

STATE

HIGH NOBLE YELLOW TYPE 3 CROWN & BRIDGE ALLOY

STATE is a yellow, high noble crown and bridge alloy. STATE features 40% Au with a 14 Karat gold color, high strength and economical price. STATE finishes and polishes like a higher gold content alloy.

PROPERTIES	
Melting Range	1450-1815°F 790-990°C
Density	12.6 g/cm ³

CHEMISTRY	
Gold	40%
Palladium	20%
Silver	18%
Indium	17%
Zinc	4%
Copper	1%
Au & Pt group -	60%
Classification -	High Noble

Water quenched from dull red:	
Hardness	190 HV
Tensile Elongation	6%
TensileYield Strength/Proof Stress	49,310 psi / 340 MPa
Ultimate Tensile Strength	87,740 psi / 605 MPa

PROCESSING TECHNIQUE

- WAXING** Indirect method is recommended for multi-units. Use a minimum 8 ga runner bar with 10 ga connectors. If preferred, the direct method can be used on single units and small bridges. Use a large reservoir sprue placed close (1.5mm) to the pattern.
- INVESTMENT** Gypsum bonded or phosphate bonded investments can be used.
- BURNOUT** 1200°F (650°C)
- MELTING AND CASTING** Extra winds of the casting arm are not required. Melt with a reducing flame using gas and compressed air, or 5psi propane and 10psi oxygen. Do **NOT** heat to the point where the alloy forms a rolling ball; cast instead as soon as a consolidated pool of alloy is formed.
Water quench from a dull red heat to obtain above properties.
DO NOT USE CASTING FLUX. Casting temperature ~1900°F (1040°C).
- FINISHING** Do not pickle. Normal gold finishing techniques can be employed.
- SOLDERING** 615 solder can be used to build up contacts. Use a small torch and any C&B soldering flux, do not solder with a bunsen burner. We strongly recommend investing the crown or supporting it with refractory putty when soldering.

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