

Standard Operating Procedure <b>Bonding Procedure for PP Infared 63 Fusion Method</b>	SOP No. 5.043
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- 1 Purpose
  - 1.1 To establish a standard procedure for all Therma bonders performing polypropylene (PP) infrared (IR) 63 fusion method.
- 2 Scope
  - 2.1 This procedure applies to all Therma bonders or bonding operators performing the PP IR 63 fusion method
- 3 Responsibility
  - 3.1 All bonders will be qualified under the direct supervision of the quality control department.
  - 3.2 Only qualified bonders are to perform the following procedures.
- 4 References
  - 4.1 ASME B31.3 – “Chemical Plant and Petroleum Refinery Piping,” 1993 Edition.
- 5 Storage Requirements
  - 5.1 All PP material shall be stored in a clean dry storage area.
  - 5.2 The material in the storage area shall be sufficiently supported so as to prevent bowing.
- 6 Procedures
  - 6.1 Gowning
    - 6.1.1 Wear clean powder free gloves to handle all cleaned PP pipe and components
    - 6.1.2 When fabricating in clean areas (i.e. Class 10 or 10,000), wear clean room garments.
    - 6.1.3 Follow project specification for gowning procedure as required when performing this procedure in the field.

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## 6.2 Tool Cleaning

6.2.1 Clean all hand tools (including pipe cutters, chamfering and peeling tools) with isopropyl alcohol (IPA).

6.2.2 Blow dry the hand tools with filtered nitrogen.

## 6.3 Material

6.3.1 Use only quality control released.

## 6.4 Cleaning

6.4.1 Clean outside surface of pipe and face of fitting using IPA and clean room grade wipes.

## 6.5 Heating

6.5.1 Preset heat temperatures of the heating tool to 413°C (775°F).

6.5.2 Undo the socket-headcap screws on the clamping devices.

6.5.3 Fit the clamping inserts of the required pipe size into the clamping devices (8 each per size).

6.5.4 Flush the clamping inserts with the front side of the clamping device.

6.5.5 Tighten the socket-headcap screws.

6.5.6 Follow manufacturers instructions for setting time and language.

6.5.7 Follow manufacturers instructions for selecting pipe data and overlap distance.

6.5.8 Follow manufacturers instructions for facing operation.

6.5.9 Follow manufacturers instructions for joining and heating.

## 6.6 Completion

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6.6.1 If required submit the test assembly (e.g. coupon) to quality control department for visual inspection. The inspection acceptance criteria are provided below.

6.6.1.1 Continuous uninterrupted bead inside diameter (ID) and outside diameter (OD).

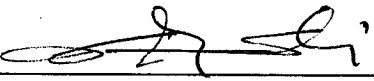
6.6.1.2 Ensure that a complete fusion has occurred and allow for slightly wider bead at the bottom due to gravitation effect.

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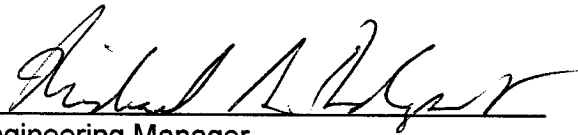
## Document Approval

  
Field Operations Manager

10-3-00  
Date

  
Quality Control Manager

9/28/00  
Date

  
Engineering Manager

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Quality Assurance Manager

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Date

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