

(54) - Elitor®

Testing methods are based on ISO 22674:2006.

1. Composition

Au (ISO 9202:1991)	>68.60%
Ag	11.85%
Cu	10.60%
Pd	3.95%
Zn	2.50%
Pt	2.45%
Ir	0.05%

2. Physical Properties

Melting range	880-940°C
Density	15.0 g/cm ³
Young's Modulus	97 GPa
Colour	yellow

3. Mechanical Properties

Condition	cold worked	soft	hardened
Parameters	30-70%KV	700°C/30'/H ₂ O	700°C/30'/H ₂ O&400°C/20'/air
Hardness HV5	>240	175	275
Tensile strength (Rm)	>790 MPa	535 MPa	780 MPa
0.2% Proof stress (Rp 0.2%)	>710 MPa	410 MPa	680 MPa
Elongation	>4 %	35 %	12 %

4. Biological Testing

Cytotoxicity Test according to ISO 10993-5:

The cytotoxic effect of the alloy was tested with the Extraction Test.
(Project, 990880D, 01.01.2000, BSL Bioservice, DE-82152 Planegg, FRG)

Sensitization Test according to ISO 10993-10:

The allergic sensitization of the alloy was tested with the Maximation Test.
(Project 990881D, 01.01.2000, BSL Bioservice, DE-82152 Planegg, FRG)

Mutagenicity Test (AMES) according to ISO 10993-3:

There have been no AMES test.

Results:

The alloy showed no cytotoxic potential nor did it cause any allergic sensitization.

5. Handling

thermal treatments:	The alloy is suited for polymerization, brazing, laser and phaser welding. Elitor is self-hardening. In spite of this the alloy should be submitted to a hardening procedure after thermal treatments.
Surface-conditioning:	Pickling: 10 Vol.% warm sulfuric acid (H ₂ SO ₄). Do not pickle in Neacid (sulphamic acid), nitric acid (HNO ₃) or hydrochloric acid (HCl).
Remarks	Hardening: Elitor hardens around 400°C. The hardening graph in paragraph 7 refers to a recrystallised state (750°C/1h/H ₂ O) hardened at 400°C during 15 minutes and air-cooled at the end.

Recrystallization:

Elitor is soft below 600°C and recrystallized. Below 700°C grains increase in size. The recrystallisation curve in paragraph 7 shows mean values of different cold-drawn material states (31/44/51/58 and 61%). Annealing times are 1 hour, quenched in water.

Strain-hardening:

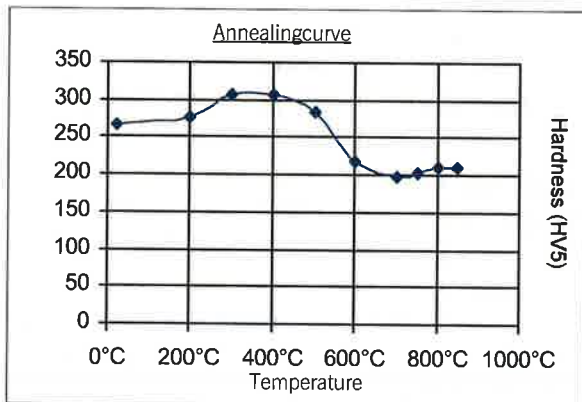
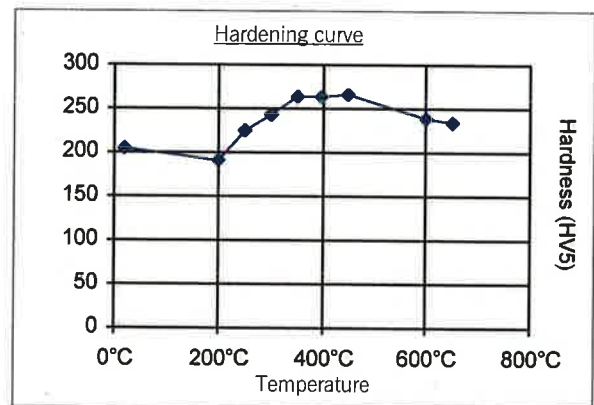
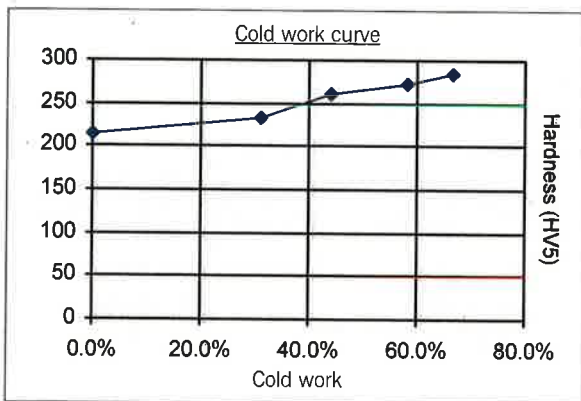
The strain-hardening curve in paragraph 7 started from the soft condition (800°C/1h/water).

6. Certification

Corrosion testing according to standard ISO/DIS 10271 showed, that a total of $3.1\mu\text{g}/\text{cm}^2 \times 7\text{d}$ was set free (limit: $200\mu\text{g}/\text{cm}^2 \times 7\text{d}$).

Manufacture, packing and delivery are constantly monitored according to the quality management system standards according to ISO 9001 and ISO 13485.

7. Graphs



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