



# ORION "410"

**ORION™ 410** no-clean solder paste is carefully formulated to confer high activity soldering and yet, leaves very low clear, benign residues.

- Halide-free.
- Acid value (medium) 112 mgKOH/g
- High activity.
- Low and safe residue.
- Fast print capabilities (up to 150mm/s). Best results: 80 to 120 mm/s
- Lead-Free option available.
- Long abandon time (>12 hours).
- Extended tack-life (>96 hours).
- Long stencil-life (>16 hours).
- Fine-pitch (400µm) and ultra-fine pitch (<300µm) capabilities.

**ORION™ 410** no-clean solder paste is made to strict quality assurance standards.

Alloys	Metal content (%)	Viscosity (cP)
Sn63Pb37	89.5	700,000 – 800,000
Sn62PbAg2	89.5	700,000 – 800,000
Sn95.5Ag3.8Cu0.7	88.5	700,000 – 800,000
+ Others	On request	

## Printing

### Stencil

Stainless steel, brass or nickel. Chemical etched, laser cut or electroformed.

### Squeegee

Stainless steel or 80-100 durometer polyurethane.

### Print speed

50-150 mm/s. Best results: 80 to 120 mm/s  
Generally slower for fine pitch.

### Squeegee pressure

5-10 Kg. Generally higher for fine pitch.

### Snap-off

0 to 0.25mm. On contact printing is preferred.

### Ambient Conditions

18 - 25°C and 35% to 70% RH. Minimise exposure of solder paste to direct air flow.

### Cleaning of Stencils and Tools

Most stencil wipes and stencil cleaners. Contact MBO for details.

## Reflow

### Heating Methods

Hot air convection, infrared, vapour phase, hot plate, hot bar, laser and others. Aerobic or inerted.

### Heating Profile

See suggested reflow profile for specific alloy.

### Cleaning Equipment

Spray, immersion, vapour degreaser or scrubber, if required.

### Cleaning solvents

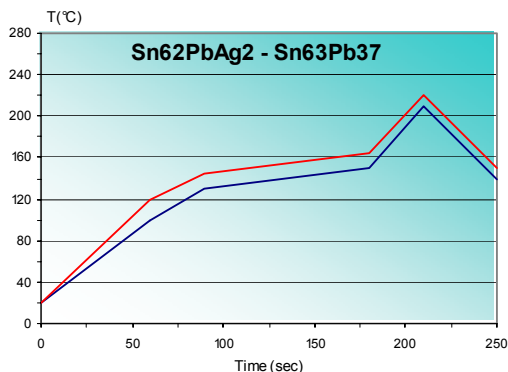
Most stencil cleaners and saponifiers.

### Temperature

35-60°C.

### Spray Pressure

20 to 40 psi.



## Packaging

250g or 500g jars. 500g or 1000g cartridges. 800g Proflow®. Others on request.

## Storage

In original container between 5 and 10°C for up to 12 months. Wait until the pot has reached ambient temperature before opening to avoid water condensation on the surface of the paste. Once opened, do not return to the fridge. Product should be stored at ambient conditions and used within one week.

**ORION "410"****Product Range**

**MBO ORION™410** solder paste is available in most alloys specified in NFC90550, J-STD-006 , EN29453, from low to high temperature melt range : 98° up to 315°C.

**Standard Alloys**

Alloy	Sn62Pb36Ag2	Sn63Pb37	Sn95.5Ag3.8Cu0.7
Granulometry*	25-45 µm	25-45 µm	25-45 µm
Application	Fine-pitch (400µm)	Fine-pitch (400µm)	Fine-pitch (400µm)
Liquidus	179°C	183°C	217°C
Metal content	89.5 %	89.5 %	88.5 %
Viscosity	700 – 800 Pa.s	700 – 800 Pa.s	700 – 800 Pa.s
Shelf-life	12 months	12 months	12 months
Stencil life	16 hours	16 hours	16 hours
Optimum printing speeds	80 to 120 mm/s	80 to 120 mm/s	80 to 120 mm/s
Tack-life	> 96 hours	> 96 hours	> 96 hours
Slump resistance	> 20mn at 80°C	> 20mn at 80°C	> 20mn at 80°C
*Also available in Types 4 and 5 (15-25µm) for Ultrafine-Pitch applications (< 300 µm)			

**Reliability**

**MBO ORION™410** solder paste meets international standards for the Electronics Industry.

Test	ORION™410	Specification
Corrosion	Pass	NFC 90550 J-STD-004 DIN EN 29454
Copper Mirror	Pass	J-STD-004 Bellcore TR-NWT-000078
SIR	Pass	J-STD-004 Bellcore TR-NWT-000078 DIN EN 29454
Electromigration	Pass	Bellcore TR-NWT-000078
Ionic Contamination	1 µg/cm <sup>2</sup>	MIL-P-28809 DEF STD 00-10/3
Classification	ROLO LR3CN	J-STD-004 IPC-SF-818

**Health and Safety**

Ingredients	CAS Number	OSHA PEL mg/m <sup>3</sup>	ACGIH TLV TWA mg/m <sup>3</sup>
Lead	7439-92.1	0.05	0.15
Modified Rosin	*	NA	NA

\* The CAS number depends on the exact type of rosin used. Modified rosins are classified as sensitizers.

**Type of Hazards:**

R42 Could cause irritation to eyes and respiratory system.  
R43 Could cause skin irritation.

**Precautionary Measures:**

S23 Do not inhale fumes given off during soldering  
S24/S25 Avoid contact to skin and eyes.

**First Aid:**

**Contact with skin:** wash immediately with plenty of water.  
**Contact with eyes:** wash immediately with plenty of water for at least 15minutes and seek medical attention.  
**Fumes:** if inhaled, take subject to fresh air.  
**Ingestion:** do not induce vomiting, drink plenty of fresh water seek medical attention.

**Regulated Information:**

Dangerous substances : D 67-548 CEE et D 93-21 CEE.