HARIMA CHEMICALS GROUP

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GC 50

solder paste

SCAN FOR MORE

HARIMA MULTICORE GC 50

TEMPERATURE STABLE, JET-PRINT SOLDER PASTE

The continuing miniaturisation of electronics in the consumer, medical and automotive markets present challenges for electronics assembly. While many components have become smaller within higher density assemblies they often need to be integrated amongst larger devices. This reality pushes the limits of the stencil printing process. Facilitating both small and large volumes of solder paste, solder jet printing technology has been developed providing the ability to deposit a customised volume of solder paste for each component, thereby overcoming the limitations of single thickness stencils.

HARIMA MULTICORE GC 50 has been developed as a temperature stable solution for jet printing applications where the customer is using a Mycronic MY600 or MY700 jet printer system. The GC 50 is capable of jetting 400 µm deposits for components such as 0201's and 0.4 mm CSP's with statistical repeatability greater than Six Sigma Cpk performance.

JET PRINT

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GC 50 BENEFITS AND ATTRIBUTES

The temperature stability of GC 50 provides cost savings throughout the logistics chain with the material not requiring cold shipping or storage.

As the GC 50 is temperature stable it can be stored on the bench allowing for immediate start up, unlike all other jettable solder paste materials in the market which require a period to warm to room temperature before use. Therefore, the use of GC 50 improves both the process and output efficiency.

Another benefit of GC 50 is it may be stored in the ejector head either beside or in the jetter for up to 2 weeks without decline in performance thus improving paste utilisation, unlike all other materials which require returning to refrigeration overnight.

This no-clean solder paste delivers exceptional performance with consistent stable paste transfer efficiency, a wide reflow process window in air, greater than 95% on-line paste utilisation and a significant reduction in solder related defects. These advantages combine resulting in higher yields and cost effective PCB assembly.

GC 50 PROPERTIES

ATTRIBUTE		CURRENT MARKET	GC 50	BENEFIT
STABILITY	Life in Ejector head at 28 °C	< 1 day paused	< 1 week paused	Competitor materials can stiffen within the ejector causing blockage of the aperture. GC 50 remains mobile therefore reducing scrap and costs
		< 1 day in use	> 2 weeks in use	
	Shelf life at 5 °C	6 months	12 months	GC 50's inbuilt stability at elevated temperature increases process robustness
	Shelf life at 25 °C	1 week	12 months	
	Shelf life at 40 °C	Not applicable	1 month	
JETTING	Smallest component	0201	0201	GC 50 achieves a Cpk above 5. These high Cpk values for GC 50 on small dot dispensing allow for high reliability processes
	400 µm dot diameter at 28 °C	Not achievable after 1 week	Achievable for up to 2 weeks	
REFLOW	Short linear profile	May be suitable for air reflow	Achieved in both air and nitrogen	GC 50 has excellent reflow performance in air and nitrogen, resolving issues like de-wetting, graping and coalescence. It can also be used in vapour phase reflow systems.
	Long hot profile	Reflow in nitrogen only		
DEFECTS	Voiding	Low to moderate	Low	GC 50 outperforms even halide containing competitor materials
	Head-in-pillow (HiP)	Low to moderate	Low	GC 50 has been formulated to minimize oxidation, yielding excellent reflow performance in air, nitrogen and vapour phase and eliminating defects.
FLUX	IPC-J-STD-004B	ROL0/ROL1	ROL0	GC 50 contains zero halogen, resulting in high reliability
	Tackiness	Acceptable	Minimum 48 hours	Excellent tack of GC 50 improves production process
	Cleanability	Challenging	Acceptable	GC 50 is easy to clean
	Coating	Acceptable	Easy	GC 50 is suitable for conformal coating without need to remove residues
	Paste compatibility	Challenging	Easy	GC 50 is readily compatible over a wide range of solder pastes

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