

## JLCB

### YELLOW CROWN AND BRIDGE ALLOY

**JLCB** is a type IV crown and bridge casting gold. It is one of a group of five medium gold content casting alloys offered by Jensen Industries. JLCB features 60% nobility, medium yellow gold color, high strength, moderate cost, and melts, casts, finishes and polishes like a very high gold content alloy. JLCB has the unique quality of processing like a type III alloy with the service performance of type IV.

#### PROPERTIES

Melting Range . . . . . 1570° F to 1680°F  
Density . . . . . 13.7 g/cm<sup>3</sup>  
Grain Size . . . . . 37 microns

	<u>HARDENED</u>	<u>SOFTENED</u>
Hardness . . . . .	260 HV	195 HV
Tensile Elongation . . . . .	10%	13%
Tensile Yield Strength (PSI) . . . .	104,000	76,000
Ultimate Tensile Strength (PSI) . .	112,000	85,300

#### CHEMISTRY

Gold . . . . . 56%  
Silver . . . . . 26%  
Copper . . . . . 13%  
Palladium . . . . . 4%

Contains less than 1%  
Zinc, Indium, Iridium  
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.

##### 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. Gas/compressed air or gas/oxygen flame with 5 PSI gas pressure and 10 PSI oxygen pressure is recommended. JLCB will fully puddle and form a ball before it is ready to cast. DO NOT OVERHEAT. The casting temperature is 1775°F (970°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: 585 Fine Solder  
Flux: Brown Fluoride Flux

