

Solutions for ELECTRONIC ASSEMBLY & SEMICON

SOLDERING • CLEANING • COATING • COOLING


INVENTEC
PERFORMANCE CHEMICALS

INSPIRING INNOVATION



SPECIFIC
PROCESS



EXCELLENT
COMPATIBILITY



OPTIMIZE
PROCESS



ENVIRONMENTALLY
FRIENDLY

INVENTEC, A DEHON GROUP COMPANY

A family company created in **1874**, first specialized in the filling and distribution of refrigerants.

Dehon group companies:



SMB AUTO

Car care solutions
& services

climalife®

Refrigeration, air
conditioning & heating

matelex
connected refrigeration

Leak detection for
refrigeration

SODEREC
INTERNATIONAL

High-risk chemicals

INVENTEC
PERFORMANCE CHEMICALS

Soldering, Cleaning, Coating
& Cooling solutions

PUS
Pure
Ultrasonic
Systems

Metal powders
powder atomizers & sieving

crealis

blending, filling & packing
of chemicals

750 collaborators worldwide: 16 subsidiaries in 3 continents

INVENTEC PERFORMANCE CHEMICALS

**GLOBAL PROVIDER OF SOLDERING, CLEANING, COATING & COOLING SOLUTIONS
FOR ELECTRONIC, SEMICONDUCTOR AND INDUSTRIAL APPLICATIONS**

For nearly **60 years** we have shown leadership in innovation by putting High Reliability applications and minimizing **environmental & health impact** at the core of our product development. **10% of our turnover is invested in R&D.**

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

With more than **1500 satisfied customers** & more than **300 products**, we are armed to find the right solution based on your requirements, process and sustainability targets.



OUR GUIDELINES

PROXIMITY

A worldwide presence to support our customers

PERFORMANCE

Specialized teams and effective technical solutions to serve our customers

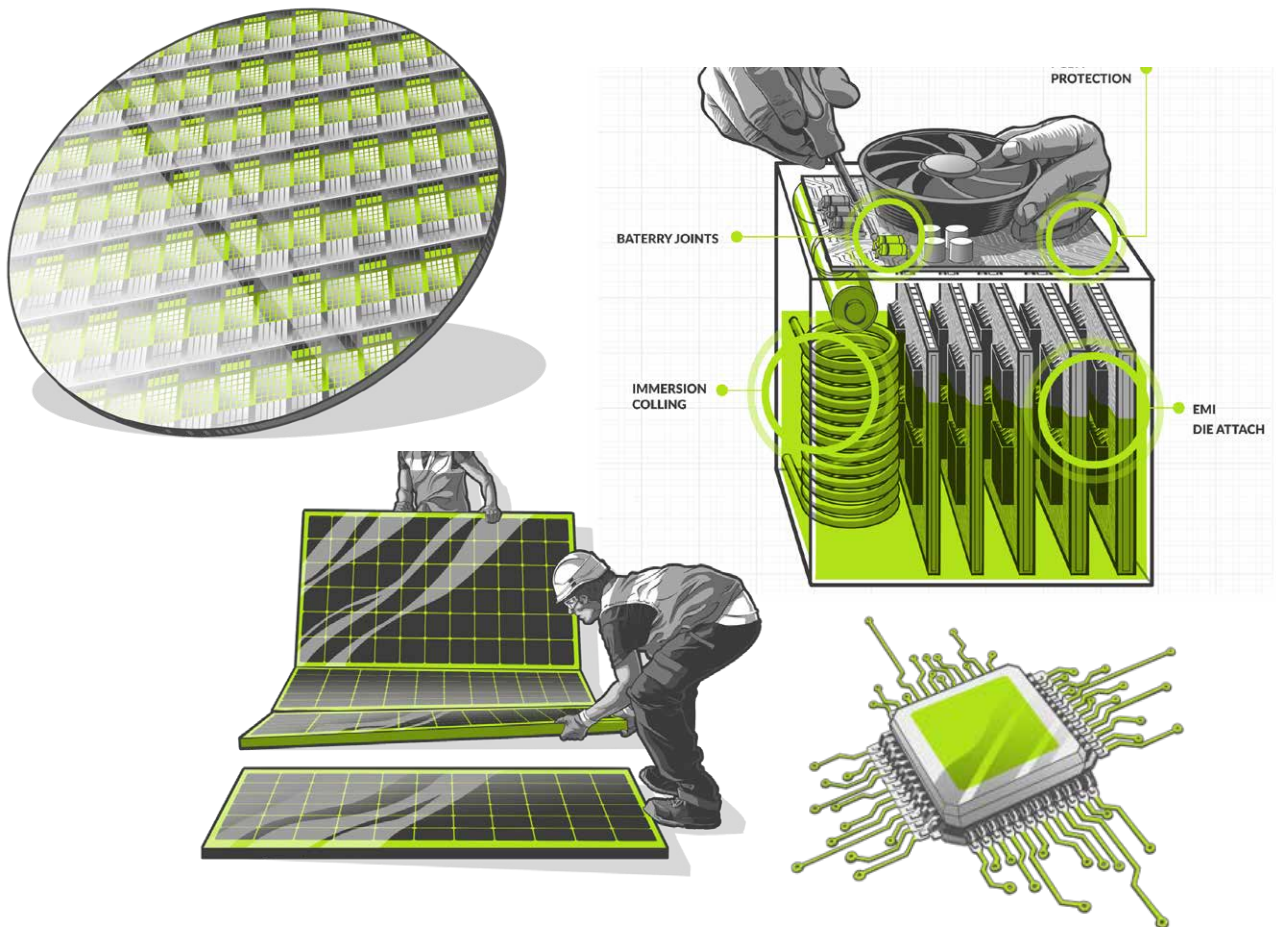
PROTECTION

Friendly solutions for health & environment

OUR EXPERTISE DEDICATED TO Electronic manufacturing & semicon

We have consistently directed our efforts towards high reliability applications, leveraging our technical expertise to bring about a meaningful impact. Our products went through rigorous testing by our customers before successfully attain qualifications.

Thanks to these qualifications, we provided our products to the various production facilities of our clients and EMS companies around the globe. This underscores our excellence not only in product performance but also in global supply chain management.

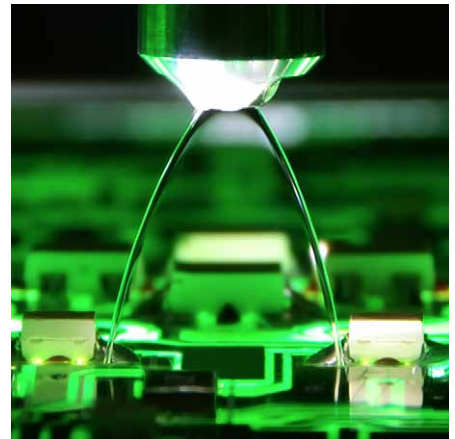
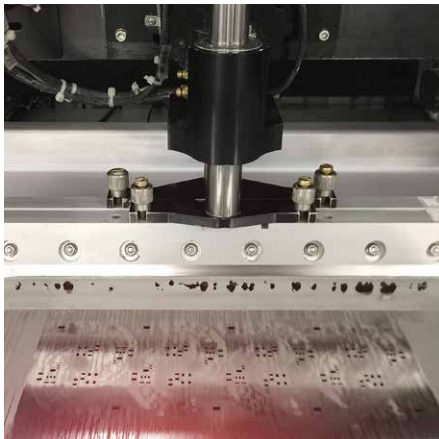


Key infos

- Inventec France is **IATF** certified: proof of good quality management system
- More than **600** satisfied customers in the electronic & semicon industry
- **+250** products for soldering, cleaning or coating applications

Compatibility

A WORRYLESS ALL-IN-ONE SOLUTION



Inventec is unique on the market, providing own developed solutions in Soldering, Cleaning & Coating. Made to be compatible with each other for an easy and worryless process implementation.

