice.

Useful Resources

[Product webpage](#)

Warranty

Statements, technical information and recommendations contained herein are based on tests we believe to be reliable but they are not to be construed in any manner as warranties expressed or implied. The user shall determine the suitability of the product for his intended use and the user assumes all risk and liability whatsoever in connection therewith.