



Screen printing **BrazeLet® F300P-9012**

Alloy application BrazeLet F300-20

Naming	BrazeLet F300-20
Composition	B-Fe42CrNiPCuSi
Melting temperature	1,025-1,060 °C (1,877-1,940 °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	<106 µm
Typical density	4 g/cm³
Flash point of solvent	>100 °C (212 °F)
Recommended drying	120-170 °C (248-338 °F)
Evaporation temperature of binder	Approx. 350-450 °C (662-842 °F)
Cleaning	Aliphatic solvents or Bio based solvents
Shelf life	18 months / 6 months in cartridges
Storage	Origin closed at 4-30 °C (39-86 °F)
Typical Viscosity, Brookfield T-spindle D with Hellipath, Speed 2.5 rpm, 20 °C (70 °F)	300 Pas

BrazeLet F300-20, a stainless 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 of heat exchangers, stainless oil coolers for commercial vehicles, exhaust gas recirculation (EGR) coolers in automotive or tap water applications in household or industry.

Unlike the standardised nickel (Ni) based alloys, **BrazeLet F300-20** 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 F300P-9012** is typical in use for printing thick paste layers of about 0.2 to 0.6 mm on flat parts or on top of structured parts by use of screens or stencils. A typical application is printing of paste on hole plates of tube bundled heat exchangers. The use of rubber squeegees is recommended. Reliable printing requires precise positioning fixture tool by use of vacuum table or clamping device. Typical printing speed is 100 mm/s. Thin printing lines should at least have a width twice the printing thickness and the small dots diameter should be three times the printing thickness or greater. Printing accuracy is very precise as the paste maintains its shape during drying.

The solvent based **BrazeLet F300P-9012** increases productivity wherever drying of the paste is an issue. The paste has no settlement and no stirring is needed 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. Here, the drying time needs to be established as it varies depending on thermal mass, parts design and the used furnace. After drying, the paste has excellent adhesion to the metal sheet.