Our solder paste flux residues can be easily removed with our cleaners

CLEANING

TOPKLEAN™
PROMOSOLV™
PROMOCLEAN™
QUICKSOLV™
3M™ NOVEC™
BLUEGOLD™
M-AERO™

Recommended to clean before coating to get optimal adhesion and to remove other unwanted contaminations on the PCB



SOLDERING

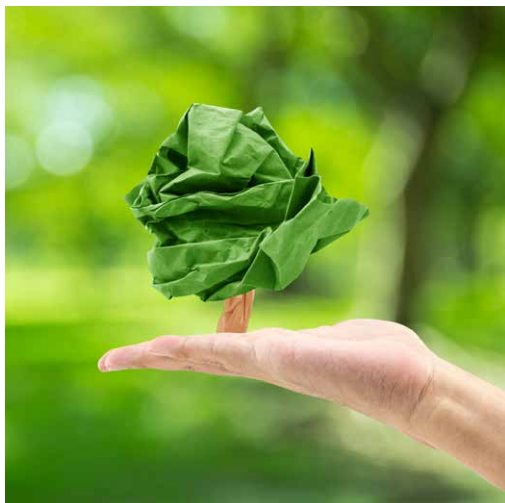
ECOREL™
ECOFREC™
AMTECH™

Most of our solder paste flux residues are compatible with our coatings and don't influence SIR or BONO reliability test outcome

COATING

PROMOSOLV™ COAT
ABCHIMIE™
3M™ NOVEC™

Whatever your needs or requirements, Inventec has a tailor-made solution for you. Needless to say that talking to one supplier who understands very well these three processes is more efficient in order to achieve the desired outcome at the lowest cost of ownership.



In 2012, Inventec launched Greenway™ in order to steer new development to more green products.

10 years later, Greenway™ evolved to **classify each product related to their HSE impact.**

GREENWAY™ SCORE

GUIDES YOU TOWARDS
THE MOST SUSTAINABLE
SOLUTION

To evaluate the impact, the following product indicators are taken into account:

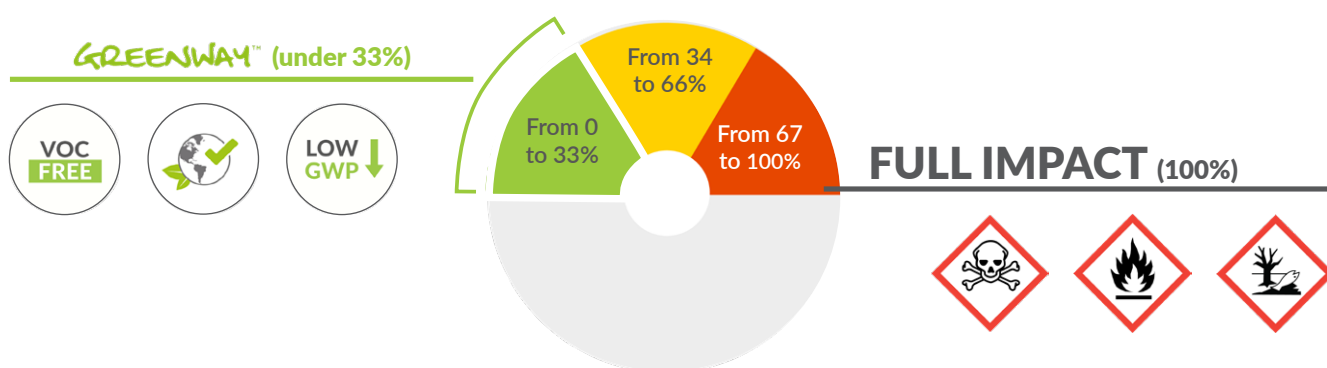
INDICATORS ON HUMAN HEALTH

- Flammability
- Toxicity
- Corrosivity
- Risks of raw materials

INDICATORS ON ENVIRONMENT PROTECTION & RESSOURCES MANAGEMENT

- Water consumption
- Energy consumption
- Source / origin of raw materials
- Waste management
- Emissions reduction (VOC, GWP)
- Recyclability of the product & packaging
- Circular economy possibilities: with the **ECOPROGRAM**
- Consumption of other consumables
- Comparison of processes

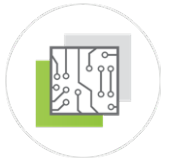
Indicators are translated in percentage with crossed reference data. The data taken into account to calculate the impact score are based on the product MSDS, industrial expertise & European legislations.



A GREENWAY™ PRODUCT HAS LESS THAN 33% OF IMPACT

Soldering

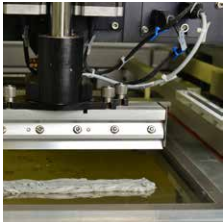
MADE FOR HIGH RELIABILITY



Inventec offers a wide range of soldering products that go beyond the **technical requirements set by industry standards and environmental legislation**. Inventec's expertise is focused on providing **high reliability & sustainable assembly solutions**.

Our soldering product formulations have been **CMR free for over 20 years** and with a few exceptions are all our product **halogen free**. With our specific test method: the Bono Corrosion Test, which is an alternative to the SIR test, we can guarantee a high chemical reliability of solder residues.

OUR BRANDS IN SOLDERING



ECOREL™ SOLDER PASTE RANGE

Solder pastes range with different alloys in powder sizes from T3 up to T6 and chemistries to take up today's challenges (low impact of flux residues, low voids %, free of halogen, thermal cycle performance...)



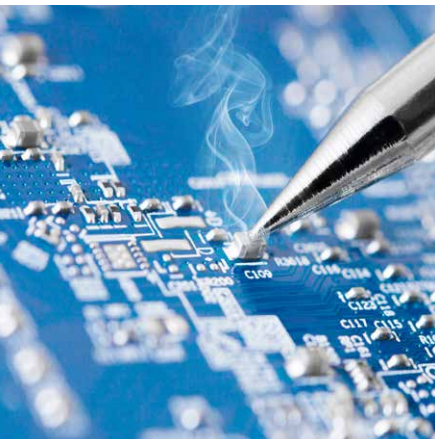
ECOFREC™ SOLDER FLUX RANGE

Solder flux range are specially designed to meet current challenges in wave selective soldering and are available in both: solvent- & water-based (no VOC).



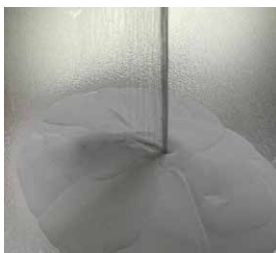
AMTECH™ SOLDER RANGE

Inventec acquired AMTECH in 2014 from where it received the rights to manufacture and commercialize the AMTECH product range in solderpaste, fluxes and metals.



Soldering

GENERALITIES



POWDER

Most of our solder pastes are standard available in type 3 & 4 powder. Depending on product & application, we also offer solder paste with powder of type 5, 6 or higher.

Our powder is sourced from our own company P.U.S. and from qualified suppliers around the world.



PACKAGING

Our solder paste and fluxes are available in the commonly used packaging. Check our product datasheet for available packaging and exact volume per product. Pro-flow cassette & flux pen available on request.



