American Dent-All, Inc.
Made in the USA

LITHECAST®
Nickel & Beryllium Free
Biomedical Ceramic Alloy

Intended Use: Fabrication of Crown & Bridge metal-ceramic (ceramic-fused-metal) restoration

Technical Data

Melting Range	1308°C - 1391°C
Yield Strength	432 MPa
Tensile Strength	518 MPa
Density	8.3 (g/cc)
Elongation	2%
Coefficient of Liner Expansion	14.74 (ppm/°C)
Vickers Hardness	382 HV

Composition

Cobalt	63%
Chrome	29%
Molybdenum	6%
Manganese	1%
Silicon	1%
W + Fe + C + Others	<1%

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

R 18.6 Instructions for use

WAXING:
Waxing procedure is very similar to the application of precious and semi-precious alloys.
However, waxing could be as thin as 0.3 mm to 0.35 mm.

SPRUEING:
A- Direct for single units. Sprueing should be ¼ (6 mm) in length. Based on the size and the thickness of crowns, use 6-8 gauge sprues.
B- Indirect for multiple units. Use straight 8 gauge sprue, about 1/8" (3 or 4 mm) in length, and connect it to the unit.
For long spanned bridges, use additional sprues to connected the last unit.

INVESTING:
Use high heat investments. Follow the manufacturers instructions carefully. Use debubblizer. Use one/two ring liner.
After investment has set, scrape the top of the investment to allow gases to escape.

BURNOUT:
Place the ring in the furnace at room temperature (or as high as 600°F = 315°C if needed)
Increase the temperature to 1800°F (982°C) with one hour holding time. Add 10-15 extra minutes for each additional ring.

MELTING & CASTING:
Use induction melting equipment or gas/oxygen torch.
A- Torch casting: Use multiple orifice torch tips. Do not use crucibles used for other alloys. Preheat the crucible.
Move the torch allowing even distribution of heat. Individual ingots will not form together into a single mass.
Release the casting arm as soon as the alloy starts to slump or sag. Bench-cool the cast for 5 minutes.
Note: Ingots will not puddle, do not overheat ingots.
B- Induction Casting: Set the temperature to 2700°F (1480°C). Set the casting arm speed between 425 and 450 rpm.

METAL FINISHING:
Sandblast the investment with pure non-recycled aluminum oxide. Do not smooth the surface of the frame bearing porcelain.
Use carbides, discs, diamonds and stones for metal finishing.

METAL PREPERATION:
Sandblast the area bearing porcelain and do not touch the area accepting porcelain. Clean with ultrasonic cleaner.

DEGASSING:
Place the metal work in a furnace at 1200 F° (650 C°). Create a vacuum and increase the temperature 100 F° (32 C°) per minute to 1800°F (982°C). Release the vacuum and let it cool down. After degassing, sandblast the area of the frame bearing porcelain.

OPAQUE & PORCELAIN APPLICATION:
Follow the manufacturers instructions.

REV. 1