Terminal Pins

Our **Terminal Pins Division** produces terminal pins that are used in tubular heating elements. We specialize in producing these terminal pins in high volumes with close tolerances. We currently supply a large majority of the heating element manufacturers in the United States, Canada, and Mexico, and we also export throughout the world. Our commitment to zero rejects and 100% on-time delivery has enabled us to forge solid partnerships with our many terminal pin customers.

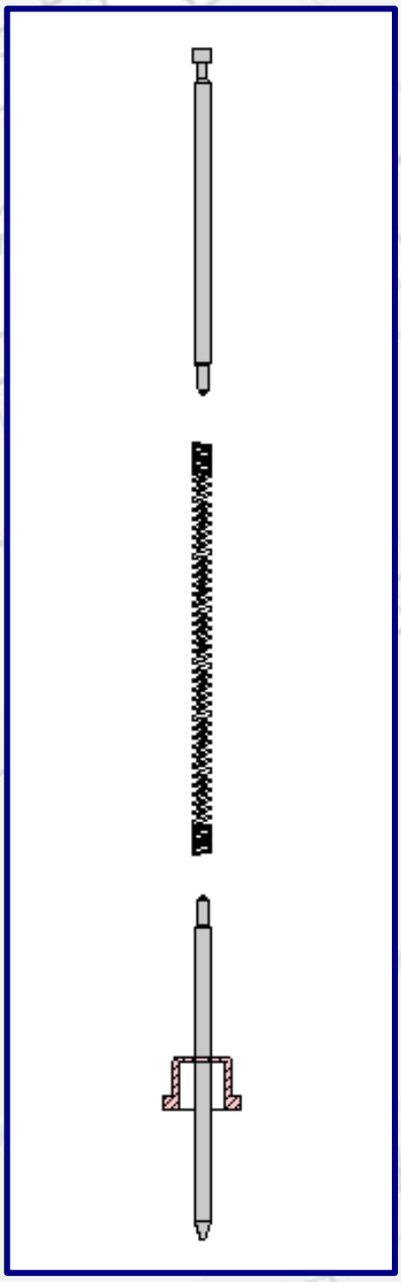
We use statistical process control together with continuous inspection to ensure that our products meet or surpass our customer's specifications. Each individual terminal pin order is manufactured using our specially designed Instant Heat process control chart. Graphs on these charts allow us to control and document critical dimensions for our customers during the actual manufacturing process.

We supply our terminal pins from 2 types of wire. The first type is un-plated, low-carbon (C-1008) mild steel. The second type is a pre-platedmaterial that has an inner core of the same low-carbon steel but then has a 2% by weight coating of nickel. Both wires have tensile strengths from
60,000 to 75,000 PSI.

We use specially designed cold-forming machines to produce our pins. These machines hold much closer tolerances than screw machines that are commonly used to make these pins. The cold-forming process allows us to use a softer wire with a lower tensile strength that makes welding the pin to coil assemblies much easier.

Oftentimes it is necessary to anneal screw-machined terminal pins before they can be used in the heating elements. This creates problems for the element manufacturer because the pins often bend, and they can also discolor or oxidize in the welding area during annealing. Our cold-forming process and the softer wire we use eliminate all of these potential problems for our customers.

The pre-plated nickel wire we use has many advantages for element manufacturers. First, the nickel coating is applied when the wire is still in rod form. The wire is then drawn down to the final size and the nickel coating becomes embedded in the steel material. Then, because we are cold-forming the parts, the nickel coating is not removed, but rather it is further embedded. The end result is that the nickel coating on our pins is impervious to peeling or flaking off and will withstand temperatures to 1200° C (2200° F) without melting away or discoloring. The nickel also greatly enhances the welding of the pins to the coils.



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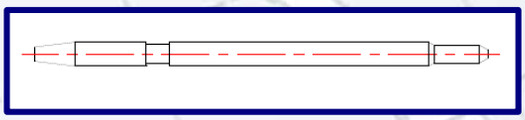
Below are the 5 wire diameters that we currently use to manufacture our terminal pins. We make these pins in lengths from 50mm to 230mm (2” to 9”).

.062”	1.57mm
.075”	1.90mm
.091”	2.31mm
.105”	2.67mm
.125”	3.18mm
.109”	2.77mm
.114”	2.90mm
.141”	3.58mm

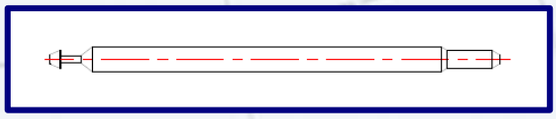
While these are the standard wire diameters for which we are tooled and for which we currently stock wire, if your volume is sufficient, we may be willing to make additional wire diameter terminal pins.

Below are shown the 5 typical styles of terminal pins that we commonly manufacture.

Standard Upper Pin

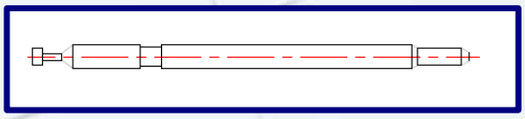


Standard Lower Pin



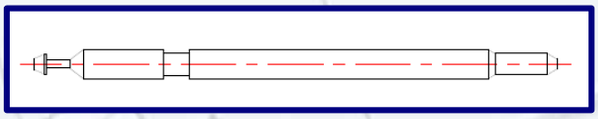
Special Upper Pin

This special upper pin with a tapered head Allows for easier insertion of the upper either an upper or sealing plug on the pins.



Combination Pin

The combination pin can be used for either an upper or a lower terminal pin. This design is not available in 2.67 and 3.18mm (.105” and .125”) pins.



Universal Pin

The universal pin can be used for either An upper or lower terminal pin and also has a tapered head to allow for the easier insertion of the sealing plug. This style pin is only available in 1.57 and 1.9mm (.062 and .075”) diameter pins.

The use of the special Combination or Universal style pins significantly reduces the number of different pins a customer must stock.