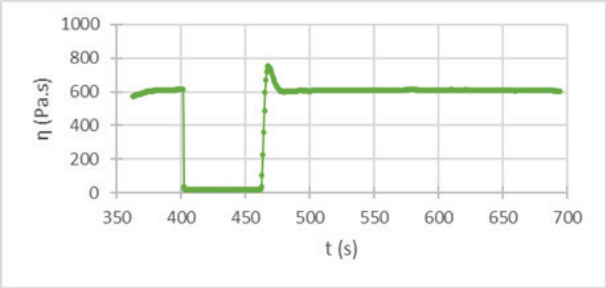
SOLDERING

ECOREL™ FREE JP32

SAC305 SOLDER PASTE
JET PRINTING PROCESS
EASY CLEANABLE FLUX RESIDUES

BENEFITS

ECOREL FREE JP32 is a SAC305 solder paste, 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, Vermes, Essemtec and Musashi jet printing equipment.



The 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.

PERFORMANCE	▪ Excellent continuous & consistent paste deposits ▪ Chemical inert flux residue reducing risk of electrochemical migration & corrosion ▪ Easy to clean reflowed flux residues
COST	▪ Minimizes line-down time & the need for re-work ▪ Increase lifetime and reliability of your product, hence reduces risk of premature failures
HSE	▪ Lead Free ▪ No Halogen ▪ Free of CMR containing substances

FEATURES

TYPE 5 JET PRINTING OPTIONS

SPECIFICATIONS	ECOREL FREE JP32 84.0T5	ECOREL FREE JP32 85.0T5
Alloy	Sn96,5Ag3Cu0,5	Sn96,5Ag3Cu0,5
Melting point	217°C/423°F	217°C/423°F
Metal content (%)	84	85
Post reflow residues by w/w	Approximately 5%	Approximately 5%
Halogen content	No Halogen	No Halogen
Powder size	15–25 microns / Type 5	15–25 microns / Type 5
Spiral pump* Viscosity (Pa.s 25°C)	**Typical 90	**Typical 90
Syringe	Iwashita	EFD
Dedicated for equipment	Mycronic	Vermes Essemtec Musashi

*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.

TYPE 6 JET PRINTING OPTIONS

SPECIFICATIONS	ECOREL FREE JP32 84.0T6	ECOREL FREE JP32 82.0T6	ECOREL FREE JP32 80.0T6	ECOREL FREE JP32 78.0T6
Alloy	Sn96,5Ag3Cu0,5	Sn96,5Ag3Cu0,5	Sn96,5Ag3Cu0,5	Sn96,5Ag3Cu0,5
Melting point	217°C/423°F	217°C/423°F	217°C/423°F	217°C/423°F
Metal content (%)	84	82	80	78
Post reflow residues by w/w	Approximately 5%	Approximately 5%	Approximately 5%	Approximately 5%
Halogen content	No Halogen	No Halogen	No Halogen	No Halogen
Powder size	5–15 microns / Type 6	5–15 microns / Type 6	5–15 microns / Type 6	5–15 microns / Type 6
Spiral pump* viscosity (Pa.s 25°C)	**Typical 90	**Typical 90	**Typical 90	**Typical 90
Syringe	Iwashita	EFD	EFD	EFD
Dedicated for equipment	Mycronic Musashi	Vermes Essemtec Musashi	Vermes Essemtec Musashi	Vermes Essemtec Musashi

*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	TEST METHOD
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

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

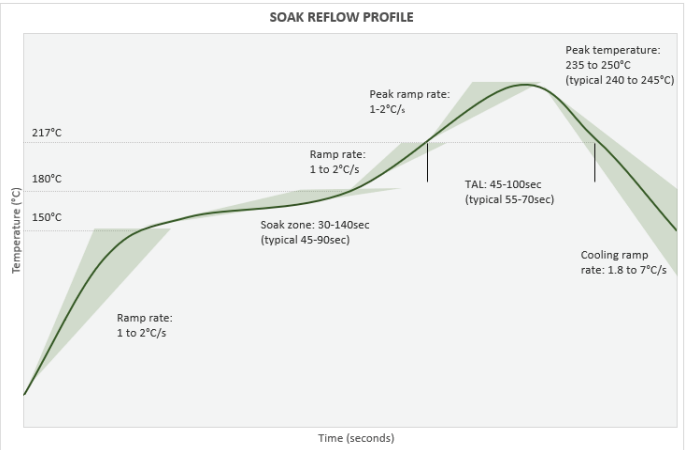
- Put the paste at room temperature for at least 4 hours prior to use.
- Syringes must be used in five days following their first use.

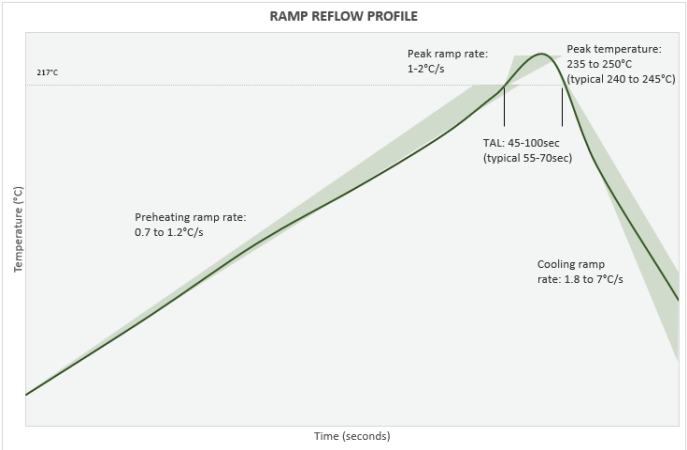
EQUIPMENT GUIDELINE

Depending on kind of jetting equipment, different parameter setup is required. On Mycronic equipment, standard setup program for leadfree solder paste can be used. For Vermes, Essemtec, Musashi or other brands please ask for suggested setup.

REFLOW GUIDELINE

To improve wettability we recommend to reflow in a nitrogen atmosphere. For Type 6 paste it is even strongly advised. Linear preheating ramp rate is recommended.





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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 ramp rate 1 to 2°C/s ▪ Soak zone between 150 to 180°C (302 to 356°F): 60-140s reflow (typical soak 45-90s) ▪ From 170°C (380°F) to liquidus 1 to 2°C/s
Peak ramp rate	1 to 2 °C/s
Peak temperature	235 to 250°C (455 to 582°F) / 240 to 245°C (464 to 473°F) is optimum The paste can withstand 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 Studies has demonstrated 1.8 to 2.2 °C/s allows a more homogeneous joint structure and reduced surface crack formation.

CLEANING POST SOLDERING

This product 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 over 60 years' experience in high-tech cleaning for aqueous and solvent based systems.
Our solder materials are aligned with our cleaning solutions, which guarantees excellent cleaning.

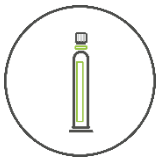
PROCESS TYPE	PCBA DEFLUXING SOLUTIONS
Manual	Quicksolv™ DEF90, Quicksolv™ DEF70, Promoclean™ TP61
Aqueous (Immersion or spray)	Promoclean™ DISPER 607, Promoclean™ DISPER 707, Promoclean™ DISPER 800
Co-solvent	Topklean™ EL 80 + Promosolv™ rinsing solvents
Mono-solvent (vapor phase)	Promosolv™ 70ES, Promosolv™ 70IS

Other products available, depending on specific customer requirements. Also check our maintenance cleaning solutions.

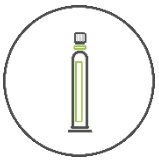
PACKAGING, STORAGE & SHELF LIFE

- To ensure the best product performance, the recommended storage temperature range is from 0°C to 10°C.
- For an optimal preservation, store syringes in a vertical position, tip downwards.
- Shelf-life is 6 months for syringes

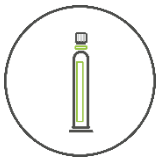
AVAILABLE PACKAGING



IWASHITA SYRINGE
100g (30cc)



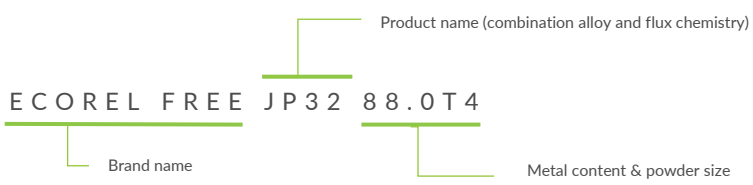
EFD SYRINGE
100g (30cc)



EFD SYRINGE
30g (10cc)

PRODUCT ARTICLE CODIFICATION

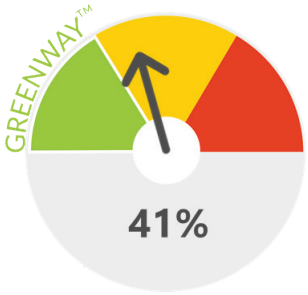
Below example as a reference



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HEALTH, SAFETY & ENVIRONMENT

ECOREL FREE JP32 is **NOT** a **GREENWAY** product. Although fully in line with safety & environmental regulations, this product doesn`t match our strict criteria to be labelled as a Greenway product. More info on our Greenway concept via this link.



LOOKING FOR A MORE SUSTAINABLE SOLUTION?

GREENWAY ALTERNATIVE

- We currently don`t have a Greenway alternative but our target is to develop one in the near future. In case you want us to prioritize the development of a Greenway alternative, do not hesitate to contact us.

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 various 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 your 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.

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, COOLING materials for Electronic, Semiconductor and Industrial applications. For over 60 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
COOLING

This data is based on information that the manufacturer believes to be reliable and offered in good faith. In no event will INVENTEC PERFORMANCE CHEMICALS 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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