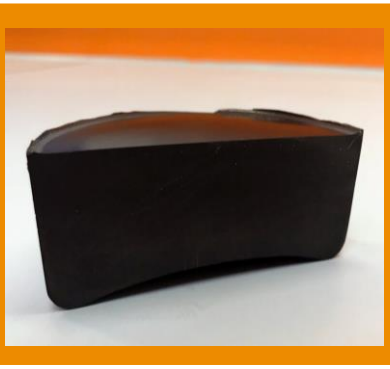
IRS 2012-1
Low Density Epoxy Potting Compound



Description

IRS 2012-1 is a very low density, light weight epoxy resin system with excellent physical properties. It can be used in systems where weight is critical (e.g., auto sport, motor racing, aerospace).

IRS 2012-1 also has good transparency to RF signals or radio signals.

Key Properties

- Low density
- Contains advanced light weight fillers
- Excellent electrical properties
- Chemical resistance to solvents, oils, fuels, acids, bases and hydraulic fluids
- Good mechanical properties
- Low cure shrinkage
- Has uses in radio frequency applications, RF transparent
- Available in easy-to-use twinpacks

Typical Properties

Property	
Mix ratio	100:45 resin to hardener by volume 70:30 resin to hardener by weight
Mixed viscosity	11,000 cps
Pot life (100g mix)	60 minutes @ 23°C
Hardness, Shore D	40
Density	0.6 g/cm^3
Tensile strength	4 MPa
Crush strength	50 MPa (estimated)
Operating temperature	-55°C to +150°C 200°C short term
Chemical resistance	Particularly resistant to fuels, lubricating oils, acids and bases. Also resistant to hydraulic fluids, solvents
Dielectric stength	15 kV/mm
Volume resistivity	10^{11} ohm-cm
Colour	Black

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Cure Schedule

(100g mass)

Bondline Temperature	Working Life	Full Cure
RT (20-25°C)	60 minutes	24 hours
60°C		4 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.

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 IRS2012-1 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 warrantees 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.