

FLEXICAST®

Economical Partial Denture
Beryllium Free Alloy



Intended Use: Fabrication of removable
partial denture frames

Technical Data	1388 – 1431°C
Melting Range	(2530 – 2607°F)
Yield Strength	663 MPa
Tensile Strength	711 MPa
Elongation	3.4%
Vickers Hardness	384 HV
Density	8.33 (g/cc)

Composition

Cobalt	60%
Chromium	29%
Molybdenum	6.2%
Silicon	<1%
Carbon	<0.05%
Manganese	<1%
Iron	2%
Nickel	1% Max

R 18.4 Instructions for use

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 are 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 manufacturers 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 castings, trim remaining metal from sprues and shape with heavy cut-off wheels.
- 2 – Use barrel shape stones to grind the surface of lingual 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 for 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 manufacturers instructions. Remove the case from the solution and rinse thoroughly with running water. Go over the 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 grinded 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 areas that need welding.
- 6 – Clean the case in an ultrasonic cleaner.

Recommended Solder: Use cobalt based dental solder recommended by Alloys 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 in individuals with Nickel hypersensitivity.

tel: 001 818 662 0618 fax: 001 818 662 0619
Email: info@dentall.us www.dentall.us
6733 San Fernando Rd. Glendale, CA 91201 U.S.A.

Authorized Rep In EEC
Andrew Rowe

109 Gerogelands Ripley, Surrey GU 23 6DG England
tel: 44 1483 225143 Andrew.adrconsultants@gmail.com

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