

# EMDIN INTERNATIONAL CORPORATION

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## Superbond-11 PORCELAIN TO METAL ALLOY

Superbond-11 is a Nickel-Chromium based alloy acceptable for use in fabrication of dental prosthetics and reconstruction.

LOT \_\_\_\_\_ KG: \_\_\_\_\_ OZ \_\_\_\_\_ P.N. 1965-1405 Rev. \_\_\_\_\_

### CHEMISTRY

NICKEL = 61.20% NOMINAL.  
CHROMIUM = 25.80% NOMINAL LBS.  
MOLYBDENUM = 11.00% NOMINAL  
SILICON = 1.50% NOMINAL  
OTHER (Mn , Al) = < 1.00%

### PHYSICAL PROPERTIES:

Co-Efficient of Expansion, @ 600°C =  
14.1 x 10<sup>6</sup>  
Vickers Hardness = 210  
Elongation = 13%  
Casting Temperature = 1410°C (2570°F)  
Specific Gravity = 8.2 g/cm<sup>3</sup>  
Yield Strength = 59,450 psi (410 MPa)

### TECHNICAL INSTRUCTIONS

WAXING: 0.3 mm thickness

SPRUIING:  
8 gauge wax (3.0) - 3,5) sprues, direct or  
indirect with a runner bar, or reservoirs

INVESTING:  
High heat phosphate bonded investment  
Mix under vacuum (1 - 1 1/2 min.)

### BURNOUT:

Two-Stage burnout technique is recommended  
Stage #1: Room Temp. to 315 deg C, hold for 30 min.  
Stage #2; 315 deg C to 875 deg C, hold for 60 min.  
Single stage burnout: room temp. to 875 deg C,  
hold 60 min.

### CASTING:

Induction casting with argon is recommended.  
Use multiple orifice torch, preheat 100% quartz  
crucibles 20 psi oxygen + 10 psi propane gas  
Heat ingots evenly until they all "slump"  
Use 50% new alloy when recasting buttons

### CLEANING:

Sandblast with 50 micron white aluminum oxide  
at 5 - 6 cm Hg (80 psi).  
Use only aluminum oxide wheels and discs.  
Ultrasonic cleaner with distilled water for 3 -5 min.  
Blot Dry.

OXIDATION: 980°C, O hold, with vacuum, removal  
of oxide optional

### WARNING: Caution:

- **This alloy contains nickel and should not be used for individuals with known nickel Sensitivity.**
- **Please use alloy in accordance with the MSDS sheet supplied with the product.**