INSTRUCTIONS FOR MAKING SILVER SOLDER SLEEVE JOINTS

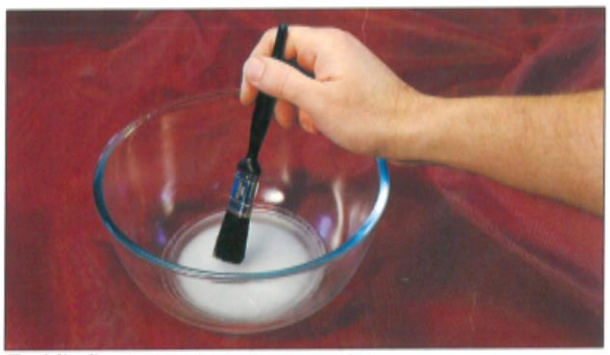
A - Remove burr inside and outside

B - Clean fitting with emery cloth

C - Clean outside of tube with emery cloth

D - Fitting to be cleaned as denoted

E - Add water to powder flux



F - Mix flux/water to creamy paste

G - Add flux to tube and fitting

H - Pipe and fitting correctly lined up

J - Complete silver solder ring around the circumference of the joint.

MARINE ENGINEERING PIPEWORKS (LEECHMERE) LTD.

INSTRUCTIONS FOR MAKING JOINTS

MARINE RANGE
SILVER SOLDER BRAZING PIPE FITTINGS

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HOW TO SIL-BRAZE FITTINGS TO ALUMINIUM BRASS AND COPPER NICKEL IRON PIPEWORK

PREPARATION

Pipe should be cut square to insure an all around contact with the bottom of the socket of the fitting. Any burrs or upset on the end of the pipe should be removed by reaming or filing.

CLEANING

Surfaces to be joined must be free of all grease, oil, oxides and dirt of any kind. In a preinserted ring fitting it may be necessary to remove the insert in order to clean the ring groove. Oil and grease can be removed with a solvent such as acetone or alcohol.
Dirt and oxides can be removed with an abrasive cloth.

FLUXING

The brazing flux should be of a paste like consistency and applied evenly to the cleaned surfaces of the pipe and fitting. If necessary water may be added to the flux to obtain the desired consistency.

ASSEMBLE & SUPPORT

Insert the pipe the full depth of the cup of the fitting and rotate approximately a ½ turn in order to insure that the flux is evenly distributed in the joint area. The depth of insertion can be checked by inscribing a line at a predetermined distance from the end of the pipe.
The piping assembly must be adequately supported to insure proper alignment and minimise stress on the joint area during the brazing cycle.

BRAZING

Oxyacetylene equipment is recommended for the fabrication of MEP fittings.
The reducing flame should be used to preheat the pipe around its entire circumference. Heating of the pipe should continue until the flux is clear and transparent.
The flame should then be applied to the circumference of the fitting until the flux on the face of the fitting is transparent This is an indication that the assembly is at approximately 600°C.
If it is of the preinserted ring type a segment of the band of the fitting should have additional heat applied to it with a wiping motion from the base of the cup to the pipe. This will produce a capillary action that will force the alloy from the groove and distribute it throughout the joint area.
Once the alloy starts to flow heat should be applied to another segment of the fitting and the brazing procedure repeated until the joint is completed.
It is desirable to have a fillet around the circumference of the joint when it is complete. If this was not obtained with the alloy in the insert then supplemental alloy should be used.
(CAUTION:) Do not overheat the fitting as this will cause it to expand and the capillary action will be lost.

FLUX REMOVAL & VISUAL INSPECTION

All flux must be removed from the completed joint for a visual inspection and pressure testing. This is best accomplished by quenching the assembly with water after it has air cooled to approximately 95°C.
After the flux has been removed a smooth fillet should be visible around the entire circumference of the joint.
If there are any voids in the fillet that area should have flux reapplied and the brazing procedure repeated in that area.