Kester® NP505-HR

High-Reliability, Zero-Halogen, Lead-Free, No-Clean Solder Paste

A Paste for High Reliability Applications

Kester NP505-HR Solder Paste is a high reliability, zero-halogen, lead-free, no-clean solder paste. NP505-HR is specifically designed for challenging applications such as automotive and aerospace where superior SIR performance is required. NP505-HR provides very reliable post-reflow residues and passes the most challenging industry SIR conditions. NP505-HR is available in both SAC305 and the leading high performance Innolot alloy.

Key Features

- Zero-Halogen*
- Reliable post reflow residues passing even the harshest SIR testing
- Reflowable in both air and nitrogen
- Consistent print performance to 0.55AR (SAC305) and 0.57AR (Innolot)
- Low QFN/BGA voiding
- Excellent solderability across wide variety of profiles
- Compatible with most conformal coating materials
- Stable paste properties: 12-month shelf life for SAC305 and 6-month shelf life for Innolot

*Zero-halogen is defined as no halogen intentionally added to the formulation.

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PERFORMANCE SUMMARY

PROCESS	PERFORMANCE ATTRIBUTE	NP505-HR WITH INNOLOT CAPABILITY
Printing	Print Definition	Consistent fine feature print volumes, reaching area ratio of 0.57 with standard print set-up. Able to reduce AR with advanced printing technology
	Print Durability (Stencil Life)	No significant paste degradation after 6 hours of printing
	Print Relax & Recovery	2 hours relax/recovery remains consistent across full range of viscosity
	Print Temperature Window	Consistent printing performance at the temperature of 22-30 °C/71.6-86 °F and the relative humidity of 30-65% RH
	Print Speed Range	Consistent printing performance from speeds of 1-6 in/s (25-150 mm/s). Slower speeds are beneficial for area ratios at or below 0.55
Reflow	Reflow Process Window	Consistent solderability across all profiles – short, medium or long soak in both air and nitrogen
	Void behavior	Minimum voiding observed across variety of reflow profiles
	Hot/Cold Slump Performance	Meets requirements of IPC J-STD-005B
	Flux Residue Appearance	Light clear residues
	ICT Probability	Consistent hard probable surface, shatter-type residue

MacDermid Alpha ELECTRONICS SOLUTIONS

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