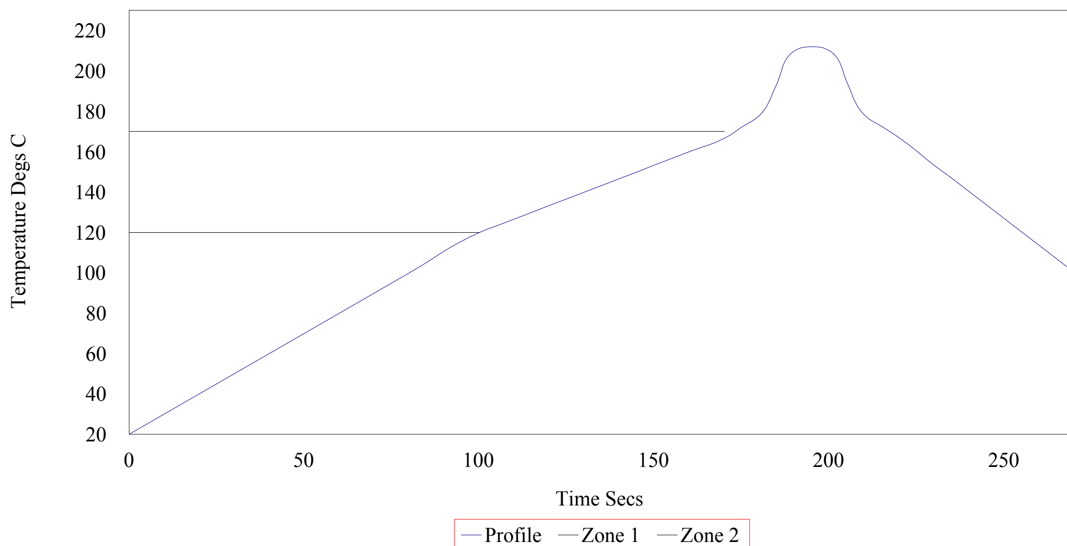
Process recommendations
Almit Solder Cream Type:
SRC Sn62/63 HM1-RMA V14(L) &V16(L)

ALMIT SOLDER CREAM

Schematic Re-Flow Design Parameters



20 Dec C Ambient

1. Evaporating zone:

	Thermal Gradient	1.0 Degs C/sec * (Average)
	Heating temp to	120 Degs C (100 Degs rise)
	Time in zone	100 sec
	Ambient	20 Degs C

* Fluidity of flux. Solder balls and Bridging can be reduced if the solvents in the flux are fully removed by slow heating. We recommend as slow a heating speed as possible during the initial phase.

2. Pre-heating zone:

	Thermal Gradient	0.67 Degs C/sec
	Heating temp to	170 Degs C (50 Degs rise)
	Time in zone	50 - 75 sec

Note. When a board is pre-heated to approx. 170 Degs C Solder Powder, Pads and Components are all oxidised and the solderability is reduced. As the activity in any RMA solder cream is limited by its RMA classification, it is important to shorten the preheating duration and temperature rise to as low a value as possible. (Consistent with component Thermal Shock etc.) This reduces oxidation to a minimum and maintains component Thermal Shock to an acceptable figure. Usually 1.5 Degs /Sec. Max. **A factor often overlooked is the Thermal Shock during cooling which can also cause joint and component failure if too rapid.**

3. Reflow zone:	Thermal Gradient	1.2 Degs C/sec (Average)
	Peak reflow temp	215 Degs C nominal
	Approx. time to Reflow	225 Secs from entering oven.

4. Time over 200 Degs C 30-45 sec

It should be noted that these figures are guidelines ONLY and each board should be profiled according to its Density, Size & Thermal Mass etc. Almit should be consulted as required.

Almit V14 soldering process window

Almit solder cream has a wide process window and therefore suits all reflow ovens.
All you need to observe is the slow heating speed in the initial phase.
Try to adjust your oven according to the chart **nominal** in Appendix I as closely as possible. The Max & Min lines show an area where the Solder Cream will continue to function, this may not suit your board or process requirements.

STORAGE:

Almit RMA solder cream must be kept cool. Temperature 5 - 10 Degs C.
Cream should be used by VAL date. (Validation date) See freezing notes.
Unopened jars can be stored at room temperature for a maximum of 10 days.
Opened and resealed jar with the inner lid must be used in within one week to get maximum wetting and minimal slumping performance.

