

J-3

YELLOW CROWN AND BRIDGE ALLOY

J-3 is a noble type IV crown and bridge casting alloy. It is one of a group of five medium gold content casting alloys offered by Jensen Industries. J-3 features 54% nobility, light yellow gold color, high strength, moderate cost, and melts, casts, finishes and polishes like a very high gold content alloy.

PROPERTIES

Melting Range	1545 to 1625°F
Density	12.9 g/cm ³
Hardness	230 HV
Tensile Elongation	13%
Tensile Yield Strength (PSI)	91,500
Ultimate Tensile Strength (PSI)	100,000

CHEMISTRY

Gold	50%
Silver	29.5%
Copper	15.2%
Palladium	4%

Contains less than 1%
Zinc, Indium, Iridium

Classification - 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" to 3/8" long. Sprues longer than 3/8" should have a reservoir 1/16" from the pattern. Patterns should be a maximum of 1/4" from the top of the investment.

INVESTMENT AND BURNOUT

Either gypsum or phosphate bonded investment 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

Extra winds of the casting arm are not required. A gas/compressed air or gas/oxygen flame with 5 PSI gas pressure and 10 PSI oxygen pressure is recommended. The alloy will fully puddle and form a ball before it is ready to cast. The casting temperature is 1725°F (940°C). Bench cool a dull red heat before quenching.

DEVESTING AND FINISHING

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

SOLDER AND FLUX

Solder:	585 Fine Solder
Flux:	Brown Fluoride Flux