Heraeus

Technical Datasheet

F 10 Serie No-Clean Lotpaste

No-Clean solder paste with with excellent wetting

1. Description

F 10 Series solder paste is a ready to use homogenous mixture, consisting of fully alloyed metal powders, binders, solvents and thixotropic agents for surface mount assembly applications. This paste provides excellent wetting. F 10 series is available for every application. It can be reflowed in air or nitrogen and feature an ultra low odor level. The printing capabilities of these pastes are unsurpassed. The residues may be left on the board.

Key benefits:

- Exceptional print to print consistency
- Excellent wetting
- Low odor
- 8 hour tack and work life
- Passes IPC requirements for class 3 no clean pastes per IPC-SF-818

2. Product indication

Indication:	F10Sn62-90M3
Alloy:	Sn62/Pb36/Ag2

3. Physical Properties

Metal powder:

Particle size:	Type 3 = 25 – 45 µm (325/+500 mesh)	
Shape:	Spherical	
Melting point:	Sn62/Pb36/Ag2	=179℃
Composition:	Sn62/Pb36/Ag2	= F10Sn62-90M3
Density:	Sn62/Pb36/Ag2	= 8,4 g/ml

Solder paste:

Metal content:	90%
Viscosity range:	M= 600-800 Kcps Brookfield RVT, TF spindle, 5 rpm at 25℃
Density:	N/a

4. Performance properties

Stencil Thickness	≤ 200 µm (≤ 8 mil), typically 150 µm (6 mil)
Min. Pitch:	16 mil = 400 µm
Min.width of:	8 mil = 200 µm
Print speed:	30-50 mm/s
Print after wait:	min. 30 minutes
Slump:	Per J-STD-005 10 min @ 25℃ 10 min @ 150℃ No bridging at 0,075 mm spacing.

Solder Balling:	Per J-STD-005 Preferred (no solder balls)

5. Residue Properties:

Flux activity:	According to IPC-SF-818	Class L
	DIN EN 29454-1	1.2.2.C
SIR:	40℃ / 93% r.H. / 5V, 500 h	Pass
	≥ 1,00E + 8 Ohm	
Copper Mirror:	Per IPC-SF-818	Pass
Silver Chromat test paper:	Per IPC-SF-818	Pass

6. Recommended Processing Guidelines:

- The flux residues may remain on the circuit. They do not need to be cleaned.
- If the printing interval exceeds 1 hour, remove the paste from the stencil.
- Ensure that the paste has reached room temperature before opening, to prevent condensation
- The printed solder paste remains tacky up to 8 h, to allow device insertion. The exact time depends on the environmental conditions, components size and form, and on the accelerations/decelerations in the line.
- If the printed circuit boards will be stored for more than 6 hours after populating and prior to reflow, it is advisable to store the boards in a tightly closed area. This is especially important if the humidity exceeds 65%. Humidity should ideally be controlled between 45-65%..
- For optimum results, the paste should be reflowed at a peak temperature of 30-50 above the liquidous temperature of the alloy. Time above liquidous should be maintained for 30-60 seconds

7. Storage

- Store the solder paste in tightly-sealed jars / syringes and avoid exposure to sunlight and high humidity.

In Jars:

- Min. 6 month in a refrigerator at 2-10℃.

In cartridges and cassettes:

- Min. 3 month in a refrigerator at 2-10℃
- Store syringes vertically, tip down!

Ra 091008

The descriptions and engineering data shown here have been compiled by Heraeus using commonly-accepted procedures, in conjunction with modern testing equipment, and have been compiled as according to the latest factual knowledge in our possession. The information was up-to date on the date this document was printed (latest versions can always be supplied upon request). Although the data is considered accurate, we cannot guarantee accuracy, the results obtained from its use, or any patent infringement resulting from its use (unless this is contractually and explicitly agreed in writing, in advance). The data is supplied on the condition that the user shall conduct tests to determine materials suitability for a particular application.

Production Locations **Europe**	**America**	**Asia**
W. C. Heraeus GmbH Contact Materials Division Hanau, Germany Phone: +49 6181 35 5265 cmdinfo@heraeus.com	Heraeus Incorporated Contact Materials Division West Conshohocken, PA, USA Phone: +1 610 825 6050 customerservice.hcd@heraeus.com	Heraeus Ltd. Contact Materials Division On Lok Tsuen, Fanling, Hong Kong Phone: +852 2675 1200 cm.hlh@heraeus.com
W. C. Heraeus GmbH Contact Materials Division Potsdam, Germany Phone: +49 331 74616 00 juergen.schulze@heraeus.com	**www.heraeus-cmd.com**	Heraeus Materials Technology Shanghai Contact Materials Division Shanghai, P.R.C. Phone: +86 21 3357 5688 hmts@heraeus.com