



Roller coating **BrazeLet® Ni613R-9003**

Alloy application BrazeLet Ni613

Naming	BrazeLet Ni613
Composition	B-Ni60CrPSi
Melting temperature	970-1,030 °C (1,788-1,886 °F)
Min. brazing temperature	1,090 °C (1,994 °F)
Impurities	According to ISO 17672 and ANSI/AWS A5.8

Paste application roller coating

Metal content	90%
Powder size	<63µm
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. 350-450 °C (660-840 °F)
Cleaning	Aliphatic solvents or bio based solvents
Shelf life	18 months / 6 months in cartridges
Storage	Origin closed at 4 to 30 °C (39 to 86 °F)
Typical Viscosity, Brookfield T-spindle C with Hellipath, Speed 2.5 rpm, 20 °C (70 °F)	100 Pas

BrazeLet Ni613, a nickel (Ni) based brazing alloy, features a best in class wetting behaviour on stainless steel material in vacuum or protective atmosphere. Its high level of alloyed chromium (Cr) results in a superior hot gas and acid corrosion resistance. The brazing alloy is best suited for brazing heat exchangers such as exhaust gas recirculation (EGR) cooler in automotive or tap water applications in home or industry.

Unlike the standardised nickel (Ni) based alloys, **BrazeLet Ni613** is able to fill gap sizes of <0.05 mm to 0.2 mm without brittle phase lines or cracks. The resulting micro hardness of the brazing area is less than half of a Ni650 brazing gap. This leads to a more reliable and safe brazing as well as more flexibility in part tolerances.

The brazing paste **BrazeLet Ni613R-9003** can be used for roller coating fins or structured plates, typically found in flat heat exchanger designs. Depending on type of roller used the paste can be applied with thin layers either on top or on the side of the fin tips. Gap size between the paste roll and the scraper of 0.08-0.12 mm is recommended. The amount of paste is controlled by weight and is a function of the fins or structured plate design. **BrazeLet Ni613R-9003** properties allow reliable application in a wide range of coating speeds, tested up to 20 m/min. The oil based paste ensures reliable coating over time without drying on the roll. **BrazeLet Ni613R-9003** has higher metal content and lower binder content compared to standard roller coating paste, which decreases packaging and transportation needs for the same amount of brazing filler metal.

The coated fins can be dried with standard drying process (hot air) at 120 °C-170 °C. Here, the drying time depends on thermal mass, parts design and the used furnace and thus needs to be established. When dried, the paste has excellent adhesion to the metal sheet.