

9ct HW White Alloy Properties and Process Data

- A 9ct white spring alloy, used extensively for jewellery fabrication.
- A far improved white colour.
- Alloy contains Nickel, and conforms to part 2 of the Nickel Directive but does not conform to part 1 which ***“prohibits the supply of post assemblies intended to be inserted into a pierced part of the body during epithalisation of the wound caused by such piercing”***

Technical Information

Alloy Composition:

- 37.6% Gold,
- + Copper + Zinc + Nickel.

Properties

- Colour White
- Density 11 g/cm³
- Melting Range 975 - 1025°C
- Annealed Hardness 160 +/- 10 HV
- 10% reduction of area 185 +/- 15 HV
- 20% reduction of area 220 +/- 15 HV
- 40% reduction of area 260 +/- 15 HV

Property Annealed

UTS	500 N/mm ²
Elongation	28%
Proof Stress	335 N/mm ²

Process Data

Rolling/Drawing:

May be cold worked up to 70% reduction of thickness between anneals.

Annealing:

The alloy may be annealed at 650°C in a furnace, the time depending on size of workpiece. Alternatively it may be heated to cherry red and allowed to cool. The alloy may be quenched from below 500°C (black heat) if necessary.

Machining:

For best results the alloy must be machined in the cold worked.

Solders:

Any of the hallmarking quality 9ct gold solders supplied by Cookson may be used with this alloy.

Enamelling Information:

Due to the presence of zinc, this alloy may not perform satisfactorily when enamelled.