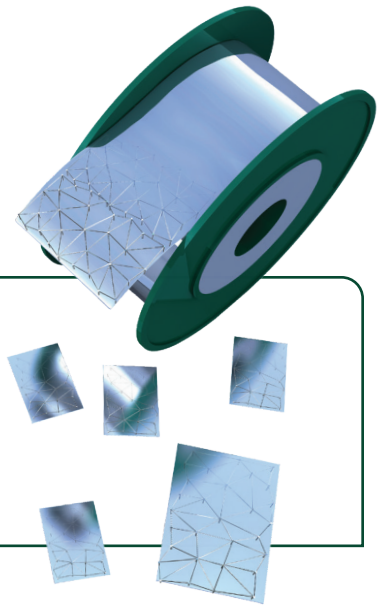
PRODUCT DATA SHEET

InFORMS®

Reinforced Matrixed Solder Composite



Introduction

InFORMS® are reinforced matrixed solder composites. This process produces a reinforced solder fabrication with improved strength and creates a more consistent bondline thickness. A uniform bondline maximizes the thermal and mechanical reliability in the solder joint, therefore, producing solder joints that are higher in reliability.

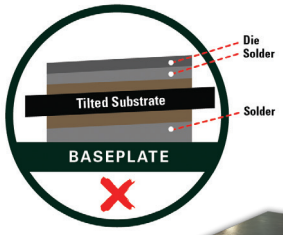
InFORMS® can be manufactured into a wide variety of shapes, including rectangles, discs, and custom shapes, to suit specific application requirements. **InFORMS®** are also available in ribbon* form for automated assembly.

Product Advantages

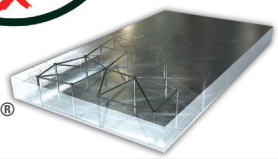
InFORMS® offer dramatically improved handling when compared to conventional solder alloy or indium sheet, foil, ribbon, or large preform materials. **InFORMS®** also offer increased tensile and compressive strength via the substrate materials while retaining the unique attributes of the outer layer metal (e.g., the softness, ductility, and other advantages of indium).

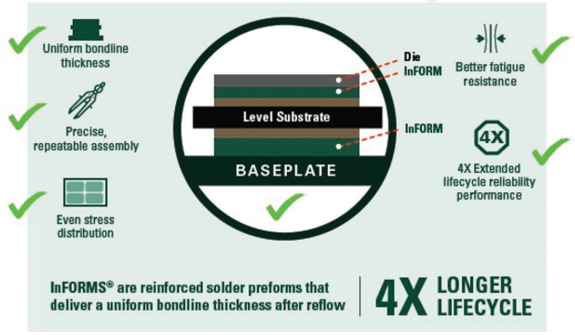
Challenge

Uneven solder bondline thickness causes stress concentration leading to delamination failures over time.



Solution





Applications

InFORMS® provide engineers with an enhanced material for the development of new, or the improvement of existing, applications. They can be used in applications in which there is a significant CTE mismatch between materials or where there is a high thermal and mechanical demand. An example of one such application is in the manufacture of IGBT modules when bonding the DBC to the base plate. **InFORMS®** can be manufactured in a wide variety of alloys that can be tailored to specific product requirements.

Dimensional Specifications

InFORMS® can be manufactured to meet most standard preform configurations. The geometrical tolerances are not affected by the composite within the solder. The table below lists the standard configurations offered.

Solder Preform Requirements

Solder Preform Requirements			
Configuration Description	Approximate Standoff (Microns)	Part Dimensions (x and y) (Millimeters)	Part Dimensions (z) (Microns)
ESM02	55	1.9–3.5	>110
SM02	55	3.5–11	>110
ESM03	80	1.9–3.5	>140
ESM04	110	1.9–3.5	>165
SM04	110	3.5–11	>165
LM04	110	>11	>165
LM06	165	>11	>215
LM08	215	>11	>280
ESM10	265	1.9–3.5	>330
LM10	265	>11	>330
LM12	315	>11	>380

Summary

InFORMS® are solder preforms or ribbon* with a reinforcing matrix that improves the strength of the solder material and provides dependable standoff heights. This combination of benefits imparts the reliability and performance in many electrical components.

Safety Data Sheets

Please refer to the SDS document within the product shipment, or contact our local team to receive a copy.

**Patent pending*

All of Indium Corporation's solder paste and preform manufacturing facilities are IATF 16949:2016 certified.
Indium Corporation is an ISO 9001:2015 registered company.

From One Engineer To Another®

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