

Standard Operating Procedure <b>Brazer Material</b>	SOP No. 5.014
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- 1 Purpose
  - 1.1 To establish a standard procedure for preparing materials for making high-purity copper brazed joints.
- 2 Scope
  - 2.1 This procedure shall be used with copper piping assemblies/subassemblies requiring high-purity brazing.
- 3 Responsibility
  - 3.1 The Therma general foreperson/foreperson shall verify compliance to this procedure.
  - 3.2 This procedure applies to all brazing operators performing high purity brazing.
- 4 Procedures
  - 4.1 Piping shall be type L or K ASTM B88 or ASTM B-280 seamless ACR, nitrogen cleaned and capped at the mill.
  - 4.2 Fittings shall be of wrought copper suitable for making brazed connections. Fittings shall have full complete cup stops. Cast fittings will not be allowed.
  - 4.3 The cleaning of tube and fittings should be conducted in a segregated semi-clean area, free from dust, dirt and debris.
  - 4.4 Pipe shall be cut with ends square and true to size. Only tube cutters with sharp cutting wheels will be used.
    - 4.4.1 Hack saws or similar type cutting wheels shall not be used.
    - 4.4.2 Insert a lint-free cloth into end of pipe, ream and deburr ends of pipe with approved clean tools.
    - 4.4.3 After cutting, clean each end of pipe using new emery cloth, clean completely around tube a minimum of 3" back from cut.

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4.4.4 Using a lint-free cloth soaked in I.P.A., wipe outer diameter of tube until there is no visible trace of grease, oil, oxides, and sand cloth grit.

4.4.5 Remove cloth.

4.5 If tube is not to be brazed immediately after cleaning, it shall be repurged and protected by taping a FDA-grade 4 mil plastic bag over each end.

4.6 Tape shall not be placed on cleaned area.

4.7 Fittings shall be cleaned using new emery cloth or clean stainless steel wire brushes.

4.8 After sanding/brushing, fittings shall be wiped using a lint-free cloth soaked in I.P.A. until no contaminants are visible.

4.9 If fitting is not to be brazed immediately after cleaning, it shall be sealed in a purged, FDA-grade, 4 mil. plastic bag.

4.10 All completed pre-fab shall be brazed before the end of shift.

## 5 Review and Approval

5.1 Therma QA will verify the use of this procedure.

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## Document Approval

Karl Jallard  
Field Operations Manager

4-16-97  
Date

Carol Magala  
Quality Control Manager

4-14-97  
Date

Timothy J. Jallard  
Quality Assurance Manager

4-30-97  
Date

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