250-500g
Jar



600-1200g
Cartridge



10-30g
Syringes



5-20 L
Drum

BONO CORROSION TEST

MINIATURIZATION is a common trend, boards have higher densities and narrower spacings between tracks and pads. Thus, dendritic growth by electrochemical migration become more and more a big concern.

The purpose of the Bono corrosion test is to assess the corrosive nature of solder pastes and to quantify it by a corrosion factor. It is a test method that allows to quantify and better differentiate the risk for corrosion mechanisms and leakage current in No Clean processes.

It also provides valuable information about compatibility of soldering materials and conformal coating.

This test is applied in addition to all industry standards (Copper mirror, SIR, ECM, etc).

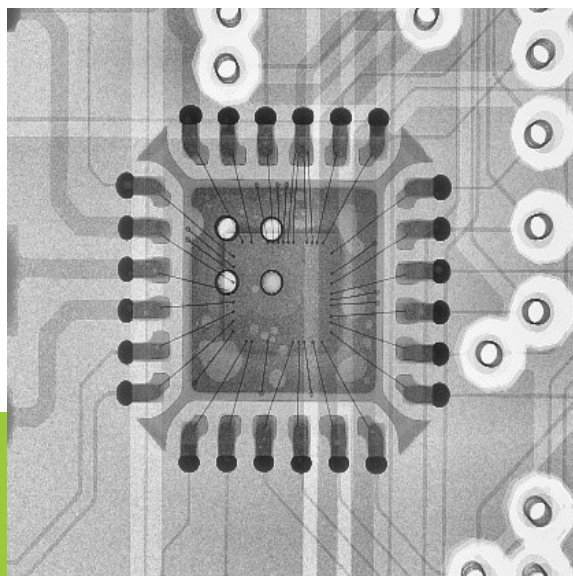
Bono corrosion test features:

- Better differentiates the nature of the residue
- Classification regarding corrosive potential
- Consistent and repeatable
- Diverse information: corrosion, leakage current
- Solder paste / conformal coating compatibility information
- It can be applied to solder paste, liquid flux and tacky flux

The BONO test has been a key instrument for developing our solder paste & fluxes. In addition to the continuous teamwork of INVENTEC R&D and Application teams, it has resulted in a series of high reliability ECOREL[™] solder pastes and ECOFREC[™] soldering fluxes.

SMT Soldering

SAC305 SOLUTIONS



ECOREL™ 305-16LVD

*So much more
than just a low void paste!*

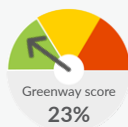
- Exceptional low voiding
- Well balanced overall performance
- Made from recycled metals
- Room temperature storage*

*only for T4 powder in jar & cartridge packaging

ECOREL™ 305-16LVD

SAC305 no clean solder paste

GREENWAY



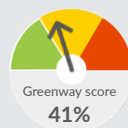
- Exceptional low voiding
- High chemical reliability / passes BONO-test
- Well balanced overall performance

THE Nr.1 CHOICE OF OUR CUSTOMERS

Because of positive recognition in the industry and its outstanding performance, we have made the 16LVD chemistry accessible alongside a variety of other alloys for both printing and dispensing. Powder sizes ranging from T3 to T6 are available, depending on the product and its typical application.

ECOREL™ FREE 305-16

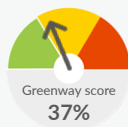
SAC305 no clean solder paste



- Overall balanced performance
- Transparent clear residues

ECOREL™ FREE 305-21

SAC305 no clean solder paste



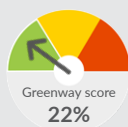
- High chemical reliability / passes BONO-test
- Also available with SAC405Y alloy

ECOREL™ 305-WS12

SAC305 watersoluble solder paste

GREENWAY

NEW



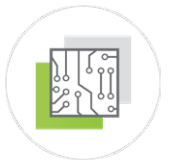
- Exceptional wetting
- Easy to clean
- sustainable solution

Non-exhaustive list of products. INVENTEC assists you to select the best product adapted to your need.

INSPIRING INNOVATION

SMT Soldering

ALTERNATIVE ALLOYS

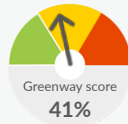


Low & No silver alloys

Low or no silver alloy solder pastes offer cost-efficiency, reduced environmental impact, and improved solder joint durability, making them a smart choice for soldering applications. Especially suitable to improved drop shock performance.

ECOREL™ FREE 007-16

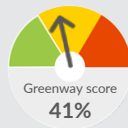
SAC007 no clean solder paste



- Sn99.3Cu0.8 doped alloy
- Overall balanced performance
- Transparent residues

ECOREL™ FREE 0307-16

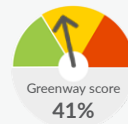
SAC0307 no clean solder paste



- Sn99Ag0.3Cu0.7 alloy
- Overall balanced performance
- Transparent residues

ECOREL™ FREE 105-16

SAC105 no clean solder paste



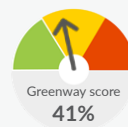
- Sn98.5Ag1Cu0.5 alloy
- Overall balanced performance
- Transparent residues

High silver alloys

High silver solder alloys offer superior electrical and thermal conductivity, providing more efficient heat dissipation and better electrical connections in electronic applications. They also exhibit greater strength, durability, and improved performance in thermal cycling conditions, making them a preferred choice for applications where temperature variations are a concern.

ECOREL™ FREE 387-28

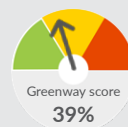
SAC387 no clean solder paste



- Sn95.5Ag3.8Cu0.7 alloy
- Robust assembly under a large process window
- Low flux spattering & low residue spread

ECOREL™ FREE 405Y-21

SAC405 no clean solder paste

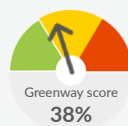


- Sn95.5Ag4Cu0.5 alloy
- High chemical reliability / passes BONO-test
- Improved thermocycling performance

High operating temperature alloys

ECOREL™ HTO-16LVD

SnAg3.8Cu0.8Bi3+dopants solder paste

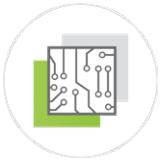


- Dedicated for harsh thermal environments
- Low voiding
- High chemical reliability / passes BONO-test

Non-exhaustive list of products. INVENTEC assists you to select the best product adapted to your need.

SMT Soldering

ALTERNATIVE ALLOYS

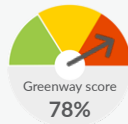


Leaded alloys

Lead-containing solder pastes still approved for use in specialized industrial and military applications, particularly in the aerospace and defense sectors where its unique bonding properties and reliability are crucial. However, its usage is heavily regulated due to environmental and health concerns, with lead-free solder being the preferred choice in most other applications.

ECOREL™ EASY 803M2

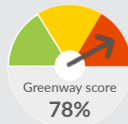
Sn63Pb37 no clean solder paste



- Easy processability
- Overall well balanced performance
- High chemical reliability

ECOREL™ EASY 802M

Sn62Pb36Ag2 no clean solder paste



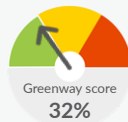
- Easy processability
- Overall well balanced performance
- High chemical reliability

Low solder temperature alloys

Low temperature solder paste are recommended for temperature sensitive components such as LEDs, MEMS, CMOS and flexible circuits. However, they are also used to reduce process cost as less heat is needed for reflow.

