



Brazing Procedure Specification

In Compliance with NFPA 99 and ASME Code Section IX

Brazing Procedure Specification Number : 13-BPS148 Revision 0

Manual Torch Brazing Process

Supporting Procedure Qualification Records: 13-BPQR14, 13-BPQR38, 15-BPQR34, 12-BPQR1, 12-BPQR15, 12-BPQR2, 15-BPQR25S, 12-BPQR4, 15-BPQR4S, 13-BPQR6, 13-BPQR6S, 13-BPQR8, 98-101 and 98-102

Base Metal

Limited to P-300 Materials
Thickness Range: 0.015" to 0.372"

Joint Design

Joint Type: Socket (Tube/Fitting)
Joint Clearance: 0.001" to 0.010"
Overlap Length: .31" to 3.97"

Brazing Filler Metal

SFA-5.8 BCuP 2 through 7
F Number: 103
Product Form: Round, Square or Rectangular Rod

Brazing Flux, Fuel Gas, or Atmosphere

Brazing flux is not permitted
Acetylene, Natural, Propane or MAPP® Gas is permitted
Internal Purge using Oil Free Dry Nitrogen at 5 to 20 CFH

Flow Position

All Positions
Face fed filler metal

Post Braze Heat Treatment

Post braze heat treatment is not permitted

Brazing Techniques

- Tube ends shall be cut with a clean sharp tubing cutter.
- Deburr the I.D. of the cut tube end with a clean tool.
- Visually inspect the interior of each tube for obstructions and debris before assembly. Protect the joint before brazing from contamination.
- Method of pre-cleaning: Non-shedding abrasive pads or clean Stainless Steel wire brush to remove all oxides in the brazing area followed by wiping with a clean lint-free white cloth. Do not groove the surfaces while cleaning.
- Brazing shall take place within 8 hours after cleaning and assembly of the test coupons.
- Purge all tubing with oil free dry nitrogen at 5 to 20 CFH flow rate while brazing and until cool to the touch. Use an oxygen analyzer to verify the absence of oxygen prior to brazing. The oxygen content shall be less than 1% before start of brazing.
- Start the brazing of joint nearest the purge inlet.
- Use a neutral to slightly reducing flame if using oxy/acetylene
- Torch Tip Size: (Optional) 54 through 30; use of Turbo Torch® or Rosebud permitted.
- Post Brazing Cleaning: All completed joints shall be washed with a water soaked rag or sponge, followed by brushing with a stainless steel hand wire brush to remove any residue for inspection.
- Inside of the tube shall exhibit no oxidation or flaking
- The completed braze test assembly shall be visually examined for cleanliness and the presence of brazing filler metal all around the joint at the interface between the socket and the tube. Internal and external surfaces shall be free of excessive braze metal or oxidation.

The undersigned Company hereby adopts this Brazing Procedure Specification and accepts full responsibility for its use in any and all construction activities performed by said Company.

Company Name

Company Representative Signature

Date: