ECOREL™ FREE
305-1-85 405-1-85

INVENTEC
PERFORMANCE CHEMICALS

LEAD ECOREL™ FREE

Lead free solder paste
No-clean – Application by dots

FEATURES

ECOREL™ FREE 305-1-85/405-1-85 is a lead free paste constituted with tin-silver-copper with respectively 3 or 4 % of silver. It presents a rheology adapted to the different systems of application by dots, no end screw or direct pressure. It delivers reproducible volumes from dot to dot all along the application.
ECOREL™ FREE 305-1-85/405-1-85 is also suitable for pumprint process.

SPECIFICATIONS

ECOREL™ FREE	305-1-85	405-1-85
Alloy	SnAg3Cu0,5	SnAg4Cu0,5
Powder Size distribution (microns)	25 – 45	25 – 45
Melting Point (°C)	217	217
Metal content (%)	85 ± 0,5	85 ± 0,5
Non volatile residue (%)	54 – 62	54 – 62
Halogen content	0	0
Viscosity* (Pa.s 20°C) **Brookfield RVT – TF at 5 rpm*	450 – 650	450 - 650

CHARACTERISTICS

FUNCTIONAL TESTS	Results	Procedures
Flux classification	L0	ANSI/J-STD-004
	F-SW 33	DIN 8511
	123	ISO 9454
Solderballing test	class 1	C 90550
Copper mirror	pass	ANSI-J-STD-004
Chromate paper	pass	ANSI-J-STD-004
Copper corrosion	pass	ANSI-J-STD-004
Surface Isolation Resistance Ohms		ANSI-J-STD-004
after 7 days		
85°C - 85 % RH - 50 Volts	$> 10^{10}$	
25°C - 65 % RH	$> 10^{10}$	

PACKAGING

Syringe	30 & 100 g
Jars	250 & 400 g

STORAGE & SHELF LIFE

To ensure the best product performances the recommended storage temperature range is 5°C to 10°C. A shelf life of 6 months if kept under these conditions.
For an optimal preservation, store syringes in vertical position, tip downwards.
Before use, allow several hours at room temperature for the paste to stabilize.

PROCESS PARAMETERS

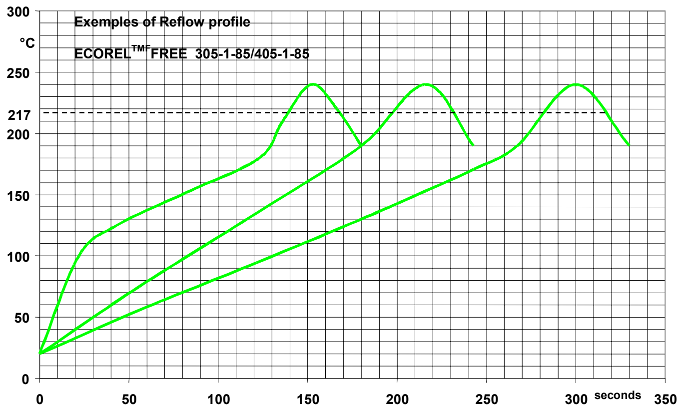
Solder paste preparation

ECOREL^{TM} FREE 305-1-85/405-1-85 is applied by dots with automatic or manual dispensing system.

Reflow profile

The graph beside indicates, depending on the thermal mass of PCB's and components, the temperature profiles recommended to get a good reflow under air, without degradation of coalescence and in order to get a good alloy wettabilitty.
Nitrogen atmosphere permits good coalescence and excellent wettability inside a large reflow process window.

A regular preheat temperature rise is preferable to a too long plateau, in order to avoid solderbeading to get a shining joint and a uniform residue distribution.



Cleaning

ECOREL^{TM} FREE 305-1-85/405-1-85 no-clean, can be cleaned with INVENTEC cleaning solutions.

PROCESS	Immersion or spray system (water based solution)	Immersion system (solvent based solution)	Manual use (Solvent based solution)
INVENTEC SOLUTION	PROMOCLEAN^{TM} DISPER 605 (as packaged, pH=11.9)	HFE + co-solvents : TOPKLEAN^{TM} EL-20A TOPKLEAN^{TM} EL-20R Under vacuum system : TOPKLEAN^{TM} EL-20D Fast evaporation azeotropic solvent : PROMOSOLV^{TM} 70ES	TOPKLEAN^{TM} EL-10F QUICKSOLV^{TM} DEF 90 TOPKLEAN^{TM} EL-60

HSE

No particular matter under standard conditions of use.

No issues when used as recommended.

Although the conformity to ROHS 2002/95CE applies EQUIPMENT put on the market and not 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.