ECOREL™ FREE LT 140-18

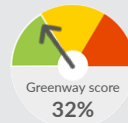
Sn42Bi57.6Ag0.4 no clean solder paste



- Low voiding
- Overall well balanced performance

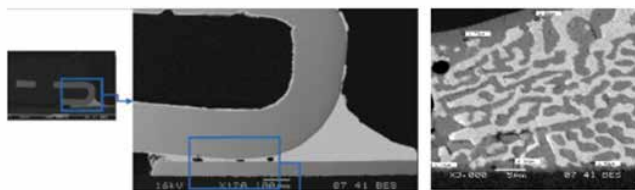
ECOREL™ FREE LT 141-16

Sn42Bi57Ag1 no clean solder paste



- Low voiding
- Overall well balanced performance
- Improved wetting and solder joint strength

Examples of solder joints with ECOREL™ FREE LT 140-18 on LED



Low solder voids. SEM analysis.
Uniform and constant IMC to both surfaces (PCB pad and LED)

SMT Soldering

JET PRINTING SOLUTIONS

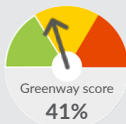


Jet printing solutions

ECOREL™ FREE JP32

SAC305 jet printing solder paste

NEW

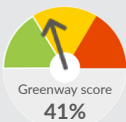


- Continuous & consistent solder paste deposits
- Available in T5 & T6 powder
- Optimized for Mycronic, Vermes, musashi jet printers

ECOREL™ FREE JP42

Sn42Bi57Ag1 jet printing solder paste

NEW

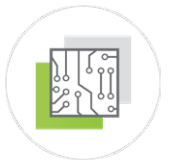


- Continuous & consistent solder paste deposits
- Available in T6 powder
- Optimized for Mycronic, Vermes, musashi jet printers



SMT Soldering

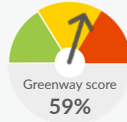
WAVE & SELECTIVE SOLDERING FLUXES



All our wave & selective soldering fluxes are characterized by their high chemical reliability as they **passes** not only **SIR** but also the **BONO test**. They also provide exceptional low levels of solderball formation. Solvent based fluxes provides an easier process set up, while water based fluxes gives you a sustainable option.

ECOFREC™ 200

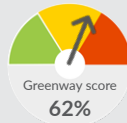
Solvent based no clean liquid flux



- Flux classification: ORLO / 2% solids
- High chemical reliability / passes BONO-test
- Residue less visual and better spread

ECOFREC™ 205

Solvent based no clean liquid flux

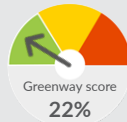


- Flux classification: ORLO / 4,2% solids
- High chemical reliability / passes BONO-test
- Improved wetting on all kinds of board finishes

ECOFREC™ 303

Water based / VOC free liquid flux

GREENWAY

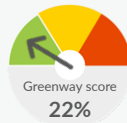


- Flux classification: ORLO / 3,5% solids
- High chemical reliability / passes BONO-test

ECOFREC™ 320

Water based / VOC free liquid flux

GREENWAY



- Flux classification: ORLO / 3,5% solids
- High chemical reliability / passes BONO-test
- Improved wetting on all kinds of board finishes

Non-exhaustive list of products. INVENTEC assists you to select the best product adapted to your need.

TINNING FLUXES

ECOFREC™ 82

Water based / VOC free liquid flux

- Flux classification: ORH1 / 6,5% solids
- Excellent wetting
- Easy to clean flux residues

ECOFREC™ HT 504

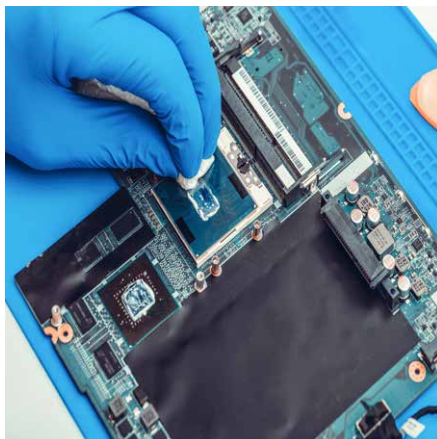
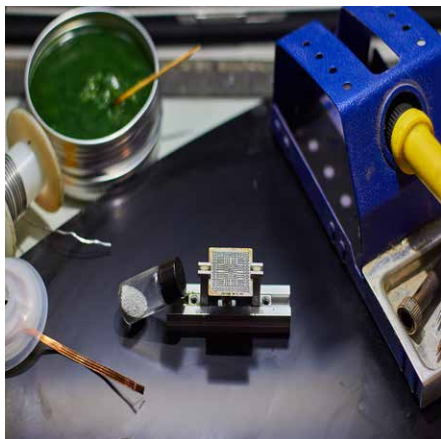
Solvent based high viscosity liquid flux

- Flux classification: ROLO / 30% solids
- Excellent wetting
- Dedicated for high temperature tinning



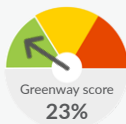
Rework & repair

DISPENSING SOLDER PASTE



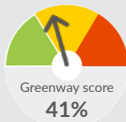
ECOREL™ 305-16LVD 85.0T5 SAC305 no clean dispensing solder paste

GREENWAY



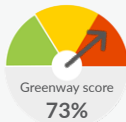
- Formulated with 16LVD chemistry
- Dispensing (85% metal / T5 powder)
- Suitable for repair of lead free assemblies

ECOREL™ 305-19T-85 T4 SAC305 no clean solder paste



- Dispensing (85% metal / T4 powder)
- Suitable for repair of lead free assemblies

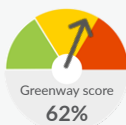
ECOREL™ EASY 802S-85 T3 Sn62Pb36Ag2 no clean solder paste



- Dispensing (85% metal / T3 powder)
- Suitable for repair of leaded assemblies

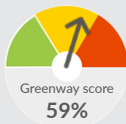
LIQUID & TACKY FLUX

ECOFREC™ DD6 Solvent based no clean liquid flux



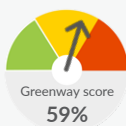
- Flux classification: ORLO / 6% solids
- High chemical reliability / passes BONO-test
- Improved wetting on all kinds of board finishes

ECOFREC™ TF49 ROLO no clean tacky flux



- Excellent wetting
- High chemical reliability / passes BONO-test
- Transparent, colorless flux residue

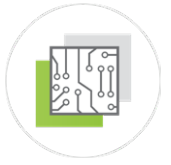
AMTECH™ NC559-V3 ROLO no clean tacky flux



- 3th generation of the famous NC-559
- Improved wetting
- Suitable for leaded & lead free assemblies

Semicon packaging materials

DCB ASSEMBLY



CHALLENGES FOR SOLDERING LARGE CHIPS ONTO COPPER DBC SUBSTRATES

GOAL

Achieve consistent, robust and reliable **bond-line thicknesses** (BLT) between large dies, chips and diodes onto the DCB copper substrates.

