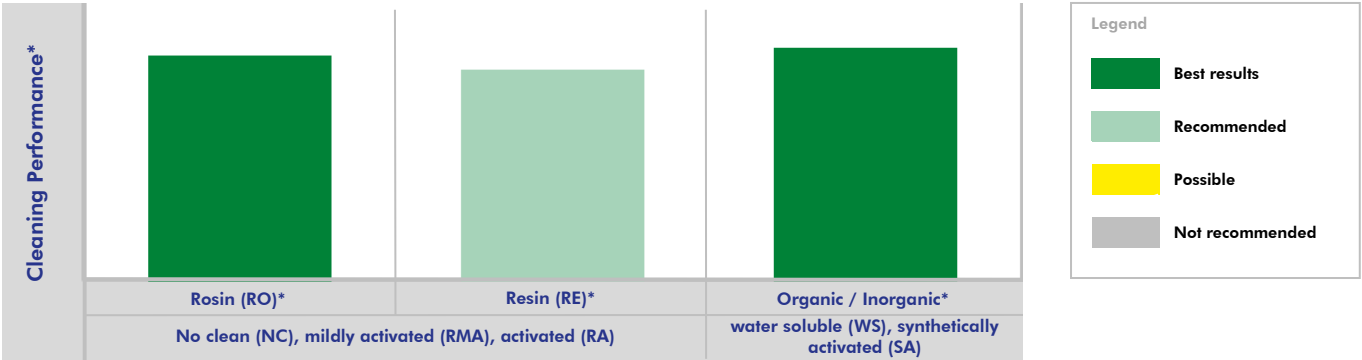


HYDRON® SE 220

pH neutral defluxing agent for semiconductor electronics

HYDRON® SE 220 is a water-based, single-phase cleaning agent specifically developed for the use in dip tank processes. HYDRON® SE 220 reliably removes flux residues from all kind of semiconductor electronics, such as leadframes, discrete devices, power modules and power LEDs as well as flip chip or CMOS, i.e. after die attach. Due to its single-phase formulation, the cleaning agent shows an excellent processability and good rinsing performance, providing optimal surface characteristics for subsequent processes such as wire bonding or molding. HYDRON® SE 220 is pH-neutral and thus ensures excellent material compatibility.

Areas of application – Defluxing of Semiconductor Electronics



* J-STD-004

Advantages compared to other cleaners

- Due to its single-phase formulation, HYDRON® SE 220 can be easily processed and provides excellent performance in dip tank processes.
- Can be easily rinsed off with DI-water without leaving any residues.
- pH-neutral, therefore excellent material compatibility, specifically with dies, no attack of chip passivations.
- Provides stainless, activated copper surfaces for subsequent processes such as wire bonding, molding and adhesive bonding and retains these activated surfaces over a temporary storage time.
- HYDRON® SE 220 has no flash point and a low odor and thus can be applied in dip tank equipment without explosion proof.

Process Steps

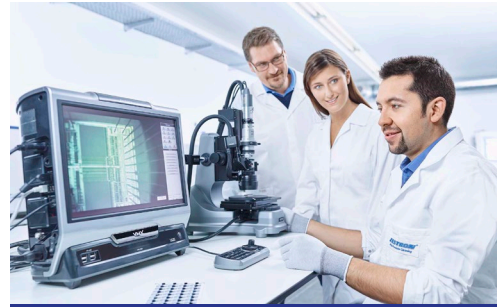
Cleaning Process	Parts	1. Cleaning	2. Rinsing	3. Drying
Ultrasonic (US) / Spray under immersion (SUI)	Power Modules, Leadframes, Discrete Devices, Power LEDs, Flip Chips, CMOS	HYDRON® SE 220	DI-water ¹	Hot air or circulating air

¹ The DI-water should have a temperature of 20-40°C/68-104°F.

Independent Test Center - Largest choice of leading machines, chemistry & analytics



Machine Test Center



Analytical Center

Visit our Machine Test Center and clean your power electronics in cleaning machines of leading international equipment suppliers.

Your benefits:

- You are introduced to the cleaning machines & you clean your power electronics under production conditions supported by your ZESTRON process engineer
- You check the cleaning results immediately on site (ROSE, optionally IR, IC, SEM/EDX etc.) for maximum comparability & result transparency
- You receive a process guarantee including detailed process parameters for the machine/cleaner combination that we recommend

Contact ZESTRON's process engineers for cleaning trials:

Europe: +49 8453 41995 318; techsupport@zestron.com / South Asia: +604 (3996) 100; support@zestronasia.com





Technical Data*

Density	(g/ccm) at 20°C/68°F	0.99
Surface tension	(mN/m) at 25°C/77°F	26.0
Boiling point	°C/°F	> 98°C / > 208°F
Flash point	°C/°F	None until boiling
pH value	10g/l H ₂ O	Neutral
Vapor pressure	(mbar) at 20°C/68°F	Approx. 20
Cleaning temperature	°C/°F	40 - 60°C / 104 - 140°F
Solubility in water		Soluble
Application concentration ¹	Concentrate	20 - 25 %
HMIS Rating	Health-Flammability-Reactivity	1 - 0 - 0

* Please note that the following information represents HYDRON® SE 220 at 25 % concentration.

¹ The concentrate of HYDRON® SE 220 has to be diluted in DI-water.

Product Features & Cleaning Standards

 <p>100% compliance with EU guidelines (RoHS 1, 2 & 3, WEEE)</p>	<p>Electronic assemblies cleaned with HYDRON® SE 220 in a ZESTRON specified process meet the following industry standards:</p> <ul style="list-style-type: none"> ■ IPC-A-610 Visual cleanliness ■ J-STD 001 Ionic and resin cleanliness and foreign object debris ■ IPC 5704 Cleanliness requirements for bare boards ■ IPC-Hdbk-65B Guidelines for cleaning of printed boards and assemblies <p>A cleaning process using HYDRON® SE 220 can help to reduce particle contamination.</p>
 <p>Extensively tested and suitable for cleaning lead-free solder pastes</p>	
 <p>HYDRON® Technology offers single-phase formulations and a good processability</p>	
 <p>Product is free of any critical substances according to SIN & SVHC lists</p>	

Environmental, health & safety regulations

- HYDRON® SE 220 is water-based and biodegradable.
- HYDRON® SE 220 is formulated free of any halogenated compounds and environmentally friendly.
- Refer to the MSDS for specific handling precautions and instructions.

Availability & Storage

1 Liter	✓
5 Liter	✓
25 Liter	✓
200 Liter	✓

- Available as concentrate
- Store HYDRON® SE 220 in the original container at a temperature between 5 - 30°C / 41 - 86°F.
- The product has a minimum shelf life of 5 years in factory sealed containers.



Further product information

- **Material Compatibility**
Please review the Material Compatibility overview before using the cleaning agent.
- **HYDRON® Technology Sheet**
Detailed information on HYDRON® Technology
- **Filter recommendation**
To take full advantage of HYDRON® Technology and further extend the bath life of HYDRON® SE 220, filtration is recommended.
- **Safety data sheet**

Available Process –Optimization –Products

To ensure a stable running cleaning process, it is important to monitor cleaning agent concentration and regular bath treatment. For HYDRON® SE 220 a variety of process support products are available:



Concentration measurement:

- ZESTRON® EYE for automated real-time concentration monitoring providing 100% traceability.
- ZESTRON® Bath Analyzer 20 a manual test method for fast and reliable checks on cleaner concentration.