

## PRODUCT DATA SHEET

# Solder Fortification<sup>®</sup>

## Preforms

### Introduction

Obtaining the correct amount of solder to ensure a strong solder joint is critical in electronics manufacturing. However, miniaturization trends, such as the reduction of stencil thickness and more tightly fitted components, make this increasingly difficult. **Solder Fortification<sup>®</sup> Preforms** can provide the solution for these challenging issues. **Solder Fortification<sup>®</sup> Preforms** are generally rectangle- or disc-shaped pieces of alloyed metal that do not contain any flux. The preform is added to a deposit of solder paste using standard pick and place equipment. Since the alloy for both the preform and the solder paste are the same, the preform will reflow at the same temperature as the solder paste, with the solder paste providing the necessary flux. The preform increases the volume of solder above what could be achieved with just solder paste, especially for stencils with a pitch of 0.3mm or less.

### Features

- Increased solder volume
- Improved drop test results
- Fewer issues with flux residue
- Reduced rework
- Improved fillet shape and volume

### Advantages

The advantages of **Solder Fortification<sup>®</sup> Preforms** include:

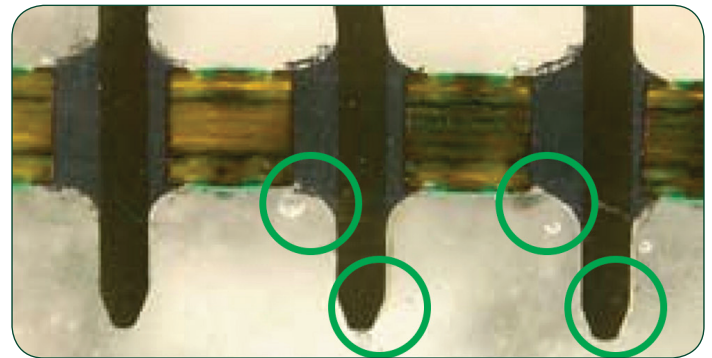
- Increased solder volume compared to what could be achieved with just solder paste
- Fewer issues with flux residue
- Elimination of costly or time-consuming processes, such as wave soldering or selective soldering
- Stronger solder joints which help improve drop test results
- Reduced rework and other manual processes to add solder volume
- Improved shape and volume of fillet to ensure joints meet IPC specifications

### Packaging

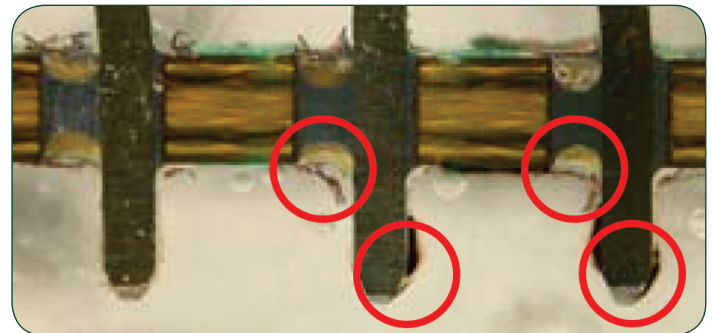
**Solder Fortification<sup>®</sup> Preforms** are packaged in tape & reel for easy placement by standard pick and place machines.

### Common Alloys

- SAC305
- SAC387
- Sn63
- Sn62
- BiSn
- BiSnAg



*The solder preform + solder paste solution delivered excellent through-hole solder joints.*



*Solder starvation in PIP processed solder joint. Also note the excess residual flux.*

**From One Engineer To Another<sup>®</sup>**



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# Solder Fortification® Preforms

### Most Popular Solder Fortification® Solution Options

Name	Size	Quantity Per Reel		Example Weight SAC305 (grams/each)
		7"	13"	
0201	0.010" x 0.020" x 0.010" rectangle (0.254mm x 0.508mm x 0.254mm)	1k	50k	0.00024
0402	0.020" x 0.040" x 0.020" rectangle (0.508mm x 1.02mm x 0.508mm)	1k	15k	0.00182
0603	0.030" x 0.060" x 0.031" rectangle (0.76mm x 1.52mm x 0.787mm)	1k	15k	0.00672
0805	0.050" x 0.080" x 0.050" rectangle (1.27mm x 2.03mm x 1.27mm)	1k	15k	0.02410

### Other Common Solder Fortification® Options

Name	Size	Quantity Per Reel		Example Weight SAC305 (grams/each)
		7"	13"	
½ 0402	0.020" x 0.040" x 0.010" rectangle (0.508mm x 1.02mm x 0.254mm)	1k	15k	0.00091
½ 0603	0.030" x 0.060" x 0.015" rectangle (0.76mm x 1.52mm x 0.38mm)	1k	15k	0.00336
½ 0805	0.050" x 0.080" x 0.025" rectangle (1.27mm x 2.03mm x 0.635mm)	1k	15k	0.01205



### Technical Support

Indium Corporation's internationally experienced engineers provide in-depth technical assistance to our customers. Thoroughly knowledgeable in all facets of Materials Science as it applies to the electronics and semiconductor sectors, Technical Support Engineers provide expert advice in solder properties, alloy compatibility and selection of solder preforms, wire, ribbon, and paste. Indium Corporation's Technical Support Engineers provide rapid response to all technical inquiries.

### Safety Data Sheets

The SDS for this product can be found online at <http://www.indium.com/sds>

This product data sheet is provided for general information only. It is not intended, and shall not be construed, to warrant or guarantee the performance of the products described which are sold subject exclusively to written warranties and limitations thereon included in product packaging and invoices. All Indium Corporation's products and solutions are designed to be commercially available unless specifically stated otherwise.

*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.*

Contact our engineers: [askus@indium.com](mailto:askus@indium.com)

Learn more: [www.indium.com](http://www.indium.com)

ASIA +65 6268 8678 • CHINA +86 (0) 512 628 34900 • EUROPE +44 (0) 1908 580400 • USA +1 315 853 4900



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