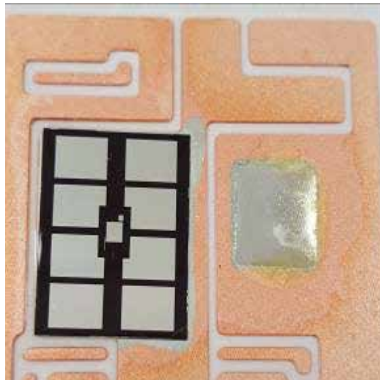
REQUIRED SOLDER PASTE PROPERTIES

In order to allow such consistent and reliable connections, an optimized solder paste must fulfill the following requirements:

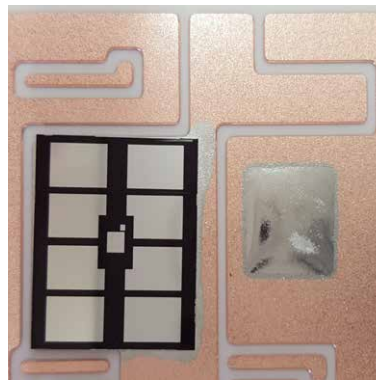
- Easy residue cleaning
- No copper discoloration/oxidation
- Low and repeatable voiding level
- Minimized flux spattering and solder leaking
- Good and consistent wettability on Cu
- High printing consistency on large areas

ECOREL™ FREE 300-31A RESULT

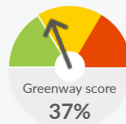
AFTER SOLDERING



AFTER CLEANING

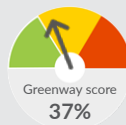


ECOREL™ FREE 305-31A SAC305 no clean solder paste



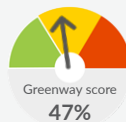
- Excellent Low voiding for DCB
- Minimized copper oxidation
- Very good wetting

ECOREL™ FREE 300-31A Sn96.5Ag3.5 no clean solder paste

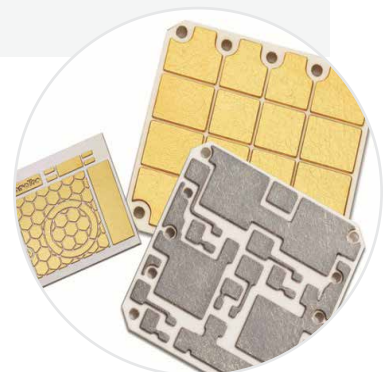


- Excellent Low voiding for DCB
- Minimized copper oxidation
- Very good wetting

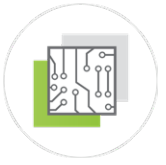
ECOREL™ FREE HT 245-16 Sn91.5Sb8.5 no clean solder paste



- High soldering & operating temperature
- Large process window



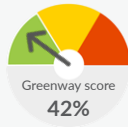
Semicon packaging materials



DIE ATTACH

ECOREL™ FREE HT 235-16LVD

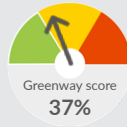
Sn95Sb5 no clean solder paste



- For high soldering or operating temperature
- Excellent low voiding
- Available in Type 6 powder

ECOREL™ FREE 300-31A

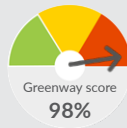
Sn96.5Ag3.5 no clean solder paste



- Excellent Low voiding
- Minimized copper oxidation
- Very good wetting

ECOREL™ HT 301T

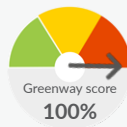
Pb93.5Sn5Ag1.5 no clean solder paste



- Excellent Low voiding
- Easy to clean flux residues
- High speed printing

ECOREL™ FREE HT 240A-86

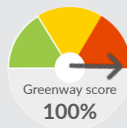
Sn5Pb85Sb10 dispensing solder paste



- For dual step soldering processes
- Consistant dispensing result
- Excellent low voiding

ECOREL™ HT 296T-85

Pb92.5Sn5Ag2.5 dispensing solder paste

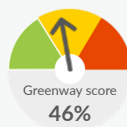


- For dual step soldering processes
- Consistant dispensing result
- Excellent low voiding

FLIP CHIP, CSP & POP ASSEMBLY

ECOFREC™ POP WS30

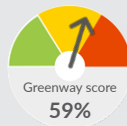
Water based PoP flux



- Flux classification: REH1
- Optimized tackiness to hold pakages in place
- Easy to clean flux residue

ECOFREC™ TF49

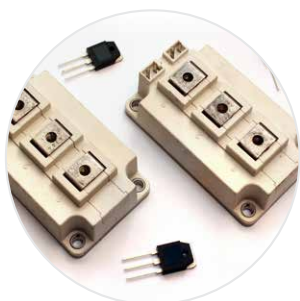
ROLO no clean tacky flux



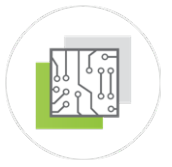
- Excellent wetting
- High chemical reliability / passes BONO-test
- Transparent, colorless flux residue

SINTERING

We are currently finalizing a range of sintering products, which soon be launched. If you can't wait for the official launch, do not hesitate to contact us. We are happy to explain more or even provide samples.



Corrosion analyzing tools



EC-RAT ApS is a spin-off company from the Center for Electronic Corrosion (CELCORR) research program led by the Technical University of Denmark. The company was founded by researchers with a background in materials and surface science having strong competencies in corrosion and climatic reliability issues.

Inventec is the exclusive worldwide distributor of EC-RAT corrosion analysing tools

QUANTIFLUX

The Quantiflux system provides local quantification of conductive contamination levels which can be converted to standard results and expressed as $\mu\text{g NaCl}/\text{cm}^2$ ($\mu\text{g NaCl}/\text{inch}^2$) via a conductivity calibration curve. This unique and patented test-method is an easier and lower cost alternative to Rose-testing. Scientifically proven & complies with standards.



MAIN APPLICATIONS

- Local analysis of conductive contamination levels, especially around critical components
- Compare & quantify contamination on selected solder pastes or fluxes
- Compare & quantify contamination with different process parameters
- Compare & quantify contamination prior and post cleaning

RESIDUES RAT

Residues RAT is a gel that identifies active flux residues in order to optimize & control processes and therefor improve the reliability of your manufactured electronics.

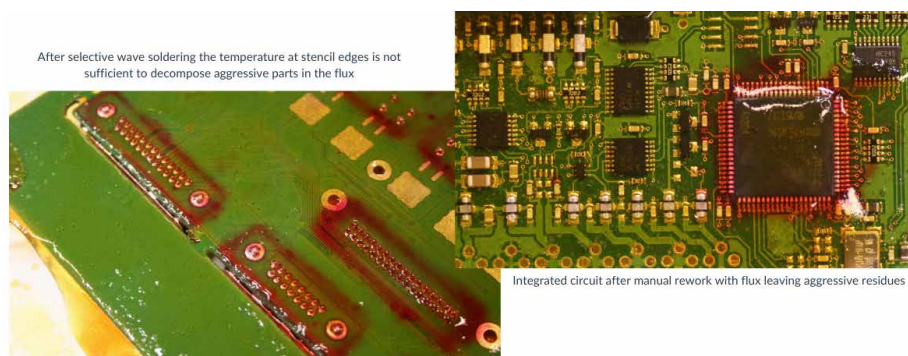


MAIN APPLICATIONS

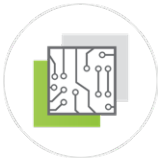
- Mapping levels of production residues on a PCBA
- Optimization & quality control of the SOLDERING process
- Optimization & quality control of the CLEANING process

EASY & FAST

DETECTION OF FLUX RESIDUES SPREAD



Corrosion analyzing tools



TIN RAT

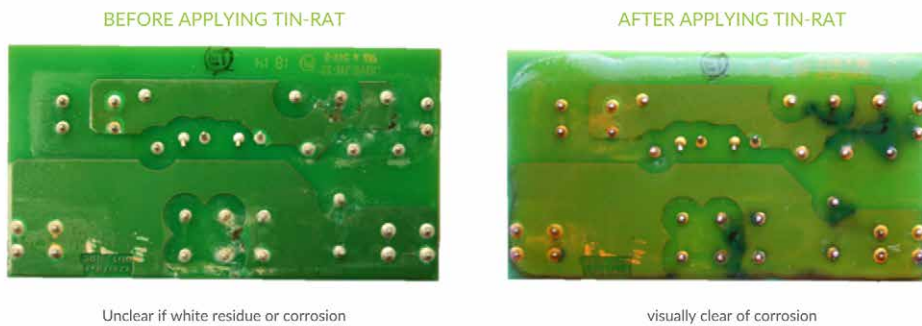
Tin RAT is a gel that easily detects & visualizes tin corrosion and dendrites for the benefit of electronics failure analysis and reliability testing.

MAIN APPLICATIONS

- Device robustness testing, combined with accelerated humidity/temperature testing
- Failure analysis of electronics from field returns
- A complementary technique for SIR testing

EASY & FAST

DETECTION OF CORROSION & DENDRITES



Corrosion analyzing tools

FASTER
&
EASIER

AT A SUBSTANTIAL LOWER COST

Cleaning

EXPERTISE, SUSTAINABLE & GLOBAL SUPPORT

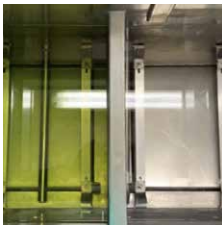


Inventec's **60** years expertise in precision cleaning has led to a wide range of cleaning products for both **mechanical and electronic applications**.

Effective defluxing is vital for ensuring the reliability and longevity of electronic devices, as it helps prevent issues like corrosion, short circuits, and degraded performance. Cleaning becomes even more crucial when **dealing with low standoff components**, such as surface-mount devices (SMDs) and fine-pitch integrated circuits. These miniature components are highly susceptible to contamination due to their compact nature, making them more prone to electrical shorts and other performance issues if not properly cleaned.

We cover **aqueous as well as solvent solutions** and many of our products are **qualified** by the major actors in the **electronic & semicon** industry.

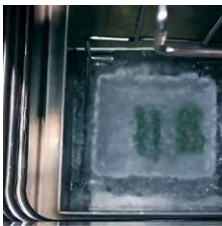
OUR BRANDS IN CLEANING



TOPKLEAN™

HYDROCARBON CLEANING RANGE

Cleaning fluids dedicated for co-solvent system or as a single solvent in vacuum cleaning process.



PROMOSOLV™

SOLVENT CLEANING & DRYING RANGE

Solvent based cleaning fluids for vapor phase cleaning process or used as rinsing agent in co-solvent systems. Also products for spotless solvent drying process.



PROMOCLEAN™

DETERGENT CLEANING RANGE

Cleaning fluids for water-based immersion or spray processes.



QUICKSOLV™

FAST EVAPORATING SOLVENT RANGE

Fast evaporating solvents for cleaning at ambient temperature. Mainly used for manual cleaning.

OUR PARTNER BRAND IN CLEANING



Inventec is an authorized distributor & formulator of 3M™ Novec™ fluids for precision cleaning applications.

Cleaning

DEFLUXING



For flux removal in electronic assembly or semicon applications, Inventec has cleaning chemistries to operate at different production stages:

- Before underfill for better adhesion performance
- Before wire bonding for better bonding process
- After reflow to remove flux residues & other pollutants
- Before applying conformal coating or potting to improve adhesion



Aqueous process

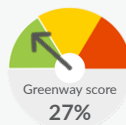
Aqueous cleaning solutions are known for their non-flammable nature, lack of volatile organic compounds (VOCs), and compatibility with a wide range of plastics. It's important to note, though, that when dealing with sensitive metals, there may be potential risks.

The recommended product below are all **safe to use on aluminium & other sensitive metals**.

PROMOCLEAN™ 707

Aqueous spray defluxing

GREENWAY



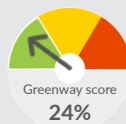
- High cleaning power, even at 10% concentration
- Non-foaming, even at high pressure

PROMOCLEAN™ 800

Aqueous spray-in-line defluxing

GREENWAY

NEW



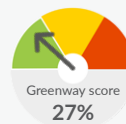
- High cleaning power, even at 10% concentration
- Designed for high production rates
- Removes also oxidation on copper, aluminium, ...

PROMOCLEAN™ TP 61

Aqueous immersion defluxing

GREENWAY

NEW

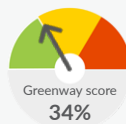


- Improved formulation of Promoclean TP 60
- Higher cleaning power & compatibility with aluminium

Vacuum process

TOPKLEAN™ EL 20D

Vacuum process defluxing



- Thermally and chemically stable (no additive need)
- No ODP & GWP
- Relative high flashpoint (safe for transport)

Cleaning

DEFLUXING



Co-solvent process



The co-solvent process has been a game changer for over 15 years and is qualified by several actors in the automotive, aerospace and semicon industry.

Designed to offer a **fast & sustainable cleaning process** in accordance with the latest and future environmental regulations.

It is the only solvent process which can reach even better cleaning efficiency levels (kb values) than nPB, perchloroethylene and other hazardous alternatives.

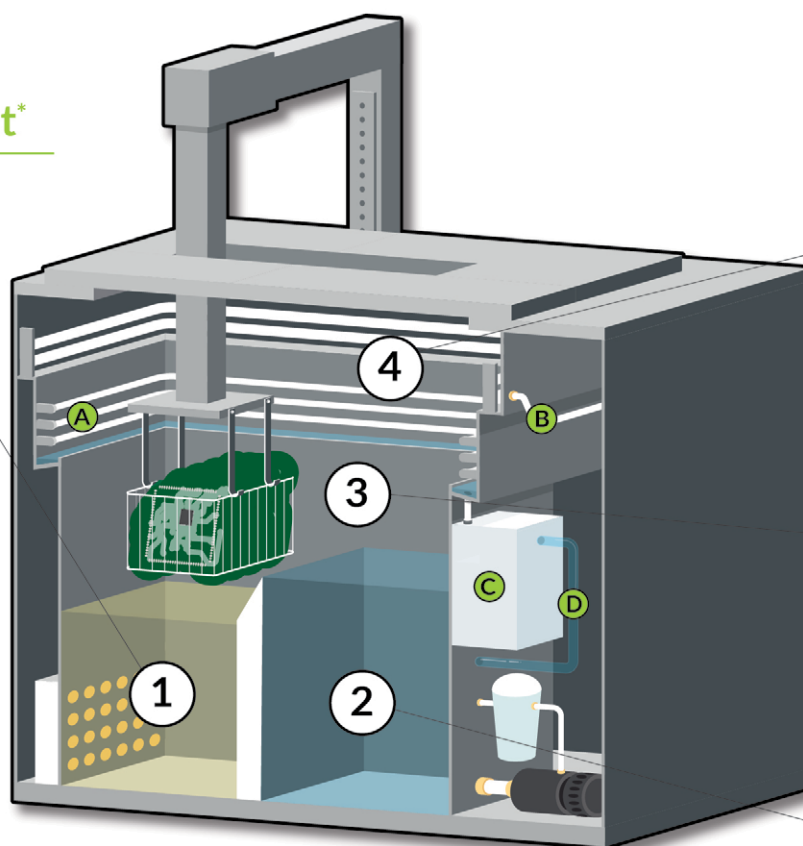
The co-solvent process consist of a cleaning solvent and a rinsing solvent. In a mixed co-solvent, the cleaning fluid and rinsing solvent are mixed in the cleaning tank. In a separated co-solvent, the cleaning fluid is used pure in a separated cleaning tank.