PRIOR TO USE:

Cream must be at room temperature approx. 20 Degs C .
(this takes about 4-6 hours after taken out from refrigerator)
Before use the cream must be gently stirred for about 30 secs to be in right condition for high quality fine pitch printing.

SOLDER CREAM MIXER:

* Venso Elektronik AB has in co-operation with Nihon Almit developed a solder cream mixer for the larger Almit Solder Cream containers. The mixer accepts 500g jars, 700g and 1500g cartridges.

  Use of a Almit Venso mixer enables Solder Cream to be fully ready for production only 20 minutes after removal from the refrigerator.

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SCREEN PRINTER:

Initial “ Starter “ settings for most printers:

- Stencil about 0.006” thick, 10% (up to 25%) reduced aperture area, preferably “Nickel - additive” or with conic
- openings. (Tapered)

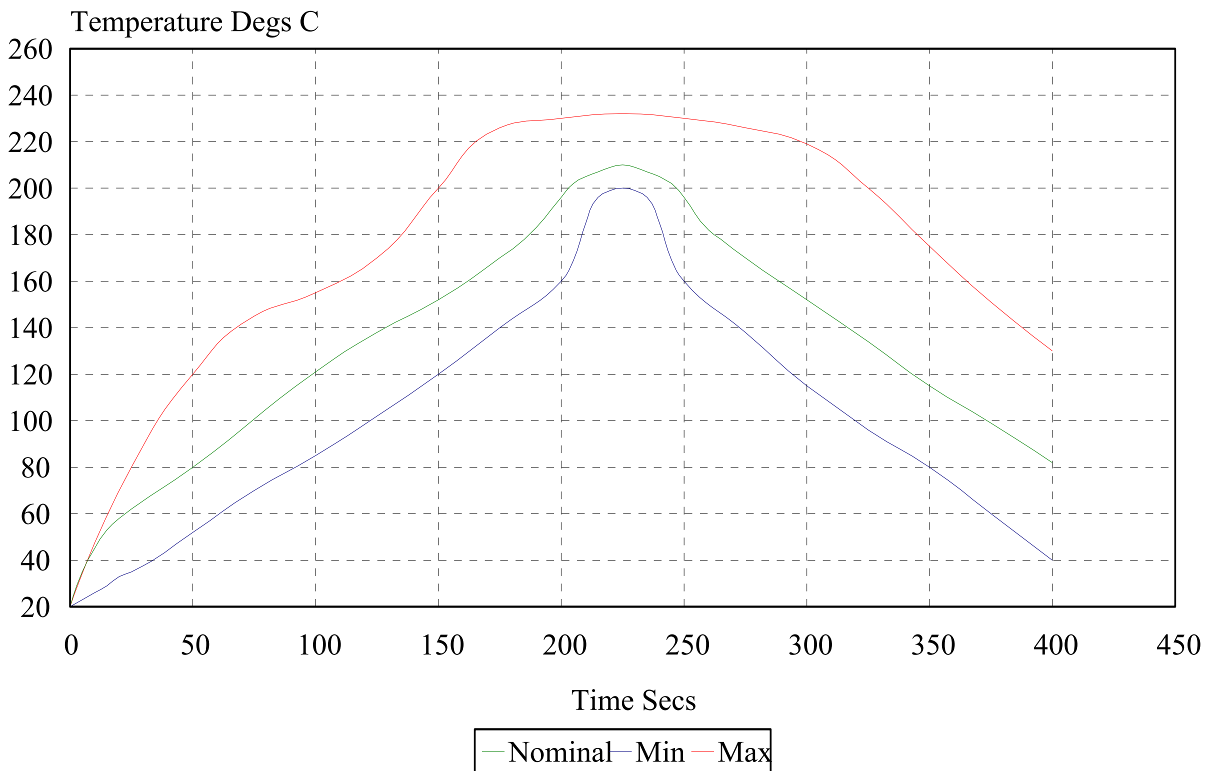
- Stainless steel or hard rubber (90 Shore) squeegees, angle 45-65 degrees.
- Printing speed about 25- 60 mm/sec. Above 60 mm/sec is best for V14L&V16(L)
- Environment in printer: Temp 23-27 Degs C, 40-60% humidity. Draft free if possible.

Appendix I

END

ALMIT SOLDER CREAM

Re-Flow Process Parameters



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