

# PD 2000

Partial Denture Dental Casting Alloy - Chrome/Cobalt

Code: MMI-PD2000

## Instruction & Technical Information

Technical Data:	
Melting Range	1388°C – 1431°C
Yield Strength	663 MPa
Tensile Strength	834 MPa
Elongation	6.0%
Density	8.33 (g/cc)
Vickers Hardness	363 HV

  

Composition:	
Cobalt	63.0%
Chromium	28.5%
Molybdenum	6.0%
Silicon	<1%
Carbon	<1%
Manganese	<1%

### INVESTMENT:

Use investment recommended by manufacturers only for high heat Chromium-Cobalt Partial Denture alloy. Follow the manufacturers instructions carefully. Phosphate base investments, water or liquid mix is recommended.

### TORCH CASTING:

- 1- Multi-orifice tips are recommended.
- 2- Set gauges to 20 psi oxygen and 8 psi acetylene.
- 3- Light the torch; for better results allow the blue inner flame to extend not more than 1/8" (3 mm), and the outer flame approximately 1 1/2" (38 mm) from the torch tip.
- 4- Place sufficient alloy in the preheated crucible.
- 5- Heat the alloy uniformly. Cast immediately after slumping to avoid excessive burning.

### INDUCTION CASTING:

Follow the manufacturer's instructions; set the temperature to 2700°F (1480°C). When the metal has melted as one mass; release the machine immediately to avoid overheating.

### FINISHING:

- 1- Use thin cut-off wheels to remove buttons by cutting sprues close to the casting, and trim remaining metal from sprues and shape with heavy cut-off wheels.
- 2- Use barrel shape stones to grind the surface of lingual and palatal bars, and shape the finish line areas on upper cases.
- 3- Use inverted cone type stones to trim or grind tight areas.
- 4- Do not stone stippled surfaces; electro polish the high shine.
- 5- Casting should be ready for sandblasting and polishing.

### ELECTRO POLISHING:

Use Electro Polishing units that are recommended for high heat Chromium-Cobalt Partial Denture Alloys; Follow the manufacturer's instructions; remove the case from the solution and rinse thoroughly with running water; go over entire case and remove all surface marks with rubber wheels and points.

### WELDING & SOLDERING:

- 1- Clean by grinding or sandblasting the surface of the areas and then invest.
- 2- Thick areas should be ground to shape so that the top of the surface is wider than the bottom.
- 3- Adjust the torch to one (1) psi oxygen and one (1) psi acetylene.
- 4- After lighting the torch adjust to neutral flame with approximately 1/2" (12mm) blue cone extending from the torch tip.
- 5- Heat the welding rod and dip it into the flux; heat both parts of welding areas.
- 6- Clean the case in an ultrasonic cleaner.

Recommended solder: Use cobalt based dental solder recommended by solders manufacturer.

**Note:** For best results use at least 50% new metal with 50% sandblasted and cleaned buttons.



**Mountain Medico, Inc**

600 North Mountain Ave #D204 • Upland, CA 91786

P: 909-931-0688 • F: 909-931-0908

Email: [info@mountainmedico.com](mailto:info@mountainmedico.com)