

ECOREL™ EASY 803M



Low residue no-clean solder paste

FEATURES

ECOREL™ EASY 803M range offers a good balance between wettability, printing capability and ability to withstand various thermal profiles.

ECOREL™ EASY 803M range exhibits high printing speed, excellent abandon time and long steady tackiness.

These pastes can withstand high thermal profiles, with and without nitrogen, leading to consistent and shiny solder joints on all standard finishes.

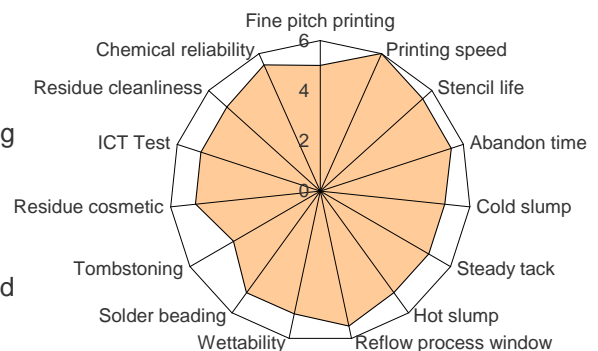
Residues after reflow are non-corrosive and do not need to be removed to ensure the reliability of the PCB's. However, those residues are easily cleanable with a large range of cleaners : hydro-carbonated solvents, halogenated solvents and detergent solutions including the INVENTEC cleaning solutions.

SPECIFICATIONS

ECOREL EASY	803 M
Alloy	Sn63Pb37
Powder size distribution (microns)	25-45
Melting point	183
Metal content (%)	89,5 ± 0.5
Residue after reflow soldering (%)	47 – 54
Halogen content	no halogen
Viscosity* (Pa.s at 20°C) * Brookfield RVT, TF at 5 RPM	900 – 1100

CHARACTERISTICS

Long stencil life: more than 10 hrs
 Abandon time on the stencil more than 4 hrs with excellent print restart
 Printing speed: 20-150 mm/sec
 Solderballing resistance at high % relative humidity
 Good wettability on all finishes
 Stable tack: more than 12 hrs at 22°C between printing and component placement
 No slump out by preheat
 Slight yellow residue after reflow, ate probe compatible
 No halogen
 High SIR – No residue deterioration during accelerated ageing
 Compatible with major conformal coating of the market including Elantas Bectron PT 4600 ⁽¹⁾ and Elantas Bectron PL 4122 ⁽¹⁾
⁽¹⁾ SIR/EM test at 40°C, 93 % RH, 50 V bias, 500 hours : > 10⁸ ohms – no dendrites



FUNCTIONAL TESTS	Results	Procedures
Flux classification	L 0 F-SW 32 113	ANSI/J-STD-004 DIN 8511 ISO 9454
Solderballing test	class 1	ANSI/J-STD-004
Copper mirror	pass	ANSI/J-STD-004
Copper corrosion	pass	ANSI/J-STD-004
S.I.R. Ohms After 21 days 85°C - 85 % RH - 50 Volts End of cycle 20°C – 65°C RH	pass > 10 ⁹ > 10 ¹⁰	ANSI/J-STD-004

PACKAGING

Jar	250 g or 500 g
Cartridge	700 g or 1400 g
PROFLOW cassette	800 g

STORAGE & SHELF LIFE

To ensure the best product performance, the recommended storage temperature range is 5°C to 10°C. A shelf life of 12 months is achieved under these conditions. For cartridges, shelf life is 9 months. For an optimal preservation, store cartridges in vertical position, tip downwards.

PROCESS PARAMETERS

Solder paste preparation

Before printing, it is essential to properly mix the solder paste, either manually with a spatula, or by doing several preliminary prints on the stencil.

Printing guideline

Apply on the stencil solder paste to form a roll of 1 to 2 cm of diameter all along the squeegee (about 100g of paste per 10 cm squeegee length). This way, the solder paste will roll easily under the squeegees to offer excellent printing quality.

- Printing speed : 20 to 150 mm/sec.
- Minimum pitch : 0.3 mm
- Pressure : depends on printing speed

Examples of printing speed according to the pressure :

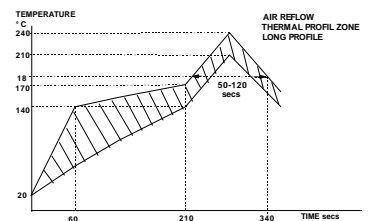
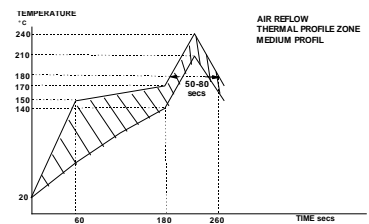
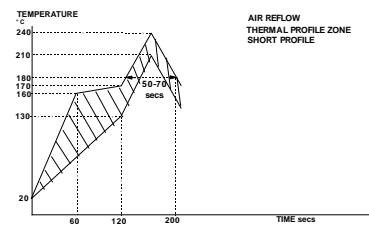
Squeegee length	Printing Speed	Pressure
250	50 mm/sec	4 kg
250	100 mm/sec	9 kg
400	50 mm/sec	6 kg
400	100 mm/sec	11 kg

Reflow guideline

The graph beside indicates, the optimal thermal profile zone according to PCB and component thermal mass.

A linear preheating ramp rate is preferable to a too long soak, in order to avoid solderbeading and to get a shiny joint with a uniform residue distribution.

Nitrogen atmosphere improves wettability inside a larger reflow process window.



Cleaning

ECOREL™ EASY 803M residue after reflow can be removed with a very large range of cleaning solutions, such as detergents, hydrocarbonated solvents or fluorinated solvents, including the INVENTEC cleaning solutions.

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

HSE

Contains lead. Do not handle without gloves. Read MSDS before use.
No issues when used as recommended.

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.

Ecorel Easy 803M-BRY-FP-450v1GB