

# microPEM™ TackPin™ Fasteners

New self-clinching microPEM™ TackPin™ (Type T™) fasteners for compact electronic assemblies enable sheet-to-sheet attachment, replacing costly screw installation in applications where disassembly is not required. TackPin fastener use eliminates typical screw-related issues (including tapping, cross-threading, torque control, and vibration backout) and ultimately promotes quick and easy installation with minimal hardware. TackPin fasteners can provide a good alternative to welds or adhesives.



## Ideal for today's compact electronics

- Laptops
- Notebooks / Ultrabook™ Devices
- Tablet Computers
- Cell/Smart Phones
- Gaming / Hand Held Devices

*Ultrabook™ is a trademark of Intel® Corporation.*



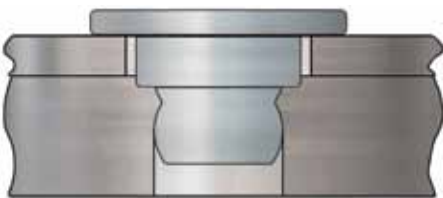
Among notable applications, these aluminum fasteners can be specified to attach super-thin membranes to very thin cosmetic substrates, such as keyboards. The fastener's low-profile head provides cosmetic benefits.



## Features and Benefits

- Micro sized for fastening within very compact designs.
- Attaches top sheets as thin as 0.2 mm / .008".
- Clinches into base panels as hard as HRB 45 / HB 84.
- Interference fit minimizes hole tolerance issues.
- Tapered tip assists location.
- Low-profile head provides cosmetic benefits.
- Replaces screws: eliminating costly tapping, cross threading, torque control, vibration backout and installation time.

*Low-profile head ideal for compact spaces.*



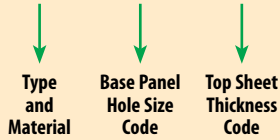
**Simply press into place.  
Permanently joins sheet to panel.**

*Patent pending.*

# microPEM™ TackPin™ Fasteners

## Part Number Designation

TA - 10 - 025



## Material and Finish Specifications

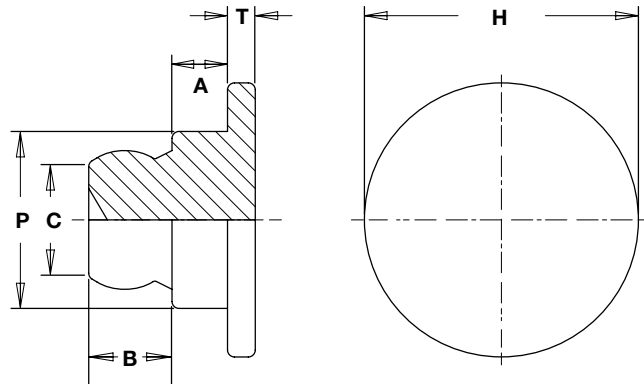
Material: Aluminum

Finish: Plain finish

For use in sheet hardness: HRB 45 or less (Hardness Rockwell "B" Scale) HB 84 or less (Hardness Brinell)



**Top sheet.**  
**Base panel.**  
TackPin fastener installs into blind or through hole applications



All dimensions are in millimeters.

METRIC	Type	Base Panel Hole Size Code	Top Sheet Thickness Code	Top Sheet Thickness	Base Panel Min. Sheet Thickness <sup>(1)</sup>	Top Sheet Hole Size $\pm 0.05$	Base Panel Hole Size $-0.05$	A $\pm 0.025$	B $\pm 0.075$	C Max.	H $\pm 0.1$	P $\pm 0.05$	T $\pm 0.1$	Min. Dist. Hole $\phi$ To Edge
	Fastener Material													
	Aluminum													
	TA	10	025	0.2 - 0.28	0.89	1.47	1.02	0.406	0.610	0.89	2	1.3	0.2	1
	TA	10	050	0.48 - 0.56	0.89	1.47	1.02	0.686	0.610	0.89	2	1.3	0.2	1
	TA	10	075	0.71 - 0.79	0.89	1.47	1.02	0.914	0.610	0.89	2	1.3	0.2	1

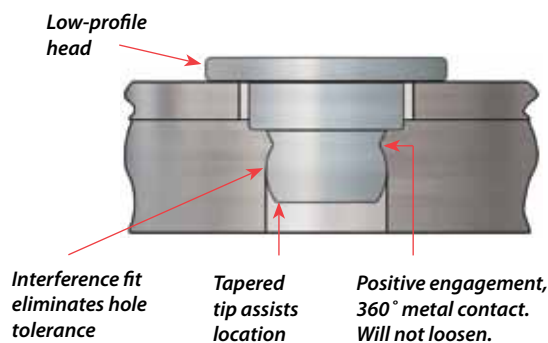
All dimensions are in inches.

UNIFIED	Type	Base Panel Hole Size Code	Top Sheet Thickness Code	Top Sheet Thickness	Base Panel Min. Sheet Thickness <sup>(1)</sup>	Top Sheet Hole Size $\pm .002$	Base Panel Hole Size $-.002$	A $\pm .001$	B $\pm .003$	C Max.	H $\pm .004$	P $\pm .002$	T $\pm .004$	Min. Dist. Hole $\phi$ To Edge
	Fastener Material													
	Aluminum													
	TA	10	025	.008 - .011	.035	.058	.040	.016	.024	.035	.079	.051	.008	.039
	TA	10	050	.019 - .022	.035	.058	.040	.027	.024	.035	.079	.051	.008	.039
	TA	10	075	.028 - .031	.035	.058	.040	.036	.024	.035	.079	.051	.008	.039

(1) 0.89 mm / .035" for blind holes and 0.5 mm / .020" for thru holes.

