



VICRON S

NICKEL CHROMIUM - WHITE - BONDING ALLOY

**Nominal Composition: Ni=61.5%, Cr=24%, Mo=10.5%,
Others<2%=4.0%**

- Free from Beryllium & Gallium
- Superior polishing characteristics produce excellent lustre
- Ideal for all bonded crown & bridge work
- Good compatibility with most porcelains for metal to ceramic restorations

Properties:

MELTING RANGE	1260 - 1310°C
CASTING TEMPERATURE	1410°C
DENSITY	8.3 g/cm ³
HARDNESS	185 HV5 - After porcelain firing
MODULUS OF ELASTICITY	200 GPa - After porcelain firing
0.2%PROOF STRESS	290 MPa - After porcelain firing
ULTIMATE TENSILE STRENGTH	496 MPa - After porcelain firing
ELONGATION	52% - After porcelain firing
THERMAL EXPANSION COEFFICIENT	13.8 mm/°K (25-500°C)

Working Procedure:

INVESTMENT

Use a high temperature phosphate bonded carbon free investment. Heat the cylinder to 900°C. Maintain it at this temperature for 30 to 60 minutes according to the size of the cylinder.

MELTING & CASTING

Melt the alloy in a clean ceramic crucible. If melting by induction, cast as soon as the ingots start to sink. If melting by oxy-propane torch, adjust the flame to be neutral and non carbonising. Heat the ingots with a rotary motion of the flame and cast as soon as the melt begins to vibrate under the flame. Let the cylinder air cool to room temperature.

PREPARATION

Use aluminium oxide at 50/60 microns. Ultrasonically clean the parts for 5 to 10 minutes in distilled water.

DEGASSING AND OXIDATION

Heat the unit in the furnace at a temperature of 870°C. Create a vacuum and increase the temperature to 960°C. Break the vacuum, cool, then the surface will show a slight darkish oxide film to indicate that it is ready for porcelain.

PORCELAIN

For best results, adjust the porcelain furnace temperature rise to around 55°C/minute. For the first opaque layer fire to 40 - 50°C higher than normal (eggshell sheen) this creates an excellent bond between metal and porcelain. Then for subsequent layers fire to normal manufacturer's instructions.

PRE-SOLDERING

Charles Booth 1090°C White.

POST-SOLDERING

Charles Booth 750°C White. Not recommended as very difficult to achieve good joint without damaging porcelain

NOTE: This alloy contains nickel. For detailed information see the Health & Safety Data Sheet available from Charles Booth.

MANUFACTURED IN COMPLIANCE WITH BS EN ISO 9693:2000