

JCB

YELLOW CROWN AND BRIDGE ALLOY

JCB is a high noble, yellow, type III crown and bridge casting alloy. JCB features 65% nobility, extremely high strength, high yellow gold color, reasonable cost, and melts, casts, finishes and polishes with speed, ease and accuracy. JCB has a very low vickers hardness and an extremely high as cast yield strength of 65,000 psi, yet displays a high quality of burnishability.

PROPERTIES

Melting Range 1625° to 1680°F
Density 14.2 g/cm³
Grain Size 15 microns

	<u>HARDENED</u>	<u>SOFTENED</u>
Hardness	165HV	135HV
Tensile Elongation	26%	50%
Tensile Yield Strength (PSI)	65,000	35,600
Ultimate Tensile Strength (PSI) . .	84,000	60,300

CHEMISTRY

Gold 62%
Silver 25%
Copper 9%
Palladium 3%

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. 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 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: 615 Fine Solder
Flux: Brown Fluoride Flux