



ALPHA® Lumet™ P34 – dispense solder paste

ZERO HALOGEN¹, LEAD-FREE SOLDER PASTE

DESCRIPTION

ALPHA® Lumet™ P34 is a lead-free, no-clean solder paste designed for a broad range of applications. ALPHA's Lumet™ P34 is engineered to deliver

- Outstanding reflow process window delivers superior soldering on CuOSP with excellent coalescence on a broad range of deposit sizes
- Excellent random solder ball resistance
- Excellent performance with Automatic, Semi-automatic and Manual dispensing equipment
- ALPHA® Lumet™ P34 is formulated to deliver excellent visual joint cosmetics and best in class in circuit pin test yields.
- Additionally, ALPHA® Lumet™ P34's capability of IPC Class III for voiding and ROL0 IPC classifications ensures maximum long-term product reliability.

¹Zero halogen is defined as no halogen is intentionally added to the formulation

FEATURES & BENEFITS

- Excellent solder and flux cosmetics after reflow soldering
- Best in class in circuit pin test yield
- Reduction in random solderballing levels, minimizing rework and increasing first time yield
- Meets highest IPC 7095 voiding performance classification of Class III.
- Excellent reliability properties
- Halide-free material
- Compatible with either nitrogen or air reflow
- Zero halogen (No halogen intentionally added to the formulation)

PRODUCT INFORMATION

<u>Alloys:</u>	SAC305 (96.5%Sn/3.0%Ag/0.5%Cu)
<u>Powder Size:</u>	Type 4 (20-38µm per IPC J-STD-005)
<u>Packaging:</u>	10 and 30 cc syringes
<u>Metal Load</u> <u>and Viscosity:</u>	84-4-M06

STORAGE and HANDLING

ALPHA® Lumet™ P34 solder paste in dispense syringes should be stored in a refrigerator upon receipt at 0-10°C (32-50°F). A typical syringe is found in Figure 1 below.

The shelf life of the refrigerated solder paste is 6 months from the date of manufacture.

ALPHA® Lumet™ P34 solder paste in dispense syringes should be permitted to reach room temperature (typically two hours) before unsealing tip and end closures. Paste must be ≥19°C (66°F) before processing.

ALPHA® Lumet™ P34 solder paste can be stored for two weeks up to 25°C (77°F) prior to use. The solder paste should be used within this two week window.

Best practice is to dispose of needles after 24 hours of use and replace with a new needle. A typical needle is found in Figure 2 below. An alternative method of ensuring the quality of the solder paste that will be dispensed is to purge the needle of any paste after 24 hours of the syringe sitting idle without use. If the needle is removed from the syringe, the original tip cap (see Figure 1) should be placed on the syringe to ensure there is no paste drying.





Refer to Table 1 below for estimates on the amount of paste that may be in the syringe needle. Needles that are compliant with Leur Lock connections should be used.

Table 1:

Estimates of Volume of Solder Pastes with Common Needle Gauges				
Needle Gauge	Inner Diameter (cm)	Length (cm)	Paste Volume in Needle (cc)	Grams of Solder paste
21	0.0584	1.27	0.003	0.014
21	0.0584	2.54	0.007	0.028
25	0.0305	1.27	0.001	0.004
25	0.0305	2.54	0.002	0.008

Any dry paste that accumulates at the tip of the needle during use should be removed with a dry, lint free cloth.

Care should be taken so that syringes are not stored near a heat source. This may cause the solder paste to increase above room temperature and will shorten the room temperature shelf life of the paste.

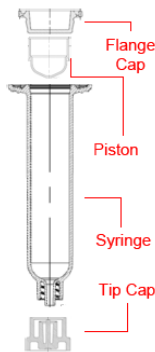


Figure 1: Typical syringe*



Figure 2: Typical needle*
"A" = length of the needle

*NOTE: Images not to scale

SAFETY

While the ALPHA® Lumet™ P34 flux system is not considered toxic, its use in typical reflow will generate a small amount of reaction and decomposition vapors. These vapors should be adequately exhausted from the work area. Consult the most recent MSDS (available at www.alpha.cooksonelectronics.com) for additional safety information.