IRS 2129-1
Rubber Modified Epoxy Adhesive

Description

IRS 2129-1 Rubber Modified Epoxy Adhesive is a high-performance black resin system. It is designed for the bonding of dissimilar materials and is particularly suited to bonding rubber or bonding rubberised surfaces. The flow of the material has been modified to prevent 'slump' and cures to a semi-rigid finish, which is ideal to help prevent stresses in components and the bonding of materials in a dynamic environment. A two-part system with a simple 1:2 mix ratio, it is supplied in a convenient side-by-side double syringe cartridge, complete with static mixing nozzles.

Key Properties

- Bonds well to rubberised surfaces
- Excellent adhesion to a variety of metals, rubbers, GRP, wood, glass
- Non-toxic
- Thixotropic
- High impact resistance
- Very good adhesive to plastics like ABS, PVC, PC, PMMA
- RoHS compliant

Typical Properties

Property	
Mix ratio	0.6:1 resin to hardener by weight 1:1 resin to hardener by volume
Mixed viscosity	Thixotropic
Colour	Black
Specific gravity (mixed)	1.01
Hardness, Shore A	90
Operating temperature	-50 to +140°C
Thermal conductivity	0.25 W/mK
Tensile strength	18 MPa
Compressive yield strength	<10 MPa
Coefficient of linear expansion	80-100 ppm/C
Electric strength	22 kV/mm
Volume resistivity	1.3 x 10^{12} ohmm.cm
Water absorption (7 days @ 23°C)	0.35%

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Cure Schedule

Bondline Temperature	Por Life	Full Cure
10°C		32 hours
RT (20-25°C)	20 minutes	16 hours
30°C		6 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	17.8 MPa
Copper to Copper	14.7 MPa
Stainless Steel	17.3 MPa
ABS to ABS	3.1 MPa
Nylon 6 to Nylon 6	4.3 MPa
Acrylic to Acrylic	2.6 MPa

Storage and Shelf Life

24 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 IRS2129-1 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.