## Comparison of TackPin™ fastener to screw installation.

### With TackPin™ Fastener



### With Screw

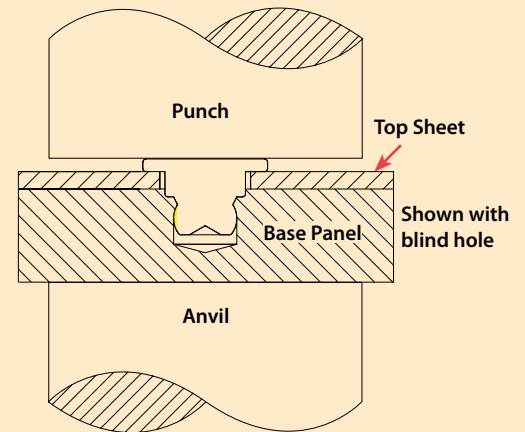


Typical screw related issues include costly tapping, cross-threading, torque control, and vibration backout.

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## Installation

1. Prepare properly sized mounting hole in sheet and base panel. Base panel mounting hole can be through or blind.
2. Place sheet and base panel in proper position.
3. Place fastener through hole in sheet and into mounting hole of base panel.
4. With punch and anvil surfaces parallel, apply squeezing force until the head of the fastener contacts the top sheet.



## Manual Installation

### Punch and Anvil Part Numbers

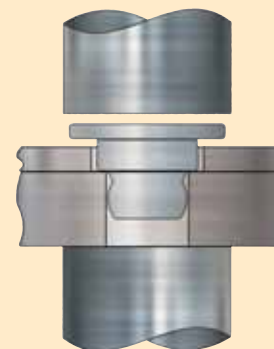
Size	Punch Part Number	Anvil Part Number
TA-10-025	8014167	975200046
TA-10-050		
TA-10-075		

## Performance Data<sup>(1)</sup>

Type	5052-H34 Aluminum			
	Installation		Pushout	
	N	lbs.	N	lbs.
TA-10-025	820	185	80	18
TA-10-050				
TA-10-075				

(1) The values reported are averages when all installation specifications and procedures are followed. Variations in mounting hole size, sheet material and installation procedure will affect results. Performance testing of this product in your application is recommended. We will be happy to provide samples for this purpose.

BEFORE PRESSING



AFTER PRESSING



Shown with through hole

microPEM™ TackPin™ fasteners can be installed automatically in high volume applications. Contact your nearest Engineering representative for more information.

Look for the PEM® "Dimple" registered trademark.



# microPEM™ TackPin™ Fasteners

See below for additional types of microPEM™ fasteners. To see information on the complete line of microPEM™ hardware please visit our website at [www.pemnet.com](http://www.pemnet.com) and click on the microPEM™ button.



- Threads as small as M1
- Pin diameters as small as 1 mm
- Standoff lengths as short as 1 mm / .040"
- Attach sheets as thin as 0.08 mm / .003"
- Clinching into sheets as thin as 0.3 mm / .012"

## microPEM™ Self-Clinching Locating Pins Install Into Thin Sheets For Locating/Positioning Applications



- Smallest diameter: 1 mm / .040"
- Shortest length: 2 mm / .080"
- Minimum sheet thickness: 0.5 mm / .020"
- Maximum sheet hardness: HRB 92.
- Fastener material: steel, stainless steel and aluminum.

## microPEM™ Standoffs - Install Into Thin Sheets For Spacing Applications



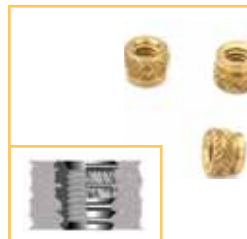
- Self-clinching installation.
- Smallest thread size: M1.0 / #0-80.
- Shortest length: 1 mm / .040"
- Minimum sheet thickness: 0.3 mm / .012"
- Maximum sheet hardness: HRB 88
- Fastener material: steel, stainless steel, and aluminum.

## microPEM™ SMT Spacers - Attaches to P.C. Boards for Nut/Space Applications



- Surface mount installation.
- Smallest thread size: M1.0 / #0-80.
- Shortest length: 1 mm / .040"
- Minimum sheet thickness 0.3 mm / .012"
- Fastener material: steel

## microPEM™ Inserts - Strong Metal Threads In Plastics



- Smallest thread size: M1.
- Fastener material: brass / stainless steel.
- Styles: ultrasonic, molded-in and press in.

## microPEM™ Screws



- Smallest thread size: M1.
- Shortest length: 2 mm / .080"
- Fastener material: steel, stainless steel and aluminum.
- Driver types: internal lobed/Phillips/Mortorq® Super Drive System.
- Head styles: flat head/pan head/Mortorq® Super Miniature Wafer Head.
- Special features: Remform® locking patch.
- Platings: black oxide and zinc.

# microPEM™ FASTENERS

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See our website for the most current version of this bulletin.

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