

# SpotFast® Fasteners

for joining metal to PCB/plastic panels

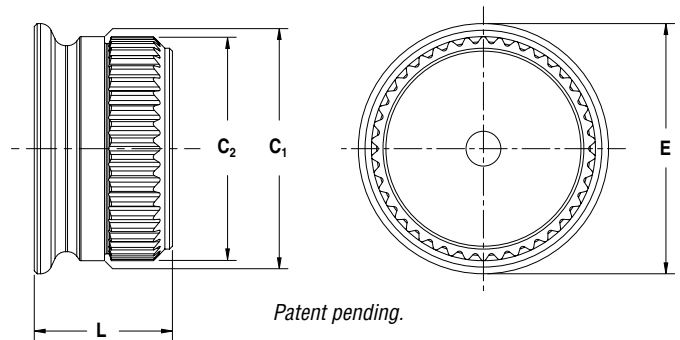
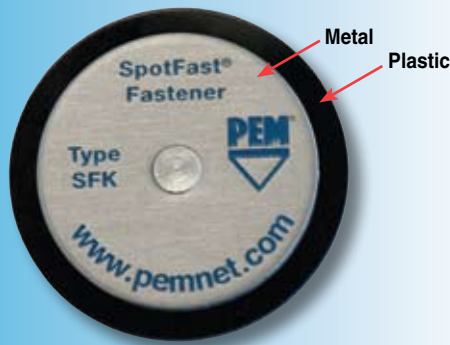


The PEM® SpotFast® fastener from PennEngineering® creates a permanent, flush joining of metal to PCB/plastic panels. The fastener installs smooth with the top sheet, and flush or sub-flush with the bottom sheet. The fastener has two separate joining profiles. Squeezing the fastener into place causes a cold-flow of the metal panel material into the fastener's clinch profile and a broaching fit of the knurl into the PC Board or plastic panel.



## Features and Benefits

- Alternative to riveting and adhesives.
- Standard parts install into metal sheets as thin as 0.8mm.
- Flush mounted.
- Minimal space requirements.
- Can be installed into a blind hole in thicker PCB/plastic panels.
- Can be used as single flush-mounted pivot point.
- RoHS compliant.



Type and Size	Thickness Code	Panel 1		Panel 2		C <sub>1</sub> Max.	C <sub>2</sub> ±0.08mm	E Max.	L Max.	Min. Dist Hole To Edge
		Thickness ±0.08mm	Mounting Hole +0.08mm	Thickness Min. (1)	Mounting Hole +0.08mm					
		mm	mm	mm	mm					
SFK-3	0.8	0.8	3	1.6	2.5	2.98	2.9	3.53	2.31	3
SFK-3	1.0	1	3	1.6	2.5	2.98	2.9	3.76	2.51	3
SFK-3	1.2	1.2	3	1.6	2.5	2.98	2.9	3.76	2.72	3
SFK-3	1.6	1.6	3	1.6	2.5	2.98	2.9	3.76	3.12	3
SFK-5	0.8	0.8	5	1.6	4.5	4.98	4.9	5.56	2.31	5.1
SFK-5	1.0	1	5	1.6	4.5	4.98	4.9	5.56	2.51	5.1
SFK-5	1.2	1.2	5	1.6	4.5	4.98	4.9	5.56	2.72	5.1
SFK-5	1.6	1.6	5	1.6	4.5	4.98	4.9	5.56	3.12	5.1

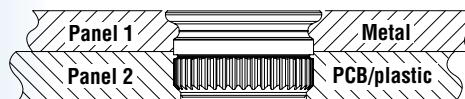
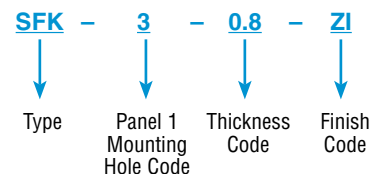
(1) Fastener will provide flush application at minimum sheet thickness.

