ECOFREC™ 303

INVENTEC PERFORMANCE CHEMICALS

VOC free, no-clean, low residue flux
Recommended for lead free soldering

FEATURES

ECOFREC™ 303 is a low residue, no-clean, VOC free flux, with excellent soldering performance on any finish.
This flux is recommended for lead free soldering with alloys such as SAC, SnCu, etc…, as well as those containing lead.
ECOFREC™ 303 is a true VOC free flux. Therefore, it is not flammable as opposed to some other so-called VOC free fluxes on the market.
Compared to low residue alcool-based fluxes, **ECOFREC™ 303** requires less flux and thus gives a lower cost per PCB.

SPECIFICATIONS

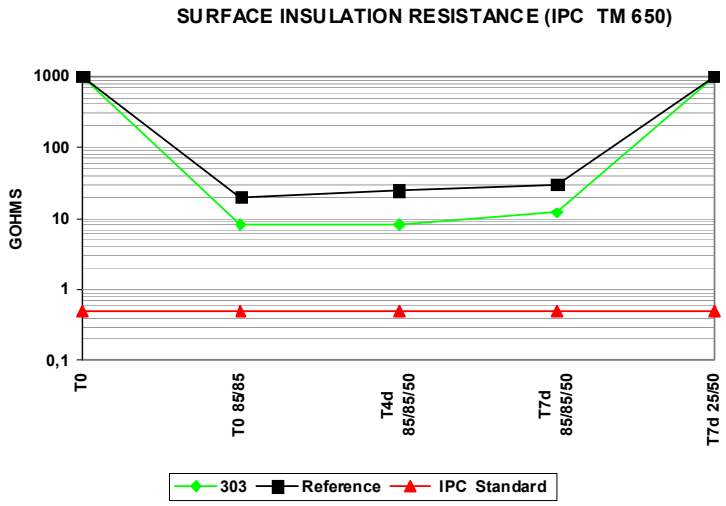
Appearance	colourless liquid
Specific gravity 20°C (g/cm^3)	1,005 – 1,013
Solid content (%)	3.5
Halogen	no halogen
Acid index (mg KOH/g)	32
Flash point	none

CHARACTERISTICS

ECOFREC™ 303 is a water-based no-clean flux that contains no organic solvents and is formulated to meet all volatile organic compound (VOC) emission regulations. It is a flux developed for wave soldering through hole, mixed technology, and SMT assemblies. PCB cleaning after soldering is not necessary due to its very low solids content.

ECOFREC™ 303 is halogen free and amine free.

FUNCTIONAL TESTS	Results	Procedures
Classification	ORL0	ANSI/J-STD004
Copper mirror	passed	ANSI/J-STD-004
Silver Chromate paper	passed	ANSI/J-STD-004
SIR	passed (see curve below)	IPC TM 650
Bono test	passed	INVENTEC MO.SB.10029



PACKAGING

Plastic drum	20 l

STORAGE & SHELF LIFE

Avoid storage temperature less than 0°C.

ECOFREC™ 303 must be allowed to reach ambient temperature for 12 hours before use. A shelf life of 1 year maximum is recommended.

PROCESS PARAMETERS

ECOFREC™ 303 must be applied by spray.

Topside preheat temperature of 110 to 130°C is recommended to boil off the water and non-volatile solvents before entering wave soldering.

The temperatures obtained during preheat and solder wave will eliminate the residue to give good cosmetics.

Unlike alcohol-based fluxes, **ECOFREC™ 303** does not require acid index and density control.

General Guidelines

	SAC 305/387/405 & SnCu0.7	SnPb 63/37
Amount of flux to apply	20 - 80 g of liquid flux /m²	20 - 80 g of liquid flux /m²
Bottom side preheat temperature	135 - 155°C (130 - 140°C typical)	135 - 155°C (130 - 140°C typical)
Conveyor angle	4 - 7° (7° typical)	4 - 7° (7° typical)
Conveyor speed	0.8 - 1.8 m/min (1.1 - 1.4m/min typical)	0.8 - 2.0 m/min (1.1 – 1.4 m/min typical)
Contact time in the solder	3.2 - 4 sec *Generally 0.6 - 1.2 sec. on chip wave*	2.5 - 4 sec. *Generally 0.5 - 1 sec. on chip wave*
Solder pot temperature	255 - 270°C (260 - 265°C for SAC 270°C for SnCu)	245 - 260°C (245 - 255°C typical)

These general guidelines are given to provide a starting point. The actual settings may vary depending on the actual products being run, the equipment being used, etc…

Monitoring

As the **ECOFREC™ 303** can be used only on spray systems, no solvent evaporation should occur. So the **ECOFREC™ 303** properties should not change during its use so flux control is usually unnecessary.

HSE

Use in well-ventilated areas. Safety glasses and gloves should always be worn when handling the flux.

Please refer to MSDS before 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.

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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