

# Material Data Sheet

## for: Pallorag® 33

### 1. Composition

Au + Pt group-metals	30.00%
Ag	59.50%
Pd	20.00%
Au	10.00%
Cu	9.50%
Zn	1.00%

### 2. Physical Properties

Melting range	935-1020°C
Density	11.1 g/cm <sup>3</sup>
Young's Modulus	97 GPa
Colour	white

### 3. Mechanical Properties

	as cast	soft	hardened
Condition		700°C/10/H <sub>2</sub> O	700°C/10/H <sub>2</sub> O&400°C/15/air
Hardness HV5	170	135	230
Tensile strength (Rm)	575 MPa	505 MPa	810 MPa
0.2% Proof stress (Rp 0.2%)	430 MPa	280 MPa	615 MPa
Elongation	15.0 %.	23.5 %.	8.5 %.

### 4. Biological Testing

#### Cytotoxicity Test according to ISO 10993-5:

The cytotoxic effect of the alloy was tested with the Extraction Test.  
(Project 222502, RCC, Itingen/Basel, Switzerland)

#### Sensitization Test according to ISO 10993-10:

The allergic sensitization of the alloy was tested with the Maximation Test.  
(Project 291813, RCC, Itingen/Basel, Switzerland)

#### Results:

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

### 5. Certification

The alloy corresponds to the standard ISO 8891.

Corrosion testing according to standard ISO 1562 showed, that a total of 1.95µg/cm<sup>2</sup>×7d was set free.

The alloy has been approved for CE-Marking  
(NIOM EC-Certificate NO. 0034,1997-02-10).

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

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