

 **Atomium**

Ingot A



OPEN



Atomium

Alloy Specification Sheet

Color: WHITE

Type: 5

ADA
Classification: Cobalt BASE (CPB)

PGM: 0%

Metal Content %

Mn	Fe	Co	Si	C	Mo	Cr
x	x	64	x	x	6	28

'x' denotes a content of less than one percent.

Thermal Properties

Melting Range	Casting Temperature		
2370-2500 °F	2750 °F		
1300-1370 °C	1510 °C		

Mechanical Properties

*Hard is the as cast condition

Vickers Hardness (VHN)			Yield Strength (0.2% Offset)		Modulus of Elasticity (GPa)	Elongation (%)		Density (g/cm ³)
A.F.	Soft	Hard	Soft	Hard		A.F.	Hard	
---	---	380	--- psi	80,000 psi	228	---	10	8.3
			--- MPa	552 MPa				

PROCESS: Waxing
INSTRUCTIONS FOR USE:
Commercially made plastic patterns are available for most of the framework.

PROCESS: Spruing (Single Crowns)
INSTRUCTIONS FOR USE:
Sprue through a hole centrally located in the mold. Location and amount of sprues are at discretion of lab technician. It is advisable to join together tips of the clasp to help prevent incomplete casting.

PROCESS: Investing
INSTRUCTIONS FOR USE:
After wax model is completed, invest the ring with partial investment following manufacturer's recommended instructions. If you are

using a rapid-fire investment, follow the manufacturer's instructions.

PROCESS: Burnout
INSTRUCTIONS FOR USE:
Recommended cycle:

1. Start-up at 750-850°F (400-455°C).
2. After 1 hour increase to 2000°F (1095°C).
3. Hold at 2000°F (1095°C) for 1 hour.
4. Use spacers under the ring.

Note: The process above is recommended. Each investment is unique, please review investment manufacturer instructions.

CASTING INSTRUCTIONS FOR USE:
Use induction or torch casting. When using the oxy-acetylene torch, equipped with no. 4 or no. 6 tip, adjust the flame with inner core between half inch and 1 inch (12mm - 24mm) long. Do not hold torch too close to the alloy. Cast when the metal slumps. Do not overheat the alloy. Do not pull the torch away from the metal when casting. After casting, allow the ring to bench cool.

FINISHING INSTRUCTIONS FOR USE:
Sandblast casting thoroughly to remove all evidence of investment particles and oxide surface. Finish with appropriate stones and Electro-polish as per manufacturer's recommended instructions.

PRE-SOLDERING INSTRUCTIONS FOR USE:
Use: Welding rods.

POST-SOLDERING INSTRUCTIONS FOR USE:
Use: Triple thick.

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