



BONDSHIELD®

Conductive Adhesives - Epoxy

HIGH STRENGTH BONDS

Epoxy adhesives form high strength structural bonds ideally suited to the assembly of (or prototyping of) metallic enclosures.

TEMPERATURE RESISTANT

Conductive adhesives have a high operational temperature range from -60 to +200°C depending on the adhesive used.

ACCURATELY DISPENSED

A range of adhesives having special properties can be accurately applied using our Acushield form in place technology to ensure reliable and consistent placement of the adhesive beads.



Conductive epoxies provide high strength, permanent metal to metal bonds. They are ideally suited to the assembly of or prototyping of metallic enclosures avoiding the use of fasteners, welding or expensive machining operations

At present the standard adhesive available in this range is a silver loaded material. Other variants based on silver plated fillers and nickel graphite are available

We can also offer the following materials:

Two part flexible conductive epoxies that are capable of operating at over 200°C

Single part heat cure conductive epoxy is available on request. This has similar properties to the two part material described above but requires that the assembly is heated to +100°C in order to initiate cure.

- Very high bond strength
- Room temperature cure
- Compatible with most common substrates
- Excellent resistance to ageing
- Wide service temperature range – retains strength and conductivity at extremes of temperature
- Stable - low bond (joint) resistance through temperature cycling
- Good gap filling properties – can be used to form fillet joints
- Good for joining dissimilar substrates

Typical application include:-

- Structural adhesive – can be used to permanently bond metal assemblies, enclosures etc
- Anti-tamper bonding of critical assemblies
- Electrical connection of components avoiding the used of mechanical fixings
- EMI shielding with environmental sealing (IP68 possible)
- ESD control/grounding

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Conductive Adhesives - Flexible

The range of flexible adhesives are based mainly on silicone elastomers and are particularly suitable for bonding materials that have differing coefficients of thermal expansion.

A typical example of this type of requirement would be the bonding a glass or polycarbonate shielded window into an aluminium bezel or panel aperture. The adhesive secures the window in place but accommodates any movement due to differential thermal expansion/contraction or flexing whilst maintaining a low impedance connection.

Our flexible conductive adhesives are also very resistant to vibration, shock and extremes of temperature (thermal shock) whilst providing a high level of environmental sealing.

Flexible Adhesive Materials

Silver

High electrical performance and temperature tolerance

Silver-plated copper

Low bond resistance

Silver-plated nickel

Temperature stable

Silver-plated aluminium

Galvanic compatibility with aluminium alloys

Nickel coated graphite

Tolerant of surfaces with comparatively high contact resistance e.g. die-cast zinc alloys and 'yellow' or heavy chromate conversion finishes

Carbon

Semi-conductive, ideally suited to ESD control

- Single component – ready to use
- Room temperature cure
- Neutral cure – does not evolve corrosive by-products on curing
- Safe for use with most common substrates – non tarnishing / discolouring
- Excellent resistance to ageing
- Wide service temperature range – remains flexible and conductive at extremes of temperature
- Stable - low bond (joint) resistance through temperature cycling
- Based on a range of conductive fillers to suit the electrical and environmental requirements of most applications

Typical application include:-

- Vibration and/or shock resistant sealant/adhesive for electronic assemblies
- Electrical connection/bonding of materials with dissimilar thermal expansion coefficients
- EMI shielding with environmental sealing (IP68 possible)
- ESD control/grounding

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