

# Q&A On Crane's Coined Tail

CINCINNATI, OHIO

SALES BULLETIN SB-1600

## Why are the TAILS COINED on Crane's 0.100" (2,54mm) pin strip headers?

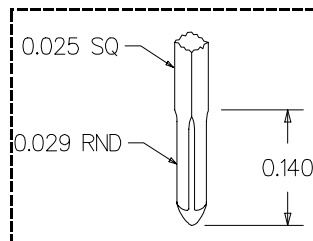
When Crane was founded, it set out to develop the PERFECT pin strip header. Before beginning, we talked to component engineers all over the country and asked them for feedback on the design. The features asked for included:

- excellent pin tip geometry
- post-plating to eliminate exposed areas
- standoffs for easy board wash
- "snappable" to smaller sizes
- wide variety of plating options
- wide variety of pin lengths
- board retention feature
- ease of placement

To make the parts easier to place on a PCB -- especially the ones with high pin count -- Crane COINED the tails. This displacement of material created a part that more closely matches the geometry of the holes on the PCB.

## What is this "COINING" process?

As our pins are stamped, secondary operations produce both the **MATE-RITE TIP<sup>SM</sup>** (pin tip geometry) and the coined or "rounded" tail. In the process, material is displaced producing a pin with a 0.030" diagonal tail (instead of the 0.034" diagonal on 0.025" square-tailed parts). Typically, about 0.140" of the tail is coined.



The primary purpose of this feature is to ease placement on the board, so it isn't necessary to coin more than this. The rest of the pin above the coining area is still 0.025" square (see Figure 1 above).

## Are there OTHER Advantages?

As a matter of fact, there are. Because of the nature of capillary action, solder actually wicks more easily with a rounded tail than a square one, yielding a better solder fillet. In addition, the transition area on the pin from square to round serves as a standoff if the hole is undersized. This feature allows Crane to offer its **DPEG** (Detachable Insulator) Header Series (please see Sales Bulletin SB-0500). The coined tail is also a PLUS in **INTRUSIVE REFLOW** applications.

## Do ALL of your 0.100" pin strip headers feature a ROUND tail?

**YES**, but the correct description is "**coined**," not "round." It's important to make this distinction. The process used to make these parts -- coining -- displaces material from the corners of the square wire creating a rounded, but not round, tail. FYI ... Crane also offers a square tail option if needed. See below.

## Is Crane's part a FORM, FIT AND FUNCTION match for competitor products?

**YES**, with one exception. Crane's coined tail is not suitable for WIRE WRAP terminations. Wire wrapping -- seldom used anymore -- requires a long square tail (min. 0.185") so the wire will "bite" into the corners and create a gas-tight connection. On these applications, as well as those where customers insist on a square tail, Crane does recommend its "Q" (square) tail option.

## Does Crane offer a SQUARE TAIL version?

Yes. It's designated in the part number by the letter "Q" versus the "R" for the rounded tail. Because of the wide variety of pin lengths offered by Crane, however, the "Q" option may not be available for all lengths. The factory can advise you on availability.

## Does the coined tail require a SPECIAL hole size on the PCB?

**NO**. Crane's coined tail fits into the same hole size called out for a square-tailed part -- 0.040" diameter. It's completely interchangeable with square tail parts. Crane's coined tail can, however, be used in smaller holes (see box below).

## Rounded Tails Save the Day!

One of our customers recently discovered that the holes on his PCB were undersized. Since Crane's coined tail accommodates hole sizes as small as 0.032" (+/- 0.002"), the customer avoided a costly and time consuming rework of his boards.