



Screen printing **BrazeLet® Ni9P-9003**

Alloy Application BrazeLet BNi9

Naming	Ni612 according to ISO 17672 BNi-9 according to ANSI/AWS A5.8
Composition	B-Ni82CrB according to ISO 17672 and ANSI/AWS A5.8
Melting temperature	1,055 °C (1,930 °F)
Min. brazing temperature	1,100 °C (2,012 °F)
Impurities	According to ISO 17672 and ANSI/AWS A5.8

Paste Application Screen Printing

Metal content	90%
Powder size	<63 µm
Typical density	4.0 g/cm³
Flash point of solvent	>100 °C (212 °F)
Recommended drying	120-170 °C (250-340 °F)
Evaporation temperature of binder	Approx. 300-400 °C (570-750 °F)
Cleaning	Aliphatic solvents or Bio based solvents
Shelf life	18 months / 6 months in cartridge
Storage	Origin closed at 4-35 °C (39-95 °F)
Typical Viscosity, Brookfield T-spindle D with Helipath, Speed 2.5 rpm, 20 °C (70 °F)	300 Pas

The Ni-based brazing alloy **BrazeLet BNi9** provides high strength when brazing stainless steel material in vacuum or protective atmosphere. The brazing alloy is typically used for brazing nickel, super alloys and stainless steel components where high elevated temperature strength is important, e.g. jet engine components. The alloy also has good corrosion and high temperature oxidation resistance. **BrazeLet BNi9** is eutectic and contains boron as melting point depressant and can therefore be used at relatively low temperatures. The minimum recommended brazing temperature is 1,100 °C (2,012 °F), but the alloy is commonly brazed at somewhat higher temperatures.

As **BrazeLet BNi9** is sensitive to gap thickness, it is recommended that gaps do not exceed 50 µm. Wider gaps risk the formation of a crack-sensitive brittle center line.

The brazing paste **BrazeLet Ni9P-9003** is typically in use for printing thin paste layers of about 0.05-0.1 mm on flat plates, on top of structured plates or fins by use of screens or stencils. A typical application is the printing on parts for flat heat exchangers. The use of rubber squeegees is recommended. Reliable printing requires a precise positioning fixture combined with the use of vacuum table or clamping device. Typical printing speed is 300 mm/s. Thin printing lines should have a width of >0.3 mm, small dots diameter should be >1 mm. The solvent based brazing paste **BrazeLet Ni9P-9003** increases productivity wherever drying of the paste is an issue. The paste has no settlement and no stirring is required in the equipment. However, when opening a can from stock it is always recommended to stir the paste.

The printed parts can be dried with standard drying process (hot air) at 120-170°C. The drying time varies depending on thermal mass, design of the parts and the used furnace and needs to be established.