Technical Data Sheet
S-Bond® 400-2

Recommended Information 2002

Description

S-Bond® 400-2 is a Zn-Ag-Al based active solder has been specifically optimized for joining e.g. aluminum or ceramics at higher temperatures. Well suited for the use of ultrasonic energy. It can join a range of metals and ceramic materials.

Melting Range

- Solidus Temperature: 400° C (752°F)
- Liquidus Temperature: 420° C (788 °F)
- Joining Temperature: 410 – 430° C (770-810° F)

Physical Properties

- Density: 0.25 lbs/in^3 (7.1 g/cc)
- Thermal Coefficient of Expansion from R.T. to 300º F (25 – 150º C): ~32 x 10^{-6}/ ºC
- Electrical Resistivity (ρ): n.d.
- Thermal Conductivity:
  - Intrinsic: 80 W/mK

Mechanical Properties

- Tensile Strengths: UTS 0,2% Y.S.
  - 25º C 10.0 ksi (69 MPa)
  - 75º C 8.5 ksi (58 MPa)
  - 175º C 7.8 ksi (54 MPa)
  - 390º C 5.5 ksi (28 MPa)
- Joint Strengths (R.T.):
  - Aluminium to Aluminium 12-16 ksi (80-110 MPa)
  - Steel to Steel 7.2-8.7 ksi (50-60 MPa)
  - Stainless Steel 4.3-7.2 ksi (30-50 MPa)
  - Copper to Copper 10-11.6 ksi (70-80 MPa)
  - Aluminium to Steel 7.2- 8.7 ksi (50-60 MPa)
  - Al:SiC to Metals 5.8-7.2 ksi (40-50 MPa)

Joint Sealing Capabilities

- Kovar to Alumina 3.8 x 10^{-9} atmospheres / cc sec
- SiC to Invar 5 x 10^{-10} mbar*L/sec (helium leak rate)
- Silicon ans Glass to metals 4.1 x 10^{-9} atmospheres / cc sec

EUROMAT GMBH does not guarantee the correctness of the above values. Values were determined in the laboratory and may vary depending on the batch. We recommend that you check the values yourself after receipt of the goods.

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