

Cast-In Heaters - Large Thermo-Platens

Engineered Solutions With Advanced Technology in Cast-In Thermo-Platens

Tempco specializes in innovative engineering and manufacturing of thermal components. Coupled with our diverse foundry and machine shop capabilities, this expertise provides the know-how behind our product line offering of large electrically heated platens that are manufactured by using our cast-in heater technology.

This casting process incorporates the heat source (tubular heating element) as an integral component of the platen. This process provides a more cost-effective and reliable approach than drilling holes for cartridge heaters or clamping inefficient and cumbersome-to-use strip heaters to the back surface of a platen.

Tempco's thermo-platens are made from aluminum, bronze and brass alloys. These materials provide excellent thermal conductivity for rapid heat transfer with uniform temperature gradients. To further enhance heat profiles, the formation and the location of the tubular heaters within the casting are precisely engineered using the latest computer design techniques.

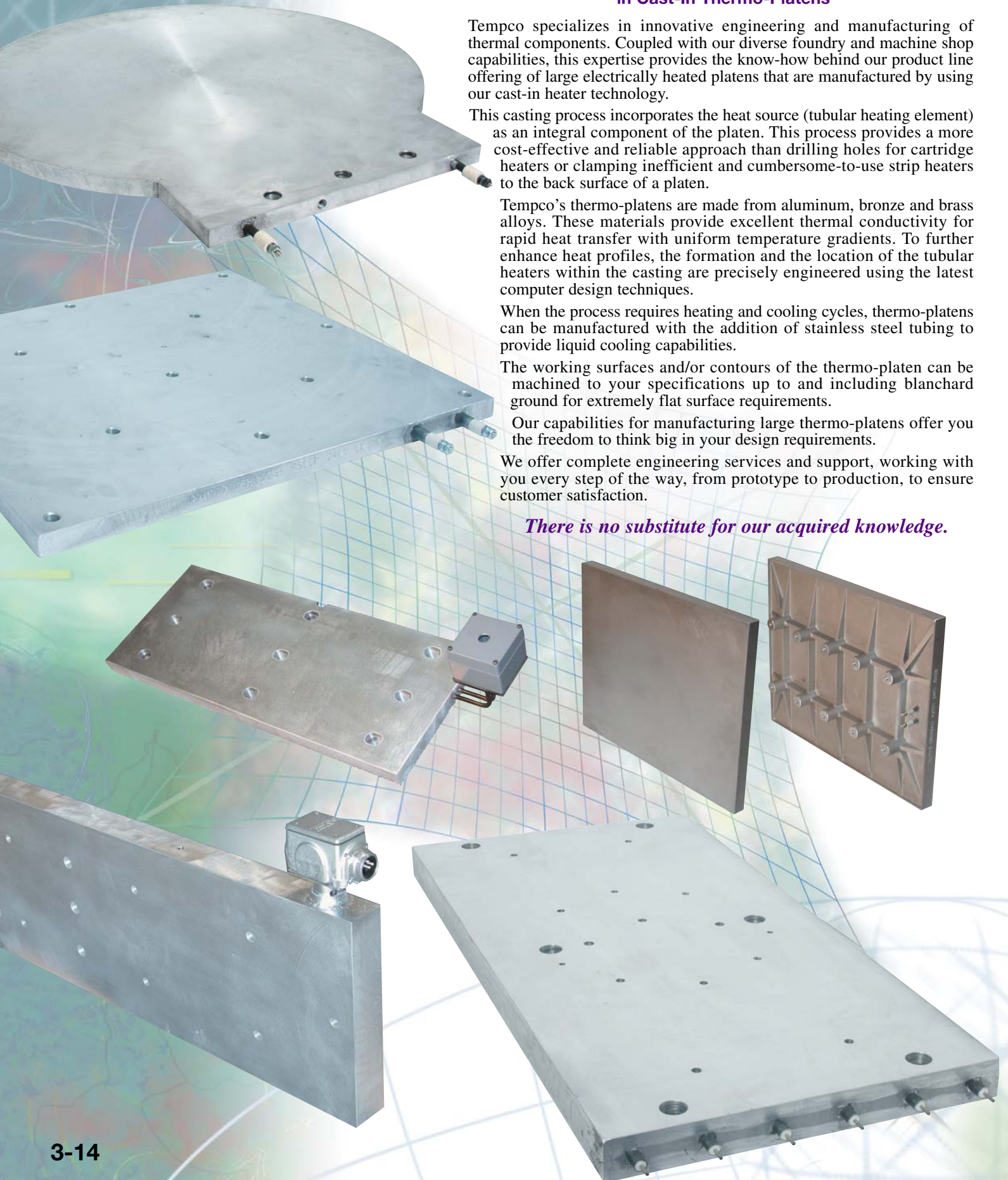
When the process requires heating and cooling cycles, thermo-platens can be manufactured with the addition of stainless steel tubing to provide liquid cooling capabilities.

The working surfaces and/or contours of the thermo-platen can be machined to your specifications up to and including blanchard ground for extremely flat surface requirements.

Our capabilities for manufacturing large thermo-platens offer you the freedom to think big in your design requirements.

