

NOTES:

1. DESIGN AND INTERFACE PER I. D. S. -15.
2. CAP SHIPPED LOOSE.
3. ACCDMADATES RG-405 OR EQUIVALENT CABLES.

REV.	DESCRIPTION	DATE	APPR.
C	PER ECN 11782	10/17/13	JEM

PALCO **COMMUNICATOR**

22 GREAT HILL RD., NAUGATUCK, CT 06770

UNLESS OTHERWISE SPECIFIED, PALCO WORKMANSHIP STANDARDS APPLY
 TOLERANCES ON: DECIMALS: XX \pm .01 .XXX \pm .005 ANGLES \pm 1/2° 32'
 DIMENSIONS IN INCHES OR (METRIC) DO NOT SCALE PRINTS

CATALOG ITEM

DRAWN	CHECKED	ENGINEER	APPROVED	FSCM
JEM	JEM	DLD	JEM	58167
DATE	DESCRIPTION	PDM PLUG	RIGHT ANGLE, SOLDER	
5/2/78	DRAWING NO.	15-0520-0860	PLATING OPT.	A, B, C, D



22 Great Hill Rd., Naugatuck, Ct. 06770
Phone: (203) 729-9090 Fax: (203) 723-1794

**DESIGN
STANDARD 15**

REV: C per ECN 11547
PREPARED BY: S.Smith
DATE: 01/15/13
APPROVED BY: JEM

DESCRIPTION: HEAT TREATMENT OF ALLOY M25 UNS C17300 TD04

- 1.0 **SCOPE:** To set a standard for Heat Treatment of all bent, formed, and machined Beryllium Copper parts.
- 2.0 **SPECIFICATION:** Heat Treat at 700° F for 2.5 hours to 3 hours.
- 3.0 **PROCEDURE**
 - 3.1 **DEGREASING:**
Parts must be completely free of grease or oil before Age Hardening. Any residual oil or grease will make cleaning before plating difficult if not impossible in critical applications. Sulfur bearing oils should be avoided where possible. Where sulfur bearing oils are mandatory, parts should be degreased as soon as possible after manufacturing to assure its removal.
 - 3.2 **ATMOSPHERIC HEAT TREATMENT PREFERRED METHOD**
After cleaning, the parts should be contained in an appropriately sized, sealed container, back filled with inert gas (Nitrogen). A positive flow of gas should be maintained. Heat the parts as rapidly as possible to 700° F. Maintain this temperature for 2.5 to 3 hours. Keep a positive gas flow on the parts until cool. A chart recorder shall be used to verify time and temperature. All part numbers that were heat treated must be written with their shop order number, quantity and date on the back of the chart. Submit this with the lots to inspection for our records. Re-clean if necessary. See para 5.1.
 - 3.3 **NON-ATMOSPHERIC HEAT TREATMENT**
After cleaning, the parts should be wrapped in Heat Treat Foil, placed in a pre-heat oven at 700° F for 2.5 to 3 hours. With large loads, you must compensate for the drop in temperature and the loss of time at 700° F. When complete, let the parts cool before unwrapping. A chart recorder shall be used to verify time and temperature. All part numbers that were heat treated must be written with their shop order number, quantity and date on the back of the chart. Submit this with the lots to inspection for our records. Re-clean if necessary.



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4.0 FIXTURES FOR HEAT TREATING:

The following notes are to assist in the control of distortion during heat Treating when the part configuration allows for fixturing and the size and shape are critical.

- 4.1 Alloy 25 can shrink up to .003" per inch during precipitation hardening.
- 4.2 Areas of parts that are under residual compressive stress shrink first in the direction of that stress and cause the part to move permanently in that direction (bending, closing, and even machining).
- 4.3 Heat Treatment is an additive process. Hardness can be achieved by two treatments of 1.5 hours at 700° F with an intermediate cool to room temperature.

5.0 SPECIAL INSTRUCTIONS:

- 5.1 Trays/container must be placed in the oven on a rack.



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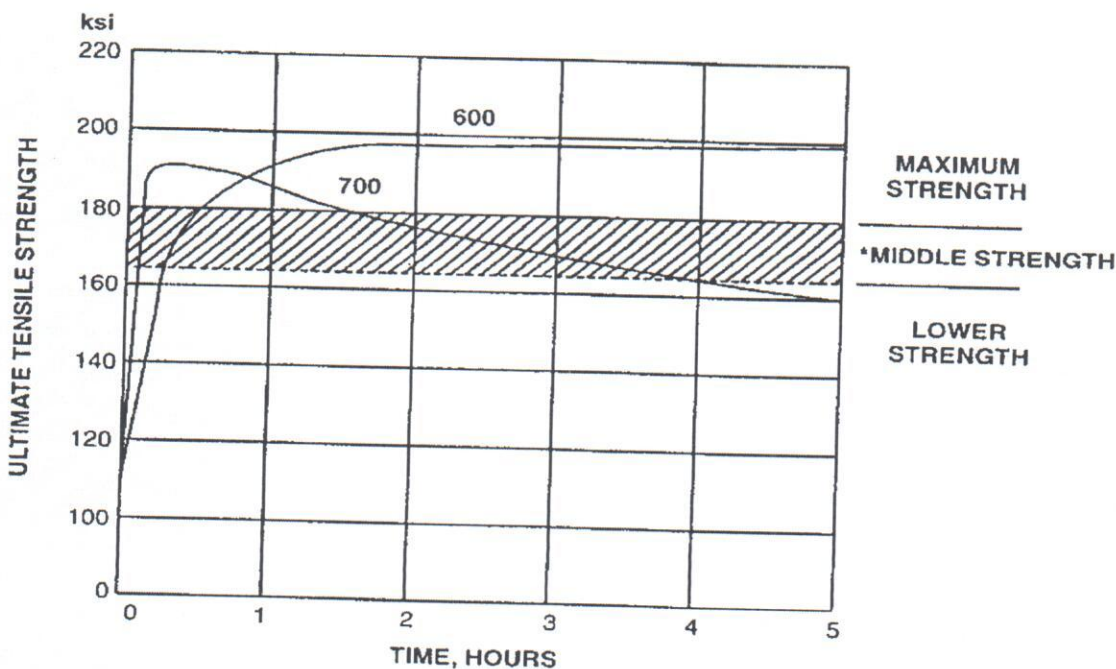
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DATE: 01/15/13

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Heat Treatment of Alloy M25 C17300 TD04 700 F – Soak for 2.5 to 3 hours.
 After Heat Treatment of Alloy M25 C17300 TD04 desirable Vickers Hardness should be HV 370 - 415, up to HV 450 is acceptable. When the Process requires brazing before Heat Treatment the Vickers Hardness should be no less than HV 250.

- Parts exhibit greater dimension accuracy and higher conductivity at this Middle Strength Range.

SAFE HANDLING

While the hazard associated with dilute beryllium alloys is not to be minimized, years of experience have shown that risks in the occupational environment can be controlled with proper ventilation and other safeguards. Care must be exercised in the processing and fabrication of these alloys to avoid inhalation of airborne particles, such as dust, mist or fumes in excess of the permissible exposure level. See MSDS A101 for details.