

J-IV

YELLOW CROWN AND BRIDGE ALLOY

J-IV is a high noble type IV casting alloy for highly stressed bridges, and partial dentures. It is especially well suited for use over implants when high strength and high nobility are required. J-IV has a high yellow color and easily finishes to a high luster.

PROPERTIES

Melting Range	1680° F to 1805°F
Density	14.5 g/cm ³
Grain Size	30 microns
	<u>HARDENED</u> <u>SOFTENED</u>
Hardness	250HV 185HV
Tensile Elongation	20% 30%
Tensile Yield Strength (psi) . . .	88,500 58,000
Ultimate Tensile Strength (psi).	109,500 78,900

CHEMISTRY

Gold	68%
Copper	12.5%
Silver	11%
Palladium	6%
Platinum	1%

Contains less than 1%
Zinc, Iridium, Indium

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 pattern. Patterns should be a maximum of 1/4" (6mm) from top of investment. Use of a refractory model is recommended for partial dentures.

INVESTMENT and BURNOUT

Either gypsum or phosphate bonded investment may used following the manufacturer's instructions. The burnout temperature should be at least 900°F (480°C) and should not exceed 1200°F (650°C).

MELTING AND CASTING

Extra winds of the casting arm are not required. A gas/compressed air or gas/oxygen flame with 5 psi gas and 10 psi oxygen is recommended. The alloy will fully puddle and form a ball before it is ready to cast. **DO NOT OVERHEAT.** The casting temperature is 1900°F (1040°C). Bench cool to obtain the hardened condition. Water quench from a dull red heat to obtain the softened condition.

DEVESTING AND FINISHING

Blast with aluminum oxide to remove investment particles and oxidation. Finish and polish using standard techniques.

SOLDER AND FLUX

Solder: 615 Fine Solder
Flux: Brown Fluoride Flux