

**METALOR**<sup>®</sup>**Data sheet for alloy****Au 750/3157 Pd**

Division Watches and Jewelry

Colour **white**Code **3157****General description** 18 ct white gold nickel-free alloy containing Pd, for lost wax casting.**Physical properties** Specific gravity [g/cm<sup>3</sup>] **15.2** Melting range [°C] **910-955**

Mechanical properties			Annealed	20% cold worked	75% cold worked
Vickers hardness		[HV1]	180	265	280
Yield hardness	Rm	[Mpa]	585	800	1060
Elastic limit	Rp0.2	[MPa]	385	600	900
Plastic elongation	A	[%]	30	2	1

**Processing guidelines**

<b>ANNEALING</b>	650 °C for 20 to 30 minutes then quenched in water. In order to avoid oxidation, work under reducing atmosphere.
<b>COLD WORKING</b>	The amount of coldwork completed before annealing should be between 30% and 75% reduction in area.
<b>SOLDERING</b>	By torch or furnace. The nickel-free solders N° 3534 (750-810 °C) and 3535 (650-780 °C) are strongly recommended. For alternatives please see list of solders.
<b>PICKLING</b>	with DESOXYD (following operating instructions) or with hot 10% sulphuric acid added to hot 10 g/l ammonium persulphate. The slight change of colour which could appear can be removed by polishing.
<b>CASTING</b>	Quench the cylinder just after removing from the casting furnace to keep malleability to a hardness of 180 HV instead of 210 HV. Do not mix or solder with Ni-alloys. The alloy can be recycled.
<b>PATENT</b>	US 6,342,182 B1 - EP 1 245 688 A3

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