

PD CASTA H

Partial Denture Dental Casting Alloy

Code: MMI-PDCASTA - H

Instruction & Technical Information

Technical Data:	
Melting Range	1388°C – 1431°C
Yield Strength	640 MPa
Tensile Strength	711 MPa
Elongation	3.4%
Density	8.33 (g/cc)
Vickers Hardness	384 HV

Composition:	
Cobalt	60.0%
Chromium	29.0%
Molybdenum	6.2%
Nickel	2.0%
Iron	2.0%
Carbon, Silicon, 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 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.

Caution: This alloy contains Nickel. Not to be used on individuals with Nickel hypersensitivity.



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