Technical sheet - Alloy 870

Color – Medium White

Purpose – All- Purpose (Sheet, Plate& Wire)

Karat – 9K-18K

Composition & Melting

Composition	Cu	Ag	Zn	Ni
	65.00%	0.00%	13.00%	22.00%

		Temperatures	
Melting	**Karat**	**°C**	**°F**
Initial	9K-18K	1060 °C - 1070 °C	1940 °F - 1958 °F
Ingot	10K	1040 °C - 1050 °C	1904 °F - 1922°F
	14K - 18K	1010 °C - 1020 °C	1850 °F - 1868 °F

- The alloy and fine gold should be melted together in a clean crucible. Place alloy in the bottom of the crucible and fine gold on top.
- Initial melting temperature should be obtained then reduced to the suggested ingot temperatures.
- The alloy should be mixed well with a stirring rod to ensure a good mix.
- Alloy should be poured into a preheated, vertical or lightly lubricated iron mold.
- Use a steady, even pouring motion slowing down at the end of the pour to prevent shrinkage at the top of the ingot.
- Use a round rod mold for wire and a 2-piece L shaped mold for plate and sheet.

Quenching

- The metal ingot should be removed from the mold and quenched immediately into a pickle solution or water.
- For heavy ingots a one- minute cooling period is recommended to avoid quench cracking.

Fabrication

- The metal ingot should be cleaned of all adhering oxides or fluxes before rolling.
- The ingot should be rolled or drawn to a 50% reduction in size before annealing.
- After initial annealing continue the reduction at 50% before annealing again.
- Clean the ingot after each anneal.
- Keep rolls, dies and metal clean to prevent defects in the finished stock.

Annealing

- Annealing temperature is **732°C/1350°F** for **20 minutes** & **Air cool in front of fan or moving air**. Do not over anneal.
- A boric acid fire coat should be applied before annealing in open atmospheres.
- Over annealing can cause excessive grain growth and orange peel effect on the surface.

Note: There are proprietary metals in the formulation which are not included in the composition section.

Technical Assistance: Available… Call 1-800-999-3463 / 1-800-999-FINE

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