

## Technical sheet - Alloy PD5

**Color** – Medium White

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

**Karat** – 9K- 18K

### Composition & Melting

Composition	Cu	Ag	Zn	Pd
	3.04%	84.36%	7.60%	5.00%
Temperatures				
Melting	Karat	°C	°F	
Initial	9K - 18K	1050 °C - 1060 °C	1922 °F - 1940 °F	
Ingot	9K - 18K	1010 °C - 1030 °C	1850 °F - 1886 °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 **704°C/1300°F** for **20 minutes** & **Quench immediately**. 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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