Porcelain Bake-On Alloy

Net Weight 5 Troy Oz. (155.5 g)

Micro-Bond® NP2®

Dentsply

Vickers Hardness (after firing) ...........................................170
Fusion Range .................................................................2425-2525°F (1329-1385°C)
Casting Temperature ......................................................2775°F (1525°C)
0.2% Yield Strength ......................................................37,000 psi (255 MPa)
Ultimate Tensile Strength ...............................................64,000 psi (440 MPa)
Percent Elongation ..........................................................19%
Color .................................................................gray
Density .................................................................8.6 g/cm³
Average Coefficient of Thermal Expansion: ... (25-500°C) 14.2 x 10⁻⁶/°C [K]

Ni 67.4%, Cr 12.5%, Ga 7.3%, Mo 7.0%, Fe 5.0%, Si, Mn, Co < 1.0%

Be Free
Indications
Micro-Bond® NP2® is a nickel/chrome alloy and is indicated for ceramic veneered crowns and bridges.

Contraindications:
1. Micro-Bond NP2 Alloy is contraindicated for patients and users with a history of sensitivity to nickel, chromium, molybdenum, gallium, and iron.

Warnings:
1. Prolonged exposure to alloy dust and/or fumes may lead to lung irritation, and/or pulmonary complications. Use appropriate engineering controls to limit exposure. For excessive inhalation of dust or fumes, seek medical advice.
2. This alloy contains nickel and chromium. Some compounds of these elements are potential carcinogens. Advise your health care provider of exposure to these elements.
3. This alloy contains elements that are known to the State of California to be carcinogenic.

Precautions:
1. When melting, grinding, or polishing alloys, use adequate ventilation, vacuum systems, protective eyewear, and protective masks and clothing.
2. Removable prostheses made with this alloy should not be immersed in hypochlorite or chlorine containing cleansers as corrosion and pitting may result.

Adverse Reactions:
1. Exposure to alloy dust or fumes may cause eye irritation and/or respiratory complications.
2. Certain components of alloys are potential carcinogens. See Warnings.
3. Skin sensitivity to nickel may cause dermatitis.

STEP BY STEP INSTRUCTIONS

Wax-Up and Spruing:
Use a die spacer and wax copings to a minimum of 0.4mm. Indirect spruing for multiple units and direct for single units; use 10 gauge sprue for copings; 8 gauge sprues for bulky crowns and pontics. Sprues should be 6.5 to 9mm in length. Use 8 gauge runner bars.

Investment: Use a high heat investment such as Neoloy® Hi-Heat C & B Investment (ReOrder# N400054) and Neoloy® Hi-Heat C & B Liquid (ReOrder# N400069).

Burnout Instructions: Bench set molds for one hour. Place molds in a cold furnace and heat molds to 1500°F (816°C). Soak for one hour.

Torch Casting: Use a separate crucible for melting Micro-Bond NP2 Alloy. Use gas oxygen multi-orifice torch (oxygen pressure 5 psig, full gas pressure). Wind casting machine one more turn than used for gold alloys. Uniformly heat the alloy until it slumps.

Induction Casting: DO NOT USE CARBON LINER IN A CRUCIBLE. A preheated crucible will minimize the amount of metal left in the crucible after casting.

Machine Settings:
- Temperature: 2775°F (1525°C)
- Pyrometer position: Back (focused on the alloy)
- Acceleration reducer: 10:25
- Soak Timer: 5 seconds

Metal Preparation:
Grind all alloy surfaces, which are to receive porcelain, using aluminum oxide stones. Blast the surface using non-recycled 50 micron dental grade aluminum oxide. The framework should be steam cleaned or ultrasonically cleaned in distilled water. (DO NOT use soap, acids or solvents). Blot dry with a tissue.

Preoxidation:
Fire from 1700-2000°F (937-1093°C) in air.

Opaque Application:
Two thin layers of opaque are recommended instead of one thick layer. Apply, dry and fire the second layer using the same firing cycle as the first layer.

Porcelain Build-Up:
Apply and fire per manufacturer's instructions.

Soldering (Recommended Solders & Fluxes):
Pre-Soldering: . . . . . . . . . . . . . Use a gas-oxygen torch.
Pre-Solder: . . . . . . . . . . . . . ReOrder# 1402801, 4241514, 3921514
Pre-Solder for Non-Precious Alloys
Pre-Soldering Flux: . . . . . . . . . . . . . ReOrder# N200122,
Pre-Porcelain Soldering Flux - High Fusing
Post Solder: . . . . . . . . . . . . . ReOrder# 1881514,
.585 Fine Solder (Narrow Strip)
Post Soldering Flux: . . . . . . Fluoride/Borate type flux