Alloy Application BrazeLet Ni613

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 Ni-based alloy, 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.

The brazing paste BrazeLet Ni613P-9011 is typically used for printing thick paste layers of about 0.2 to 0.6 mm on flat parts or on top of structured parts by using 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 Ni613P-9011 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. The drying time needs to be established as it varies depending on thermal mass, parts design and the used furnace.