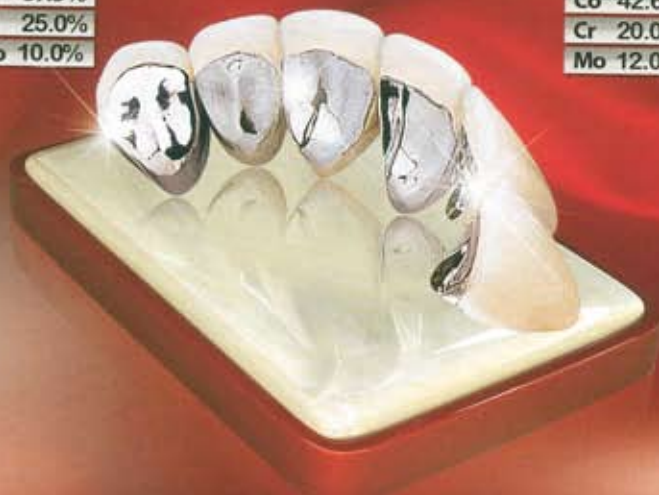


The Most Economical **NOBLE** Alloys are Now Available!

NOBLECROWN™



Pd	25.0%
Ni	37.5%
Cr	25.0%
Mo	10.0%



Pd	25.0%
Co	42.6
Cr	20.0%
Mo	12.0%



Revolutionary New PFM Alloys WITH 25% PALLADIUM

SAVE

Silver-Free
 ADA Classification: NOBLE
 Compatible with all major porcelains
 Low Density: 9.0 g/cm³ NobleCrown
 9.2 g/cm³ NobleCrown NF



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PATENT PENDING



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NOBLECROWN™ & NOBLECROWN™ NF Porcelain Alloy

NOBLECROWN™ & NOBLECROWN™ NF are white color, porcelain alloys formulated to be compatible with most dental porcelains. Superior physical properties facilitate the fabrication of single units, short and long span bridges.

COMPOSITION

NOBLECROWN™				
Palladium 25.0%	Nickel 37.5%	Chromium 25.0%	Molybdenum 12.0%	Silicon X
NOBLECROWN™ NF				
Palladium 25.0%	Cobalt 42.6%	Chromium 20.0%	Molybdenum 12.0%	Boron X

*X denotes a content of less than one percent

PHYSICAL PROPERTIES

Alloy	Melting Range	Casting Temperature	Density
NOBLECROWN™	2190-2300°F (1200-1260°C)	2550°F (1400°C)	9 g/cm ³
NOBLECROWN™ NF	2280-2350°F (1250-1290°C)	2550°F (1400°C)	9.2 g/cm ³

MECHANICAL PROPERTIES*

Alloy	Vickers Hardness	Yield Strength (0.2% Offset)	Ultimate Tensile Strength	Modulus of Elasticity	Elongation %	Coefficient of Thermal Expansion $\mu\text{m}/\text{m}\cdot\text{K}$	
						25-500°C	25-600°C
NOBLECROWN™	210	371 MPa	551 MPa	150 GPa	25%	14.7	14.9
NOBLECROWN™ NF	335	620 MPa	690 MPa	192 GPa	4%	14.4	14.8

* Properties displayed are after firing

INSTRUCTIONS FOR USE

- WAXING** Use conventional wax technique with minimal thickness of 0.3 mm. For single units use direct sprues with reservoirs. Bridges should use indirect spruing.
- INVESTING** Use a high heat (phosphate bonded) investment. Follow manufacturer's instructions. The thickness of investment from the top of the wax pattern to the top of the investment should be no more than 1/4" (6 mm).
- BURNOUT** End temperature is 1600°F (870°C). Maintain end temperature for 1 hour, plus 10 minutes for each additional ring. If using rapid fire investment, follow manufacturer's instructions.
- CASTING** Preheat a ceramic crucible in the furnace 10-15 minutes before casting. Use either a natural gas/oxygen or propane/oxygen torch with a multi-orifice tip. Regulate the mixture to use twice as much oxygen as fuel. Adjust the flame at the torch controls to get sharp bright blue inner cones approximately 1/8-1/4" (3-6 mm) long. Combustion will result in considerable sound. When melting several ingots, stack in piles 2-4 ingots high. Bring the flame to within about 1"-2" (3-6 cm) from the tip of the torch...do not touch the alloy with the bright blue inner cones. Begin heating the alloy, continuously moving the flame over each stack of ingots. The individual ingots will have a stiff, heavy oxide shell as they heat. When the stack slumps down on itself and there is essentially no further change to in the shape, it is ready to cast. Do not over heat to try to get the ingots to clear or melt together. Normal casting temperature for induction or electrical casting is 2550°F (1400°C). Some machines may need as much as 270°F (150°C) higher temperature setting. Use a ceramic crucible. Use at least 35% new alloy when remelting buttons.
- FINISHING** Grind the metal surfaces for porcelain application with non-contaminating aluminum oxide stones or cross-cut carbide bars. Blast with non-recycled 50 micron aluminum oxide. Clean in distilled water in an ultrasonic cleaner for ten minutes.
- DEGASSING** Place the units(s) in a preheated furnace at 1200°F (649°C) and raise the temperature to 1800°F (980°C) at 100°F (55°C) per min., vacuum. No hold time. Remove oxide by blasting.
- OPAQUING** For a better bond, fire a thin wash in vacuum at 15-20°F (10°C) above the regular opaque temperature, followed by a regular opaque coat.
- SOLDERING** NobleCrown: NP Presolder or LWNPNi for laser welding
NobleCrown NF: Co/Cr Presolder or LWNPCo for laser welding