Standard cycle Mixed co-solvent*



Co-solvent cleaning tank :
TOPKLEAN™ EL 20P
+ **PROMOSOLV™ DR1**

- A** Condensing coils
- B** Condensate drain
- C** Chemical separator
- D** PROMOSOLV™ DR1
Solvent Recovery



Cold zone final drying
(condensation)

Rinsing with vapors of
PROMOSOLV™ DR1



Rinsing tank with
PROMOSOLV™ DR1

Cleaning

DEFLUXING



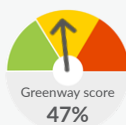
Co-solvent process

The surface tension is a key element on how well the cleaning fluid can penetrate narrow and difficult to reach spaces. This is especially important with dense populated boards and low standoff components. The cleaning & rinsing fluids we offer for a co-solvent process, are designed to have a very low surface tension.

Our Topklean cleaning fluids have an excellent ability to solubilize organic and minerals compounds, which allows to remove almost any solder flux residues used in the electronic industry today. It leaves no white residues and also provides a shiny effect on alloys & metals.

TOPKLEAN™ EL 20A

Co-solvent defluxing fluid

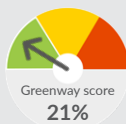


- Over 15 years the reference in the market
- High flashpoint

TOPKLEAN™ EL 20P

Co-solvent defluxing fluid

GREENWAY

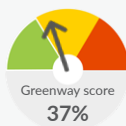


- Excellent cleaning under low standoff components
- Sustainable formulation
- High flashpoint

TOPKLEAN™ EL 80

Co-solvent defluxing fluid

NEW

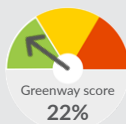


- Faster solubilization of organic compounds
- Improved cleaning
- Very high flashpoint

PROMOSOLV™ DR1

Co-solvent rinsing fluid

GREENWAY



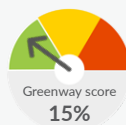
- Low GWP
- Can be returned for recycling and re-use
- Non-flammable & no flash point

PROMOSOLV™ NEO A2

Co-solvent rinsing fluid

GREENWAY

NEW



- Ultra-low GWP
- Can be returned for recycling and re-use
- Non-flammable & no flash point

Non-exhaustive list of products. INVENTEC assists you to select the best product adapted to your need.



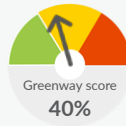
Cleaning

DEFLUXING

Vapor Phase process

PROMOSOLV™ 70ES

Vapor phase defluxing solvent



- High cleaning power
- Non-flammable (azeotropic)

PROMOSOLV™ 70IS

Vapor phase defluxing solvent

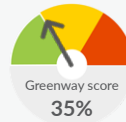


- High cleaning power
- Non-flammable (azeotropic)
- For high humidity environments

Manual cleaning

QUICKSOLV™ DEF 90

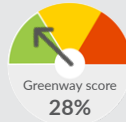
Multi-purpose cleaner



- Cleans perfectly flux residues, oils & organic residues
- Fast evaporating
- Non-flammable

QUICKSOLV™ DEF 70

Multi-purpose cleaner in aerosol packaging

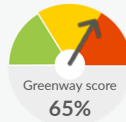


- Cleans perfectly flux residues, oils & organic residues
- Fast evaporating
- Non-flammable aerosol

GREENWAY

TOPKLEAN™ EL 10F

Multi-purpose cleaner



- Cleans perfectly flux residues, oils & organic residues
- Medium evaporating
- Immersion process at ambient temperatures

Ecoprogram™

RECYCLING OF SOLVENTS



ECOPROGRAM

Service for **SOLVENT RECYCLING**, **SOLVENT REGENERATION** & **ECO-CONSULTANCY**

Benefits:

- To reduce the amount of waste in the environment
- To avoid cost & administration for the destruction
- To buy recycled but still high-quality product at lower cost
- To improve your company's environmental image

REDUCE

- ENVIRONMENTAL IMPACT
- COST

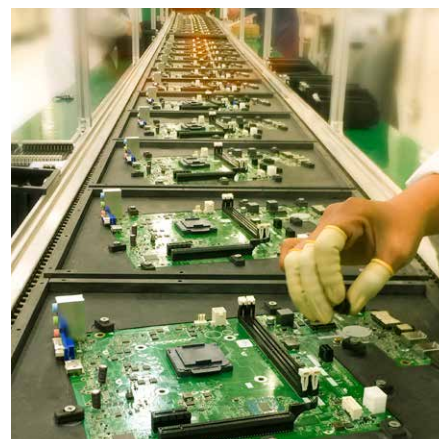
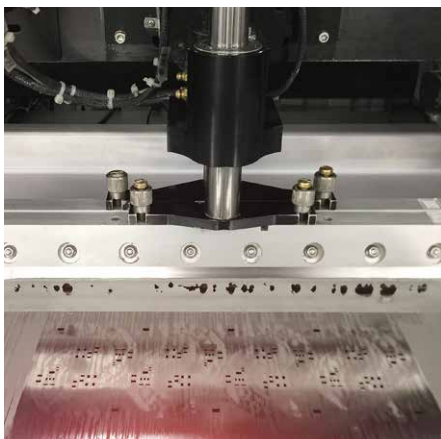


Our ECOPROGRAM service availability may differ from one to another country as recycling and waste-treatment is strictly regulated.

INSPIRING INNOVATION

Cleaning

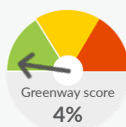
MAINTENANCE CLEANERS



TOPKLEAN™ EL 606

Stencil & misprint cleaner
Aqueous spray-in-air & immersion jet process

GREENWAY



- Perfect cleaning even at very short cleaning cycles
- No rinsing required
- No Health & Safety risk phrases

TOPKLEAN™ EL 7

Stencil cleaner for inside SMT printer

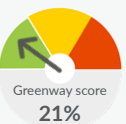


- Fast evaporation to leave no residues on stencil
- Compatible with aluminium & other sensitive metals
- Odorless

PROMOCLEAN™ OVEN 4

Manual reflow oven cleaner

GREENWAY

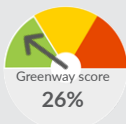


- Perfect cleaning of baked-on flux residues
- Compatible with aluminium & other sensitive metals
- Non-flammable & low environmental impact

PROMOCLEAN™ 610

Oven & wave carrier cleaner
Aqueous spray-in-air & immersion jet process

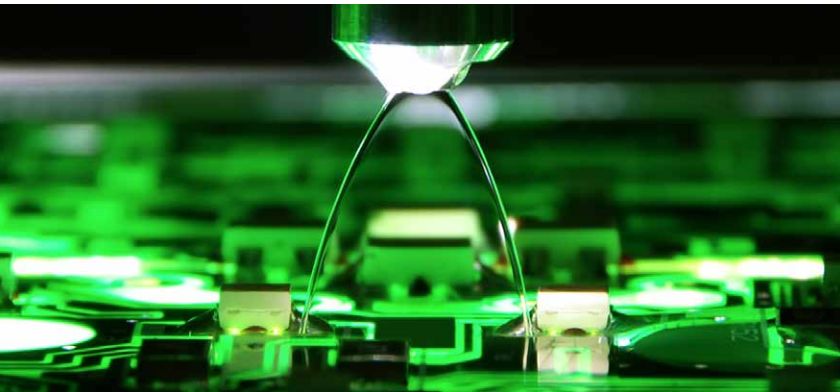
GREENWAY



- Perfect cleaning of baked-on flux residues
- Compatible with aluminium & other sensitive metals
- Low environmental impact

Coating

PROTECT & EXTEND LIFE-TIME



To **extend the life-time of your electronic assembly** and **protect it against harsh environments** they operate in, coating is a valuable option.

