SOLDERING

ECOREL™ FREE JP32

SAC305 LEAD FREE ALLOY SOLDER PASTE
JET PRINTING PROCESS
CONSISTENT SOLDER PASTE DEPOSITS

BENEFITS

ECOREL FREE JP32 is especially designed to work on jet printing equipment and to guarantee continuous and consistent deposits of solder paste. Although the flux is chemical inert, it is easy to clean with water or solvent based processes. It is optimized to be used on Mycronic jet printing equipment.

PERFORMANCE	▪ Excellent continuous & consistent paste deposits ▪ Chemical inert flux residue reducing risk of electrochemical migration & corrosion ▪ Easy to clean reflowed flux residues with water or solvent processes.
COST	▪ Stable process reducing re-work & waste ▪ Increase lifetime and reliability of your product, hence reduces risk of premature failures.
HSE	▪ No Halogen ▪ Lead Free

FEATURES

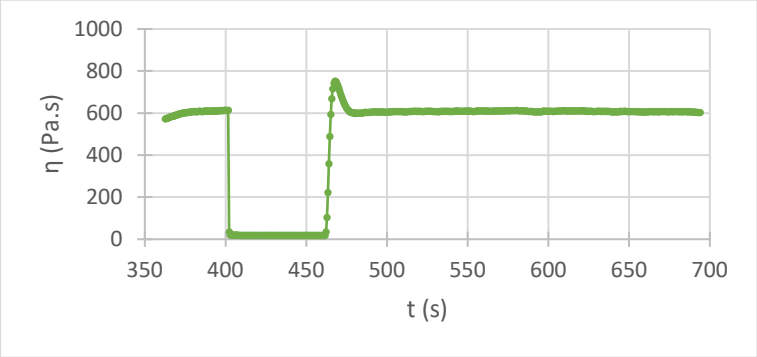
SPECIFICATIONS	ECOREL FREE JP32 T5	ECOREL FREE JP32 T6
Alloy	Sn96,5Ag3Cu0,5	Sn96,5Ag3Cu0,5
Melting point (°C/°F)	217 / 423	217 / 423
Metal content (%)	85	85
Post reflow residues	Approximately 5% by w/w	Approximately 5% by w/w
Halogen content	No Halogen	No Halogen
Powder size	15–25 microns / Type 5	5–15 microns / Type 6
*Spiral pump viscosity (Pa.s 25°C)	**Typical 90	**Typical 90

*The equipment used to test spiral pump viscosity is Malcom at a 10 rpm rotation speed.
**Slight adjustments in viscosity possible after finalizing full industrialization test procedure.

CHARACTERISTICS

CHARACTERISTICS	VALUES	
Flux Classification	ROL0	ANSI/J-STD-004
	113	ISO 9454
Solder balling test	Pass	ANSI/J-STD-005
Copper mirror	Pass	ANSI/J-STD-004
Copper corrosion	Pass	ANSI/J-STD-004
SIR (IPC)	Pass	ANSI/J-STD-004
SIR (Bellcore)	Pass	Bellcore
Electromigration (IPC / Bellcore)	Pass	ANSI/J-STD-004 / Bellcore

Below graph represents our rheological measurement, which shows the very good thixotropic recovery of Ecorel Free JP32. Stable viscosity recovery after a high shear stress on the solder paste guarantees consistent volume deposits.



PROCESS RECOMMENDATION

The best process will depend on factors such as operating conditions, equipment, board or component design. Our team is ready to advise you.

SOLDER PASTE PREPARATION

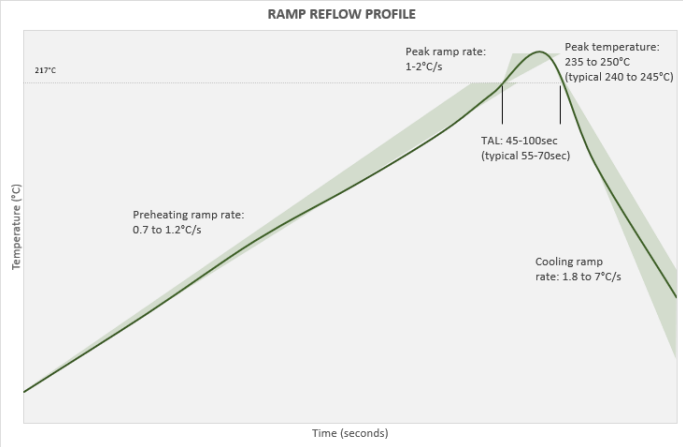
- Put the paste at room temperature for at least 4 hours prior to use.
- Syringes must be used in five days following their first use.

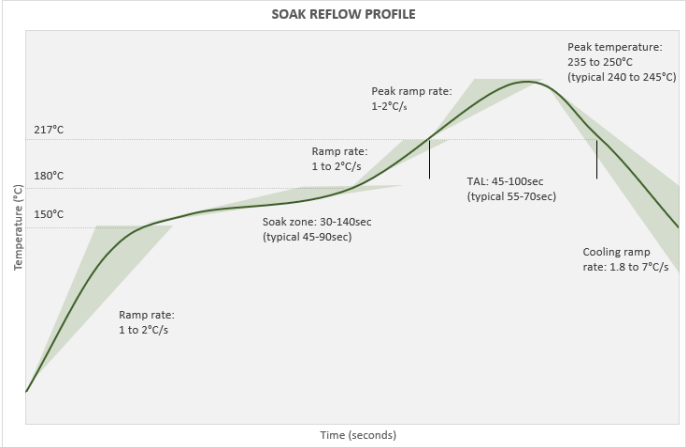
EQUIPMENT GUIDELINE

On Mycronic equipment, standard setup program for leadfree solder paste can be used.

REFLOW GUIDELINE

Nitrogen atmosphere allows excellent wettability inside a large reflow process window. Linear preheating ramp rate is recommended. However, high-density boards may require a soak zone during preheating to stabilize the temperature over the circuit board before peak reflow.





REFLOW STEPS	REMARKS
Preheating ramp rate with linear preheating	0.7 to 1.2°C/s according to the circuit board size and density
Preheating steps in case of preheating soak zone	▪ From 20 to 150°C (68 to 302°F): ramp rate 1 to 2°C/s (33 to 36°F/s) ▪ Soak zone between 150 to 180°C (302 to 356°F): 30-140s reflow (typical soak 45-90s) ▪ From 170°C (380°F) to liquidus 1 to 2°C/s (33 to 36°F/s)
Peak ramp rate	1 to 2 °C/s (33 to 36°F/s)
Peak temperature	235 to 250°C (455 to 582°F) / 240 to 245°C (464 to 473°F) is optimum The paste can stand a temperature higher than 250°C (482°F), but it is not recommended to preserve component integrity
Time above liquidus	45 to 100s (55 to 70s typical)
Cooling ramp rate	1.8 to 7°C/s (35 to 45°F/s)

CLEANING POST SOLDERING

ECOREL FREE JP32 is a no-clean solder paste, so cleaning is not required to meet IPC standards. The chemistry is specially designed so that any remaining flux residue is chemically inert and will not impact your assembled board or packaging under normal conditions. However, when cleaning is desired or required (e.g. high reliability assembly or to improved conformal coating adhesion), the flux residue can be easily removed with INVENTEC's own formulated flux cleaners.

Inventec has more than 40 years experience in high-tech cleaning for aqueous and solvent based systems.
Our solder materials are aligned with our cleaning solutions, providing you a guaranteed cleaning result with our materials.

PROCESS TYPE	PCBA DEFLUXING SOLUTIONS
Manual	Quicksolv™ DEF90 EL
Aqueous system (Immersion or spray)	Promoclean™ DISPER 607
Co-solvent system	Topklean™ EL 20P or EL 20A + HFE bases solvents
Under vacuum system	Topklean™ EL 20D
Mono-solvent (Azeotropic)	Promosolv™ 70ES

Other products available, depending on specific customer requirements. Check also our maintenance cleaning solutions.

PACKAGING, STORAGE & SHELF LIFE

- To ensure the best product performance, the recommended storage temperature range is from 0°C to 10°C.
- Do not store used syringes in fridge.
- For an optimal preservation, syringes in a vertical position, tip downwards.
- Shelf-life is 6 months for syringe packaging,

AVAILABLE PACKAGING

IWASHITA SYRINGE
30 cc / 100g

HEALTH, SAFETY & ENVIRONMENT

No issues when used as recommended.

In accordance with the Annex II of Directive 2011/65/UE (RoHS), including its amendments, we certify that this product does not contains quantities above 0.1% of Hg, Pb, Cr VI, PBB, PBDE, DEHP, BBP, DBP, DIBP and above 0.01% of Cd. . INVENTEC PERFORMANCE CHEMICALS also fulfils its direct obligations under the REACH and Conflict Mineral regulations.

Please refer always to the Safety Data Sheet (SDS or MSDS) prior to use. Our SDS can be downloaded at www.quickfds.com.
We will request to provide your email address, so we can automatically send you a new version of the SDS when a future update would occur.

TECHNICAL SUPPORT & FREE-OF-CHARGE TESTING

Inventec has a worldwide dedicated Technical Support team to help you along the different stages of our cooperation.

Depending on your request, we provide online or onsite support

- to select the right product based on your specific needs
- to assist you in your product qualification process
- to guide you with the initial set up of you process at all your worldwide manufacturing facilities
- to provide fast response on technical issues which could occur at any time during mass production.

When prior cleaning is required, customers are also welcome in our CLEANING CENTERS to see the process in action and to get convinced by our solutions. We cover water- and solvent based processes.

Inventec is unique in the world by developing not only soldering materials but also cleaning and coating solutions. These materials are very closely linked with each other from a process point of view. Talking to our Technical Team, who understands very well these 3 different product groups, will help you greatly to overcome technical challenges within your overall process.

Contact our technical support via contact@inventec.dehon.com or your local sales representative.

ABOUT INVENTEC

Inventec is a global provider of SOLDERING, CLEANING & COATING materials for Electronic, Semiconductor and Industrial applications. For over 40 years we have shown leadership in innovation by putting HEALTH IMPACT, SUSTAINABILITY and RELIABILITY at the core of our product development.

With ISO 9001 & 14001 production sites in France, Switzerland, USA, Mexico, Malaysia and China we can guarantee a smooth and cost-effective supply chain.

We supply to many industries but the excellent performance of our products in applications which demand high reliability, leads us to focus especially on the AUTOMOTIVE, AEROSPACE, SEMICONDUCTOR, ENERGY and MEDICAL industry.

www.inventec.dehon.com

SOLDERING • CLEANING • COATING

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