

Technical Data Sheet

F 381 Series No-Clean Solder Pastes

For Difficult to Solder Surfaces, with Low Odour Characteristics

1. Description

The F 381 series of solder pastes comprise a ready-to-use homogeneous mixture with low odour characteristics, consisting of metal powder, binders, solvents, fluxes and thixotropic agents. Equipped with a covalently-bonded halogen flux chemistry, the pastes confer outstanding wetting that is ideal for applications requiring difficult-to-solder surfaces. The robustness of the pastes allows for high product yield even when dealing with pads and components that have batch to batch variations in solderability.

The F 381 series of solder pastes displays low sensitivity to high temperature and humidity during printing. Consequently, the pastes have very long stencil life and can be used in printers with TCU (Temperature Control Unit – very strong ventilation). Their rheology is optimised to allow for excellent printing performance with narrow openings and an excellent first print after a long pause. They have very high green strengths and are suitable for machines with fast accelerations/decelerations.

Key Benefits

- Excellent printing performance
- Low sensitivity to high temperature and humidity during printing
- Very high green strength
- Excellent wetting
- Non-corrosive residues
- High SIR values

2. Product indication

Indication: F381Sn62-90.5M30

Alloy: Sn62/Pb36/Ag2

3. Physical properties:

Metal powder:

Particle size: F381Sn62-90.5M30 = Type 3 = 25 – 45 µm (325/+500 mesh)

Shape: Spherical

Melting Point: Sn62/Pb36/Ag2 = 179°C

Composition: Sn62/Pb36/Ag2 = F381Sn62-90.5M30

Density: Sn62/Pb36/Ag2 = 8,4 g/ml

Solder Paste:

Metal Content: F381Sn62-90.5M30 = 90% ± 0,5%

4. Performance Parameters

Stencil thickness: ≤ 150 µm (≤ 6mil) particles 25-45µm

Minimum Pitch: 16 mil = 400 µm (particles 25-45 µm)

Minimum width of stencil apertures: 8 mil = 200 µm (particles 25-45µm)

5. Reflow Parameters (recommendation)

- Reflow can be done under air or an inert atmosphere.

6. Residue properties

Flux Activity:	DIN EN 29454-1	1.1.2.
SIR:	n/a	
Silver Chromate Test Paper:	n/a	

7. Recommended Processing Guidelines

- The flux residues do not need to be cleaned. They may remain on the circuit. If desired, the residues can be washed with diverse Zestron and Vigon cleaning materials.
- Ensure that the paste has reached room temperature before opening, to prevent condensation.
- Stir well prior to use.
- The printed solder paste remains tacky up to 24 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.
- The peak temperature depends on the heat capacity of the components.

8. Storage

- Store the solder paste in tightly-sealed jars / syringes and avoid exposure to sunlight and high humidity.
- In Jars:
 - Max. 6 month in a refrigerator at 2-10°C
 - In cartridges and cassettes:
 - Min. 3 month in a refrigerator at 2-10°C
 - Store syringes vertically, tip down!

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