## Material & Finish Specifications

**Fastener Material:** Low Carbon Steel  
**Finish:** ZI - Zinc plated, 5µm, colorless <sup>(2)</sup>  
**For Use In Sheet Hardness (Panel 1):** HRB 80 / HB 150 or less <sup>(3)</sup>

(2) See PEM Technical Support section of our web site for related plating standards and specifications.  
 (3) HRB - Hardness Rockwell "B" Scale.  
 HB - Hardness Brinell.

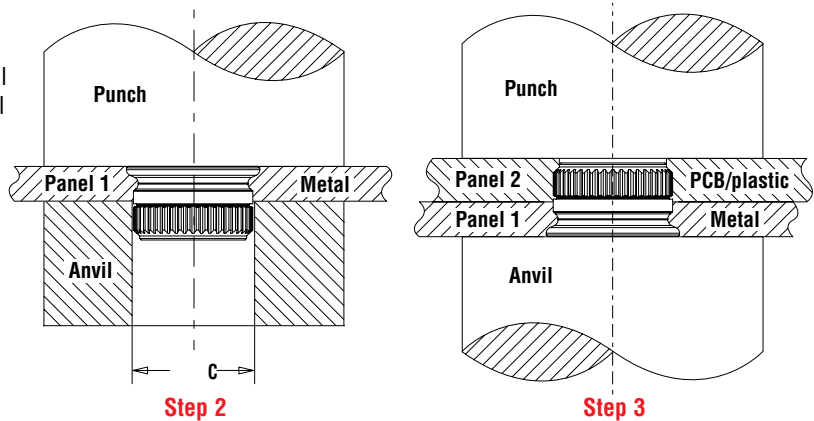
## PART NUMBER DESIGNATION



# SpotFast® Fasteners

## Installation<sup>(1)</sup>

- Step 1:** Prepare properly sized mounting hole in both panels.
- Step 2:** Using only Panel 1, with the punch and anvil surfaces parallel, apply squeezing force until the fastener is flush with the top of Panel 1.
- Step 3:** Place Panel 2 over fastener and apply squeezing force.



### Anvil Dimensions

Size	C ±0.08 (mm)	Punch Part No.	Anvil Part No. For Anvil Used In Step 2
SFK-3	3.05	975200048	970200229300
SFK-5	5.05	975200048	970200020300

(1) Fastener can be installed in both sheets at once when metal panel is adequately soft compared to the non-metal panel. E-mail [techsupport@pemnet.com](mailto:techsupport@pemnet.com) for more information.

## Performance Data<sup>(2)</sup>

Type and Size	Thickness Code	Installation into Panel 1	Installation into Panel 2	Pushout of Panel 2 <sup>(3)</sup>
		Cold-rolled Steel	FR-4 Fiberglass	
		kN	kN	N
SFK-3	0.8	6.2	1.8	200
SFK-3	1.0	8	1.8	200
SFK-3	1.2	8.9	1.8	200
SFK-3	1.6	10.2	1.8	200
SFK-5	0.8	11.1	1.8	400
SFK-5	1.0	13.5	1.8	400
SFK-5	1.2	15.6	1.8	400
SFK-5	1.6	17.8	1.8	400

(2) 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 this data. Performance testing of this product in your application is recommended. We will be happy to provide samples for this purpose or perform the installation for you.

(3) In most applications, pullout strength of the SFK fastener in Panel 1 exceeds pushout strength of Panel 2.



RoHS compliance information can be found on our website.  
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Specifications subject to change without notice.  
Check our website for the most current version of this bulletin.

**PennEngineering®**



**North America:** Danboro, PA USA • E-mail: [info@pemnet.com](mailto:info@pemnet.com) • Tel: +1-215-766-8853 • Fax: +1-215-766-0143 • 800-237-4736 (USA Only)  
**Europe:** Galway, Ireland • E-mail: [europe@pemnet.com](mailto:europe@pemnet.com) • Tel: +353-91-751714 • Fax: +353-91-753541  
**Asia/Pacific:** Singapore • E-mail: [singapore@pemnet.com](mailto:singapore@pemnet.com) • Tel: +65-6-745-0660 • Fax: +65-6-745-2400  
 Shanghai, China • E-mail: [china@pemnet.com](mailto:china@pemnet.com) • Tel: +86-21-5868-3688 • Fax: +86-21-5868-3988

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