DKL METALS LTD

Foremost UK producer of lead-free solders and tin-lead alloys for European industry.

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TECHNICAL DATA SHEET

Revision 1.1 Revision Date: 29/08/2024

DKP8

No Clean Solder Paste

Description

DKP8 is a halogen free, no clean solder paste formulated to offer excellent soldering of leaded alloys, and is designed for use with a variety of substrate materials including Sn/Pb, Au/Ni and OSP treated finishes. DKP8 offers print speeds ranging from 20 to 300mm per second, with a Pin Testable formulation available, allowing easy penetration of test probes through the post soldering residues. DKP8 is suitable for use with air and nitrogen reflow systems.

Benefits

- Fast print: 20-300mm/sec
- No clean: ROL0 (J-STD-004)
- Slump free / No solder balling
- Suitable for air / nitrogen
- Halogen free
- Printer friendly: consistent printing
- Excellent soldering / 72 hour tack life

Cleaning

Residues can be easily removed using DKL's range of cleaners.

Storage Conditions

DKP8 can be stored at room temperature, however storage in a refrigerator between 0°C and 10°C will prolong life.

Shelf Life

When refrigerated and stored at < 10°C, DKP8 has a shelf life of 12 months for unopened cartridges and tubs, and 6 months for unopened syringes.

Availability

DKP8 is manufactured in the UK.

Alloy	Breakdown	Metals	Particle Size	Packaging
62S	Sn62Pb36Ag2	90.0%	25-45 µm (T3)	1000 g, 500 g Cartridges, 500 g, 250 g Tubs
63/37	Sn63Pb37	90.0%	25-45 µm (T3)	1000 g, 500 g Cartridges, 500 g, 250 g Tubs

Other alloys, metal percentages, and stock units available. Contact sales for more information.

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Slump Free - Eliminates Solder Balling

DKP8 eliminates solder balling and mid-chip balling. One of the main difficulties with conventional gel systems is temperature instability or de-structuring of the gel matrix, this is evident not only in manufacturing of solder paste but during the reflowing of assemblies. If the gel matrix de-structures before sufficient solvent is volatilized, a washing effect takes place displacing solder particles between component legs or Mid-Chip.

Even though activator performance or solderability issues can magnify this phenomenon gel instability can be clearly demonstrated when high boiling point solvents are used to improve tack and stencil life.

The synthetic gel system adopted by DKP8 offers stability at least 60°C higher than conventional gel.

Profile Friendly

By carefully monitoring activator performance at different profile temperatures, we have succeeded, not only in making DKP8 profile friendly for conventional alloys such as 62S. With careful manipulation, the same activator package can provide excellent activation at lower temperatures and can offer sustained activity for higher or longer temperature profiles. This profile friendly approach allows the engineer to set the profile optimally for the process and defect minimization and not the solder paste.

VOC Free Printing Operations

Advancement in solvent package technology means that during the printing and placement process DKP8 is rated as VOC free in accordance to the European Solvent Directive, by which a VOC is defined by vapor pressure. This definition defines a VOC as having a vapor pressure of >0.1mbar. This definition applies to all industry sectors and is aimed at minimizing emissions of VOC's.

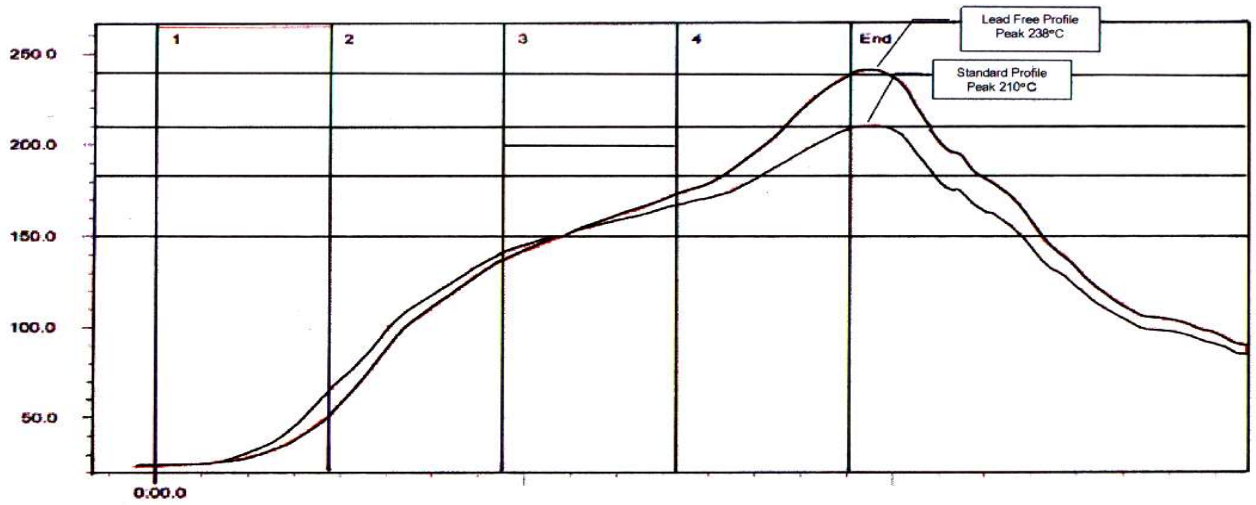
Cleanable after Reflow?

Yes, cleaning agents can readily remove the residues of DKP8. We offer cleaners which can easily remove all residues without leaving white staining or crystals normally associated with traditional rosin-based pastes, recommended conditions can vary from 25-60°C for 2-5 minutes.

Printing

Ensure the paste is at room temperature before opening. For tubs, stir and apply sufficient paste to the stencil to allow for an even roll whilst printing. DKP8 is suitable for printing speeds between 20-300 mm/sec.

Reflow



A typical profile showing good soldering performance of DKP8 standard (Sn62) and lead free (TSC) variants.