We offer complete engineering services and support, working with you every step of the way, from prototype to production, to ensure customer satisfaction.

There is no substitute for our acquired knowledge.



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Design Features & Options

- * **Castings:**
 - Aluminum up to 600 lbs.
 - Bronze & Brass up to 300 lbs.
(Recommended for high operating pressures and temperatures)
- * **Exceptionally Long Operating Life**
- * **Single or Three-Phase Circuit**
- * **Surface Finishes: Electroless Nickel-Plated, Teflon®, Hard-Coat Anodizing**
- * **Thermowells for Temperature Sensors**
- * **Excellent Heat Transfer**
- * **Maximum width 60"
Maximum length 72"**
- * **Uniform Surface Temperatures**
- * **Machined to Customer Specifications**
- * **Heating & Liquid Cooling Functions**
- * **Various Heater & Cooling Tube Terminations**



Note: Cast-In Thermo-Platens are made to customer specifications. For technical assistance, engineering data and available options please refer to pages 3-6 & 3-7.

When ordering please provide detailed design drawings, including dimensions, critical tolerances, electrical ratings, watts, volts, single or three-phase, and any other feature or special requirements.

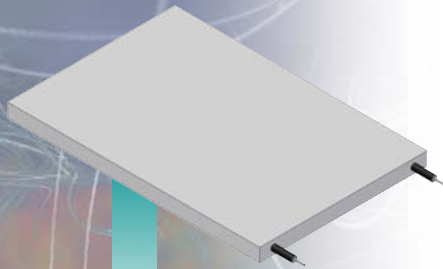


*When Your Needs Call for **LARGER** Than **BIG**
Cast-In Thermal Platens & You Need Them NOW -
Look No Further Than Tempco!
We Can Do It - We Have the Technology!*



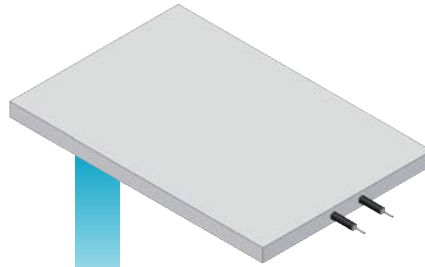
Heating Element Exit Locations

Typical Tubular Heating Element Exit Locations For Thermo-Platens



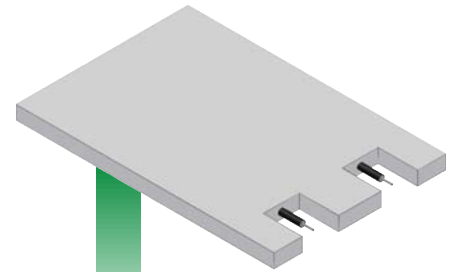
Type TE1

Elements exiting through the thickness toward the ends of the width or length.



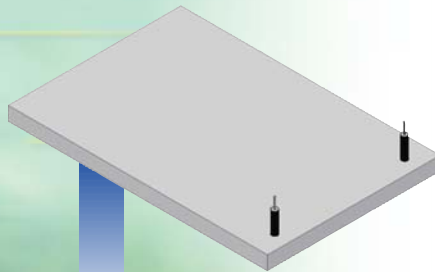
Type TE2

Elements exiting through the thickness toward the center of the width or length.



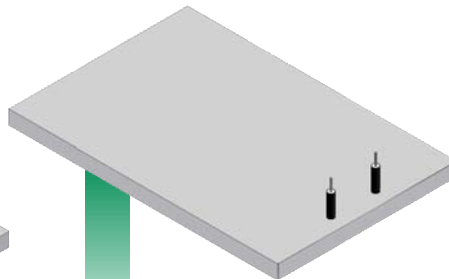
Type TE3

Elements exiting through the thickness and recessed to protect the screw terminals from mechanical damage. Can be located toward the end or center.



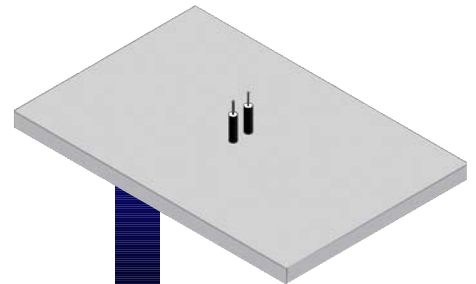
Type TE4

Elements exiting toward the ends of the width or length through the top surface.



Type TE5

Elements exiting at the end and toward the center of the width or length through the top surface.



Type TE6

Elements exiting toward the center of the length and width and through the top surface.

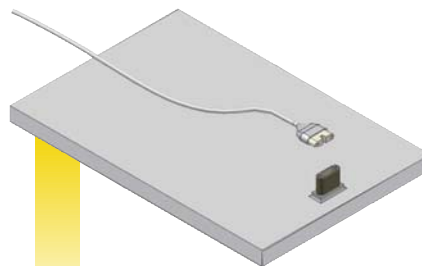
Typical Terminal Box Options and Locations

For Standard Tubular Heating Element Terminations See pages 3-17, 3-52 & 3-53.



