

**JIV-PF**  
**YELLOW CROWN AND BRIDGE HIGH NOBLE ALLOY**

**JIV-PF** is a high noble type IV casting alloy for highly stressed bridges and partial dentures. It is one in a family of high gold content casting alloys offered by Jensen Industries. JIV-PF features 75.3% nobility, biocompatibility, high yellow gold color and very high strength. The alloy melts, casts, finishes and polishes with speed, ease and accuracy.

**PROPERTIES\***

Melting Range ..... 1615° to 1670°F  
 Density ..... 15.9 g/cm<sup>3</sup>  
 Grain Size ..... 33 microns  
 Modulus of Elasticity ..... 12.9 x 10<sup>6</sup> psi

**CHEMISTRY**

Gold ..... 72.5%  
 Platinum.. 2.8%  
 Silver .... 10.2%  
 Copper ... 13.5%

**AS CAST**

**HEAT TREATED**

	<b><u>BENCH COOLED</u></b>	<b><u>QUENCHED</u></b>	<b><u>SOFT</u></b>	<b><u>HARD</u></b>
Hardness . . . . .	230 HV	175 HV	155 HV	255 HV
Elongation . . .	18%	40%	46%	18%
Yield Strength. .	91,370 psi	57,290 psi	47,140 psi	92,820 psi
Ultimate Tensile	101,530 psi	76,870 psi	68,170 psi	105,150 psi

Contains less than 1% Indium, Iridium, Zinc

Au & Pt group -75.3 %  
 Classification -High Noble

**PROCESSING TECHNIQUE**

**SPRUNG**

The indirect method is recommended for multi-units. Use an 8 gauge runner bar with 10 gauge connectors. If preferred, the direct method may be used on both single units and small bridges. Use a 10 gauge sprue 1/4" (6mm) to 3/8" (9mm) long. Sprues longer than 3/8" (9mm) should have a reservoir 1/16" (1.5mm) from the pattern. Patterns should be 1/4" (6mm) from the top of the ring.

**INVESTMENT**

Either gypsum or phosphate bonded investments may be used following the manufacturer's instructions. The burnout temperature should be at least 900°F and should not exceed 1200°F.

**MELTING AND CASTING**

JIV-PF can be melted with gas and compressed air. When melting with gas and oxygen, set gas pressure at 5 psi bars and oxygen pressure at 10 psi. Cast the alloy when it is fully puddled, balled and free from oxide on the surface. **DO NOT OVERHEAT.** To obtain the as cast properties, water quench from a dull red heat for quenched properties and bench cool for hardened properties. The casting temperature is 1760°-1850°F.

**DEVESTING AND FINISHING**

Blast with aluminum oxide to remove investment particles and oxidation. Protect margin areas.

**HEAT TREATMENT**

Anneal at 1350°F for 10 minutes then water quench to obtain the softened condition. After annealing, age harden at 450°F for 20 minutes to obtain the hardened condition.

**POLISHING**

Use low speeds and light pressure

1. Rubber wheel with white flexi wheel
2. Polish with tripoli compound using a soft or medium felt wheel and/or a soft bristle brush
3. Polish with rouge using a rag wheel and/or soft bristle brush.
4. Ultrasonically clean in water or ethyl alcohol for five minutes, then shine with tin oxide and soft bristle brush either dry or with ethyl alcohol.

**SOLDER AND FLUX**

Solder: 615 Fine Solder  
 Flux: Brown Fluoride Flux

\* Test methods conform to ISO standard 1562

