

# Fine-pitch printing Pb-free solder paste for automotive CLR®



CLR is a solder paste with excellent printability for type4 powder system. It enables to print on thick metal masks and small apertures with high transfer efficiency.

## ■ Solder paste classification

Solder composition	SnPb	SAC305	High durable	Low melting point
Powder size	Type4 (20 – 38μm)	Type5 (15 – 25μm)	Type6 (5-15μm)	Type7 (2-11μm)
IPC-Flux type	L0	L1	M0	M1
Reflow condition	Air	Nitrogen		

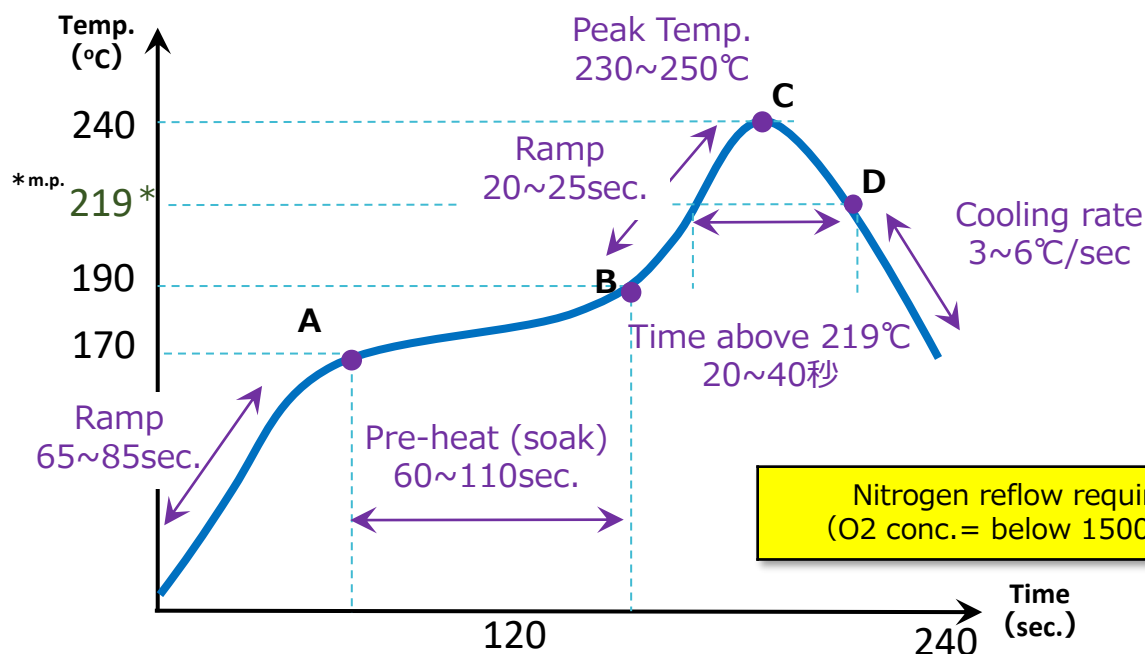
## ■ Features

- Our original synthetic resin achieves good transfer efficiency and print shape(0.4mm pitch QFP, 0.5mm pitch BGA(t=150μm))
- Support high-speed printing (~100mm/sec)
- Excellent prevention for cracks of flux residue (-40°C⇔125°C、2000cycles).

## ■ Properties (representative value)

		Property (Representative value)	Note
Product name		CLR	–
Alloy composition		Sn-3.0Ag-0.5Cu	–
Powder size		20-38μm(Type4)	IPC J-STD-005A
Solidus temp.		217°C	JIS Z 3198-1
Liquidus temp.		219°C	
Halide content		0.15%	–
Flux content		11.5%	–
Copper corrosion		No corrosion	JIS Z 3197 40°C×90% 72h 85°C×85% 1,000h Apply:50V Measure : 100V
Surface insulation resistance		> 1×10 <sup>9</sup> Ω	
Migration		No migration	
Dryness		No tackiness (Flux residue)	
Viscosity property	Viscosity	220Pa·s	JIS Z 3284-3
	Thixotropic index	0.48	
Slump in printing		<0.2mm gaps	
Slump in heatin		<0.3mm gaps	
Tackiness		> 1.0N(0~24h)	
Flux efficacy / De-wetting		Class2 / No de-wetting	
Solder Ball		Class2(0、24h)	JIS Z 3284-4
Shelf life		6 months	Storage(0~10°C)

## Recommended reflow profile



## Precautions for handling

### (1) Storage conditions

- 1) Store between 0 and 10°C.
- 2) Avoid exposing to direct sunlight.
- 3) Confirm the lid is closed firmly before storage.

### (2) Cautions for handling

- 1) Avoid the handling of solder paste other than operator.
- 2) Wear appropriate gloves and glasses to use solder paste.
- 3) Wipe off solder paste with ethanol when it adheres to your skin.
- 4) Wash hands well after handling solder paste.
- 5) Set up a ventilation system at the handling place.

### (3) Usage Instructions

- 1) Do not open the container until solder paste reaches to room temperature.
  - \* Solder paste quality will be deteriorated due to water condensation if you open the lid before getting to room temperature.
  - \* Avoid rapid heating, such as using heater.
- 2) Stir solder paste well before using.
- 3) Do not use solder paste with any other kind of solder paste or solvent.
- 4) Avoid using used solder paste mixed with fresh solder paste.
- 5) Recommended conditions for usage: temperature 22 to 28 °C and humidity 50% RH.