

# ALPHA<sup>®</sup> EXACTALLOY<sup>®</sup> DIE ATTACH PREFORM

## Die Attach Preform: Rectangle & Square / Tape & Reel Packaging

### DESCRIPTION

**ALPHA Exactalloy Die Attach Preform** in Tape and Reel Packaging is specifically designed for die attach and similar soldering applications. The product is available in common high lead alloys with the highest alloy purity, 99.99% pure. A wide range of standard size preforms are available.

Alpha's standard Tape and Reel packaging provides the delivery vehicle to effortlessly automate your die attach assembly. In addition, Die Attach Preforms can be packaged in Argon, to eliminate the possibility of oxidation during transport and storage.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

### FEATURES & BENEFITS

#### Features

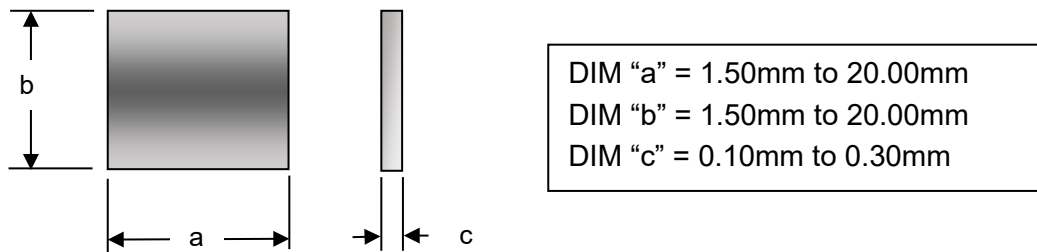
- High 99.99% purity alloys, (4N), less than 0.01% impurity level, ideal for die attach operations
- Preforms packaged in Tape and Reel starting at 100 micron thickness
- Significant number of standard shapes and sizes are available
- All common high lead alloys are supported, ranging 270 to 325 °C
- Tape and reel packaging per EIA-481
- Tape and reel packaging in Argon gas to inhibit alloy oxidation during shipment and storage

#### Benefits

- High 99.99% purity alloy reduces the creation of undesirable intermetallics during soldering process
- Excellent wetting on a wide variety of surfaces
- Reduced voiding by eliminating oxidation during shipment and storage
- Packed in Tape and Reel providing the vehicle to effortlessly automate die attach assembly

**PRODUCT INFORMATION**

ALPHA Exactalloy Die Attach Preform in Tape and Reel Packaging comes in square or rectangular sizes. The list of sizes is always updated, so consult your local Alpha sales representative for a list of available sizes.


**APPLICATION GUIDELINES**

ALPHA Exactalloy Die Attach Preform in Tape and Reel Packaging is ideally suited for die attach soldering operations, using a reduction environment, typically N<sub>2</sub>H<sub>2</sub>. At high reflow temperatures, the hydrogen acts as a deoxidizing agent that prepares the surface for soldering. Concentrations of hydrogen will vary by application, ranging from 5 to 10% H<sub>2</sub> in N<sub>2</sub> (forming gas), as well as higher concentrations of H<sub>2</sub>. Since Die Attach Preforms are made with high lead (Pb) alloys, with melting temperature ranges of 280 to 300 °C, the reflow profiles typically will reach 340 to 360 °C. As these high temperatures, hydrogen is an excellent deoxidizing agent. Common die attach alloys typically contain Sn, Pb, Ag and In in varying concentrations.

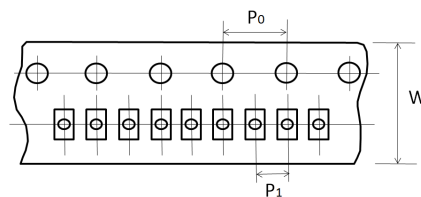
**TECHNICAL DATA**
**Common Die Attach Alloys per J-STD-006B (other alloys available on request)**

SN	PB	AG	IN	SOLIDUS	LIQUIDUS
4	96			273	316
10	90			275	302
	85		15	277	290
5	92.5	2.5		280	280
5	93	2		280	284
5	93.5	1.5		280	285
	90		10	280	292
5	92.5	2.5		287	296
	90	5	5	290	310
	90	5	5	290	310
5	90	5		292	292
5	90	5		292	292
	95		5	292	314
2.5	95	2.5		299	303
1.5	95.5	3		299	303
2	95.5	2.5		299	304
3.5	95	1.5		300	304
	92.5	2.5	5	300	310

SN	PB	AG	IN	SOLIDUS	LIQUIDUS
	95		5	300	314
	97.5	2.5		303	303
1.5	96	2.5		304	304
	97.5	2.5		304	304
1	97.5	1.5		304	310
	98.5	1.5		304	314
	96	4		304	327
	95	5		304	365
5	95			305	314
1	97.5		1.5	309	309
1	97.5	1.5		309	309
1.5	97.5	1		309	310
5	95			310	314
3	97			310	320
4	91	4	1	313	313
2	98			317	322
2	98			320	325
	97.3	1.7		320	350
1	99			321	325

**AVAILABILITY**

**Packaging:** ALPHA Exactalloy Die Attach Preform in Tape and Reel is packaged per Electronic Industries Association (EIA) Standard 481. The width (W) of the tape and pitch (P1) of the tape pocket are determined by the size of the preform. Product is available on 7" or 13" reels. Refer to EIA-481 for more information.



**RECYCLING SERVICES**

We provide safe and efficient recycling services to help companies meet their environmental and legislative requirements and at the same time, maximize the value of their waste streams.

Our service collects solder dross, solder scrap, and various forms of solder paste waste. Please contact your local sales representative for recycling capabilities in your area or [link here](#).



**SAFETY & WARNING**

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available at [MacdermidAlpha.com/assembly-solutions/knowledge-base](http://MacdermidAlpha.com/assembly-solutions/knowledge-base).**

**STORAGE**

The ALPHA Exactalloy Die Attach Preform is packaged in standard tape and reel and available on 7” or 13” reels. The reel can be packaged in Argon gas to eliminate oxidation during transportation. When stored in proper conditions a shelf life of 6 months is guaranteed.

**CONTACT INFORMATION**

**To confirm this document is the most recent version, please contact  
 Assembly@MacDermidAlpha.com  
[www.macdermidalpha.com](http://www.macdermidalpha.com)**

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE . Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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