

## 14ct NF Yellow Alloy Properties and Process Data

- A general purpose 14ct white alloy. Used extensively for all forms of jewellery fabrication.
- An improved white colour.
- Does not require Rhodium plating.
- Does not contain Nickel.

### Technical Information

#### Alloy Composition:

- 58.6% Gold,
- 18.92% Silver,
- 15.55% Palladium, + Copper & Zinc

#### Properties

- Colour White
- Density 14.5 g/cm<sup>3</sup>
- Melting Range 1250 - 1300°C
- Annealed Hardness 155 +/- 10 HV
- 10% reduction of area 175 +/- 10 HV
- 20% reduction of area 195 +/- 10 HV
- 40% reduction of area 225 +/- 10 HV

#### Property Annealed

UTS	545 N/mm <sup>2</sup>
Elongation	52%
Proof Stress	350 N/mm <sup>2</sup>

#### 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 must be quenched for maximum ductility.

Machining:

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

Casting:

The alloy has excellent form-filling capabilities. The alloy may be cast into Sulphate bonded investments however best results will be obtained from using Phosphate bonded investments. The alloy has a high casting temperature range between 1350-1400°C. This can require the use of induction heating equipment. Small, fine detailed work will require a casting temperature at the top end of the scale. As this alloy is age hardenable, to achieve maximum ductility the alloy should be quenched.

**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.