

ECOREL™ FREE PoP 10



Lead free no-clean solder paste for package on package assembly

FEATURES

Package on Package (PoP) assembly has been developed as an alternative to stacking CSP's (SCSP's). PoP allows die to be stacked from different suppliers and from mixed device technologies.

ECOREL™ FREE PoP 10 is a solder paste that it can act as a metallic bridge between the ball and the pad, reducing warpage which is the main issue for PoP assembly when tacky flux is used.

ECOREL™ FREE PoP 10 is usually applied by a dipping process that delivers reproducible volumes of material onto the spheres. It can also be applied by dispensing.

SPECIFICATIONS

Alloy (available with others Ag content)	SnAg3Cu0.5
Powder size distribution (microns)	Type 5 (15 – 25 µm)
Melting point (°C)	217
Metal content (%)	80 ± 0,5
Halogen content	No Halogen
Viscosity* (Pa.s 20°C) <i>*Brookfield RVT - TF at 5 rpm</i>	200 – 300
Post reflow residues	approximately 5% by w/w

CHARACTERISTICS

The tackiness of **ECOREL™ FREE PoP 10** is optimized to hold packages in place before and during reflow. Its rheology provides stable transfer volume of solder paste to the balls during dipping application.

PCB cleaning is not required after soldering with **ECOREL™ FREE PoP 10** because the residue is chemically inert. It offers a long pot and working life

Functional Tests	Results	Procedures
Flux Classification	RELO	ANSI/J-STD-004
	F-SW 32	DIN 8511
	113	ISO 9454
Solder balling test	pass	ANSI/J-STD-005
Copper mirror	pass	ANSI/J-STD-004
Chromate paper	pass	ANSI/J-STD-004
Copper corrosion	pass	ANSI/J-STD-004
Surface Insulation Resistance Ohms	pass	ANSI/J-STD-004
after 7 days		
85°C - 85 % RH - 50 Volts	$> 10^{10}$	
25°C - 65 % RH	$> 10^{12}$	

PACKAGING

Jars	250 g or 500 g
Syringes	30 g or 100 g

STORAGE & SHELF LIFE

To ensure the best product performance, the recommended storage temperature range is from 5°C to 10°C. A shelf life of 9 months is achieved under these conditions. For syringes, the shelf life is 6 months. For an optimal preservation, store syringes in vertical position, tip downwards.

PROCESS PARAMETERS

ECOREL™ FREE PoP 10 can be applied by dispensing or by dipping.

When using a dipping process, the volume of solder paste on the package can be optimized by changing dipping-equipment parameters. Key variables include: sphere size, sphere pitch, flux shear speed, dwell time, and depth of sphere immersion.

ECOREL™ FREE PoP 10 has been successfully evaluated on Siemens dip application equipment.

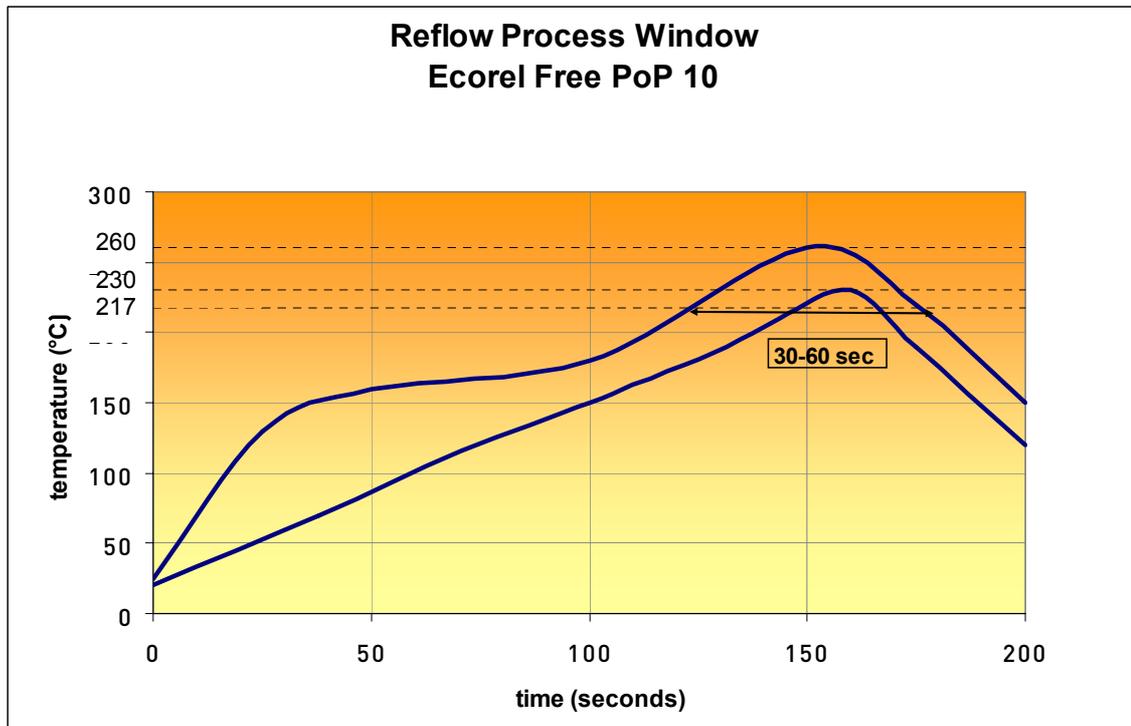


Reflow guideline

A nitrogen atmosphere is recommended.

A linear preheating ramp rate is recommended. But high density boards may require a soak zone during preheating to equalize the temperature over the circuit board before reflow peak.

Typical reflow profile



Cleaning

After reflow, **ECOREL™ FREE PoP 10** residues can be easily removed with a wide range of cleaning solutions, such as detergents, hydrocarbonated solvents or fluorinated solvents, including the INVENTEC cleaning solutions.

HSE

No issues when used as recommended.

Although the conformity to ROHS 2002/95CE applies to EQUIPMENT put on the market and not to a component in particular, we warranty that this product contains less than 0.1% of mercury, lead, chromium VI, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE) and less than 0.01% for the cadmium, in accordance with the decision of The European Commission dated 18/08/2005, fixing the maximal concentration values.

This data is based on information that the manufacturer believe to be reliable and offered in good faith. In no event will INVENTEC be responsible for special, incidental and consequential damages. The user is responsible to the Administrative Authorities (regulations for the protection of the Environment) for the conformity of his installation.

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