They can also provide **additional mechanical strength** to the assembly by absorbing vibrations.

OUR BRAND IN COATING



PROMOSOLV™ COAT ULTRA-THIN COATING RANGE

Ultra-thin coating range developed to protect electronics or other substrates with an easy, fast & environmental friendly process.

OUR PARTNER BRANDS IN COATING



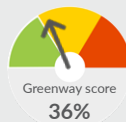
ABchimie's conformal coatings are great PCB protection solutions, especially developed with sustainability in mind.



3M™ Novec™ EGC coating range are ultra-thin coatings for electronics.

PROMOSOLV™ COAT UT10

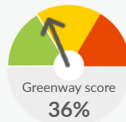
Transparent ultra-thin coating



- Hydrophobic and oleophobic
- Fast drying at room temperature (<1 min)
- Non-flammable & Low environmental impact

PROMOSOLV™ COAT UT10-UV

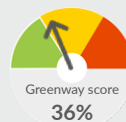
Transparent ultra-thin coating with UV tracer



- Hydrophobic and oleophobic
- Fast drying at room temperature (<1 min)
- Non-flammable & Low environmental impact

3M™ Novec™ 2704

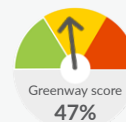
Transparent ultra-thin coating



- **Attention:** phased out by end 2025

ABchimie™ 746E UV LED

Conformal coating cured by UV LED



- Non flammable & no VOC
- Very flexible film, no cracks
- Fast & cost effective curing by UV LED

Non-exhaustive list of products. INVENTEC assists you to select the best product adapted to your need.

Cooling

NON CONDUCTIVE FLUIDS



Electronic or electrical devices in use creates heat and **need to be cooled to avoid malfunction**. Inventec developed a dielectric cooling fluids range to tackle today's needs for EV and high power applications. A valuable option for the development of drones, missile guiding systems and electric airplanes.

Key parameters are taken into account, such as:

- Heat transfer effectiveness
- Electrical Insulating Properties
- Safety & environmental impact
- Compatibility with materials

OUR BRAND IN DIELECTRIC COOLING FLUIDS



THERMASOLV™

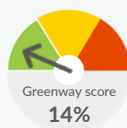
Dielectric cooling fluid range

Dielectric cooling fluids for both single phase & two phase immersion cooling or direct cooling.

THERMASOLV™ IM2

Dielectric heat transfer fluid

GREENWAY



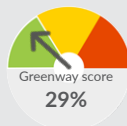
- Dedicated for 2-phase systems (BP: 49°C / 120°F)
- No GWP
- Non-flammable & no flashpoint

THERMASOLV™ CF3

Dielectric heat transfer fluid

GREENWAY

NEW



- Dedicated for 1-phase systems (BP: 120°C / 248°F)
- Low GWP
- Non-flammable & no flashpoint

Non-exhaustive list of products. INVENTEC assists you to select the best product adapted to your need.

THERMASOLV™

HIGH PERFORMANCE

SUSTAINABLE

SAFE

Technical support & product trials

FINDING THE BEST SOLUTIONS WITH OUR EXPERTS

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

Depending on your request, we provide online or onsite support:

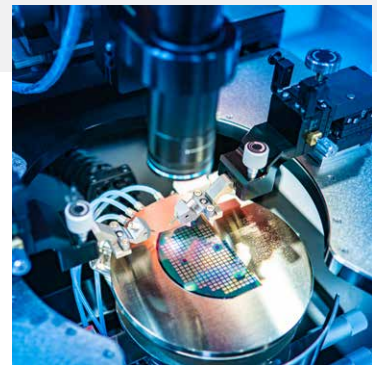
- To select the right product **based on your specific needs**,
- To assist you in your **product qualification process**,
- To guide you with the initial **set up of your process** at all your worldwide manufacturing facilities,
- To provide **fast response on technical issues** which could occur at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

Talking to our Technical Team, who are experts in soldering, cleaning & coating materials, will help you greatly to **overcome technical challenges within your overall process**.

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.



OUR MEMBERSHIPS TO STRENGTHEN OUR INDUSTRY KNOWLEDGE



Our partners



They support us

Inventec is one of the **110 laureates of the France Relance automotive & aeronautical modernization funds** in 2020.

By being part of laureates, Inventec developed its **FLUSHING NET** project:

- Set up of a **flushing cleaning line** at Inventec France,
- Creation of a **laboratory dedicated to particle counting** in order to validate cleaning effectiveness,
- Optimization of the **recycling process** in order to minimize flushing fluid consumption and improve the sustainability of the process.



INVENTEC WORLDWIDE

6
PRODUCTION SITES

10
SUBSIDIARIES

WORLDWIDE
DISTRIBUTOR
NETWORK



EUROPE

INVENTEC Performance Chemicals

Head Quarter, Sales office and production facility

26 rue des Coulons – BP 27

94363 Bry-sur-Marne cedex / France

Tel: +33 (0)1 43 98 75 00

Email: info_france@inventec.dehon.com

INVENTEC Spain

Sales office

Polígono Industrial Sepes, C/ Kepler 10,
E-46520 Puerto de Sagunto, Valencia

Tel: +34 (0)96 353 51 93

Email: infoSpain@inventec.dehon.com

INVENTEC Switzerland

Production site & Sales office

Z.I. Petits Champs 15

1400 Yverdon-les-Bains

Tel: +41 (0)24 424 80 90

Email: info.ch@inventec.dehon.com

INVENTEC Germany

Sales office

Robert-Bosch-Strasse 14

D-40668 Meerbusch

Tel: +33 (0)6 11 95 98 86

Email: info_germany@inventec.dehon.com

INVENTEC Hungary

Sales office

Gábor Dénes körút 580. (BITEP Ipari Park)

H-2040 Budaörs

Tel: +36 (0)23 431 660 / 661

Email: inventec.hu@inventec.dehon.com

ASIA

INVENTEC China

Production site & Sales office

1/2 F Building 6, No. 185 yuanke Rd.

Xinzhuan Industry Park 201108 Shanghai

Tel: +86 (0)21 6442 3962/82

Email: infochina@inventec.dehon.com

INVENTEC South East Asia

Production site & Sales office

No. 3, Jalan Industri Kidamai 2/1,

43000 Kajang, Selangor, Malaysia

Tel: +60 (0)3 8741 8925

Email: infoSEA@inventec.dehon.com

INVENTEC Japan

Sales office

Nippon TV Yotsuya Building

1F 5-3-23 Kojimachi, Chiyoda-ku, Tokyo

Tel: +81 (0)80 9567 1063

Email: infojapan@inventec.dehon.com

AMERICA

INVENTEC USA

Production site & Sales office

500 Main Street, Suite 18, PO Box 989

Deep River, CT 06417 USA

Tel: +1 (0)860 526 8300

Email: info_northamerica@inventec.dehon.com

INVENTEC Mexico

Production site & Sales office

Rio Conchos 1757, Fraccionamiento Industrial El Rosario

Guadalajara, Jalisco C.P. 44890, Mexico

Tel: +52 (0)33 3838 8866

info_southamerica@inventec.dehon.com


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PERFORMANCE CHEMICALS
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www.inventec.dehon.com • contact@inventec.dehon.com

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