

JMC

NOBLE YELLOW TYPE 3 CROWN & BRIDGE ALLOY

JMC is a 47% Au noble crown and bridge alloy with 39% Ag. An economical yellow alloy, JMC is an excellent choice for all types of restorative work from onlays to short-span bridges. JMC is grain refined which means that there is better marginal integrity, no hot tears, no flaking, and it is easy to polish. JMC has a light-gold color that polishes to a high gloss. It melts, casts, and finishes with ease.

PROPERTIES			CHEMISTRY	
Melting Range	1645° to 1810°F (895° to 990°C)		Gold	47%
Density	12.9 g/cm ³		Silver	39%
Grain Size	24 microns		Copper	7%
	HARDENED	SOFTENED	Palladium	6%
Hardness	230HV	170HV	Zinc	1%
Tensile Elongation	14%	22%	Contains less than 1% Iridium	
Tensile Yield Strength	76,000 psi (525 MPa)	47,000 psi (325 MPa)	Au & Pt group - 53%	
Ultimate Tensile Strength	94,700 psi (655 MPa)	68,000 psi (470 MPa)	Classification - Noble	

PROCESSING TECHNIQUE

SPRUIING

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 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: 585 Fine Solder
Flux: Brown Fluoride Flux

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