

14ct WM White Alloy Properties and Process Data

- A general purpose 14ct white nickel alloy used extensively in jewellery fabrication.
- A superior white colour with improved processing characteristics compared to other 14ct nickel white alloys.
- Can be used for the manufacture of all forms of jewellery.
- Often used as a “spring” alloy.
- 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 epithelialization of the wound caused by such piercing”.

Technical Information

Alloy Composition:

- 58.6% Gold,
- + Copper + Zinc + Nickel

Properties

- Colour White
- Density 12.9 g/cm³
- Melting Range 970-985°C
- Annealed Hardness 150 +/- 15 HV
- 10% reduction of area 205 +/- 15 HV
- 20% reduction of area 250 +/- 15 HV
- 40% reduction of area 295 +/- 15 HV

Property Annealed

Vickers Hardness	150 +/- 15 HV
UTS	440 N/mm ²
Elongation	45%
Proof Stress	200 N/mm ²

Process Data

Rolling/Drawing/Stamping:

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

Annealing:

The alloy may be annealed at 750°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.

Solders:

Any of the hallmarking quality 14ct 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.