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BENDING THIN-WALLED TUBING, MOULDINGS and EXTRUDED SHAPES

The equipment used to melt **LOW 158** is simple, since the low temperature can be any gas or electric heater. The pot used can be cast iron, porcelain or stainless steel. Overheating, which can cause dross formation, must be monitored, and contamination must be avoided.

BENDING PROCEDURES

HEAT TREATMENT

All work should be performed before any age hardening occurs in the material to be formed.

PREPARATION

The tubing must be cleaned internally to remove any dirt or oxide prior to the use of the **LOW 158** as a filler. Usually a tight fitting pull-through device will suffice, however where there are heavy deposits of scale, it may be necessary to sandblast. The cleaning of the internal dimensions by the use of acids or salts will seriously interfere with the **LOW 158**, as it may act as a flux, allowing the **LOW 158** to tin the tube wall. It will also prevent the development of a continuous oil film on the wall, which is critical in the use of a filler material.

OIL

A high-grade mineral oil of an SAE #10 rating is suggested. Oils with detergent additives may cause sticking of the material during the melt-out of the filler metal. The mineral oil selected should not be of a secondary nature.

Plug one end of the tubing to be bent with a rubber or wood plug. Fill with the oil, drain, allowing about one teaspoonful to remain.

HEATING

The oiled tubing should be placed in hot water of at least 200°F in order to allow it to heat up to the correct working temperatures for at least three minutes. **DO NOT ALLOW ANY WATER TO ENTER THE TUBING.** Tubing smaller than a ¼" ID should be placed in water with a temperature of 212°F, while the filler metal is poured.

FILLING

Pour the **LOW 158** into the tubing while it is still in the hot water. The tubing should be at an angle sufficient to allow the escape of air while the metal is flowing in. It will also help to avoid any breaks in the oil film.

COOLING

The filled tubing is then immediately submersed in cold water to solidify the filler metal. The success of the operation depends upon rapid cooling of the metal. Time requirements would be approximately as follows:

- 1" TUBE = 15 minutes
- 1-1/2" TUBE = 20 minutes

Other sizes would be based on the above ratio.