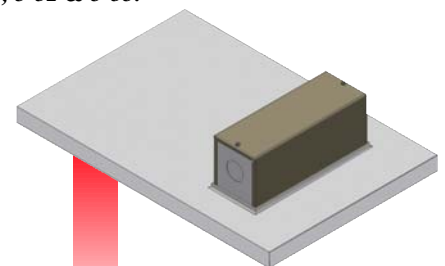
Type EP

Explosion and/or moisture resistant box.



Type P1

Quick-disconnect cup assembly mounted directly to casting provides a fast and safe means to apply power to the Cast-In heating element. Available for .260", .315" and .430" diameter elements. Rated 250V max., 15 Amp max.



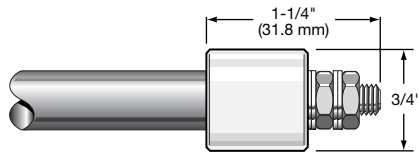
Type C2

Sheet metal terminal box with 5/8" knockouts.

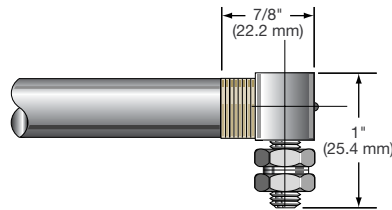


Standard Tubular Heater Terminations for Thermo-Platens

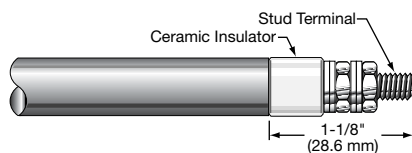
Type S
Standard Unless
Otherwise Specified



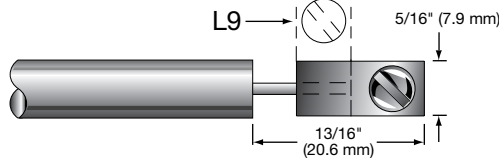
Type R
90° Blockhead
Screw Terminal



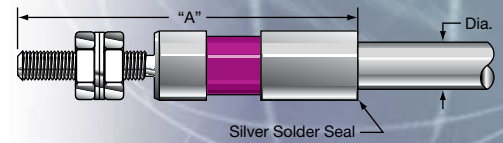
Type T7
Straight Stud Terminal



Type L & L9
Lug Terminal with
10-32 Binding
Head Screw



Type H Hermetic Seal Screw Terminal



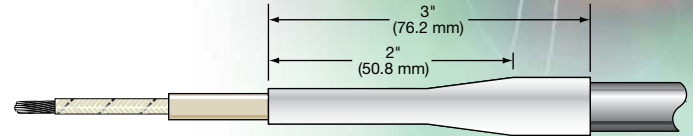
Type R Flexible Armor Cable



Type F Flexible Lead



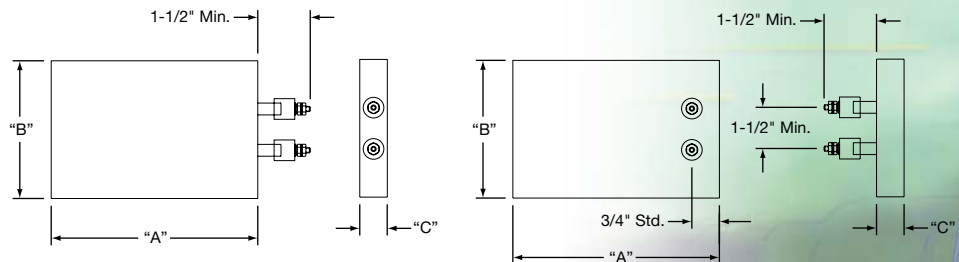
Type TS Flexible Lead with Shrink-Down Teflon®



For Additional Terminations See pages 3-52 and 3-53

Ordering Information

To process your order or quotation, please specify the following information.



Variable Dimensions

"A" _____ "B" _____ Thickness "C" _____ Special Features _____

Material Specifications

Aluminum Bronze Brass

Electrical Specifications

Watts each element _____ Volts each element _____ Phase _____

Cooling Tube Sizes

1/4" O.D. SS 3/8" O.D. SS 1/2" O.D. SS
 Optional Incoloy® (1/2" only) Dual Cooling Tube

Termination Style

"S" Post Terminals "T7" Post Terminals "C4" Ceramic cover
 "R" 90° Blockhead "F" Plain Leads "H" Hermetic Seal
 "E" Right-Angle Lugs "R1" Armor Cable Leads "SF" Tabs "SF9" Tabs
 "TS" Leads and Shrink Sleeve "P1" Quick-Disconnect
 "R2" Blockhead and Through Hole "L" Terminal Lug "L9" Terminal Lug

Terminal Protection Box

"C2" Standard "MR1" Rigid Moisture Resistant "EP" Explosion Resistant
 "MP" Moisture Resistant "MPR" Moisture Resistant
 "P2" High Temperature Quick-Disconnect

Surface Finish

Machined or As Cast. *Indicate surfaces to be machined.*

Special Cast-In Features

Holes, Cutouts, Slots, Bevels, Mounting Studs, Stand-Offs and Taper Angles.
For special features a detailed drawing is required.