

2022

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Instrument cleaning

Development of the next reprocessing standard

- **Over the next 2-3 years**, a new Australian standard will be developed that covers **both** office-based practice and large health care facilities, and which will be linked to specific implementation guides (including one for dentistry)
- This new standard, once released, will replace **both** AS/NZS 4815:2006 and AS/NZS 4187:2014.
- Until that happens, dental practitioners can continue to follow either of the two existing standards.

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AS 5369 – unified reprocessing standard in advanced stage of development



Reprocessing of reusable medical devices and other devices in health and non-health related facilities

Public comment round on DR AS 5369 ended mid Jan 2022. >530 comments.

Currently in response phase for Standards Australia committee HE-023.

There will be a second public comment phase and ctee vote in late 2022. After this will be the final release of AS 5369: 202X.

Implementation advice from ADA ICC will follow.

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From manual to mechanical cleaning (Ultrasonic cleaner or Washer disinfectant)



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COVER STORY

WASHER DISINFECTORS

A PRACTICAL APPROACH

Infection control has arguably never been a more important and prominent topic than over the last couple of years, as we have regarded all our best-practice recommendations to ensure continuation of our industry through the COVID-19 pandemic. Emeritus Professor Laurence J. Walsh, on behalf of the ADA's Infection Control Committee, takes a close look at one of the important everyday products that helps us achieve maximum hygiene.

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There are further considerations around the quality of the water that is used for final rinsing, e.g., this rinsing water must not leave residues of bacterial endotoxin on instruments. If rinsing water has high levels of certain ions, this can cause spotting on instruments. A proper process for installation qualification by the supplier will check these aspects and will verify that all ordered items (such as baskets, couplings, and inserts) have been received, and will verify that the WD has been installed according to the manufacturer's specifications, including water quality and power supply. In some large dental clinics and many hospitals, water from a de-ioniser system or water from a reverse osmosis (RO) system is used for the final rinse of a WD, as this will have met the required specifications for rinsing water quality.

Operational qualification will include parametric tests (Temperature measurement) to verify that the WD is working according to its specifications, and that the temperature profile in the chamber is in line with specifications. Typically, this qualification is performed annually and forms part of a written service agreement for annual servicing and maintenance of the WD, which involves a service engineer who has been authorised and trained by the manufacturer.

Performance qualification is the process of obtaining and documenting evidence that the WD when operated in normal usage conditions, consistently performs in accordance with predetermined criteria and thereby yields reprocessing of instruments according to the specifications. This includes the use of soil tests.

Daily functional tests are specified by the manufacturer, and include checks for spray arm rotation, the filling level of chemical reservoir containers, and cleanliness of nozzles.



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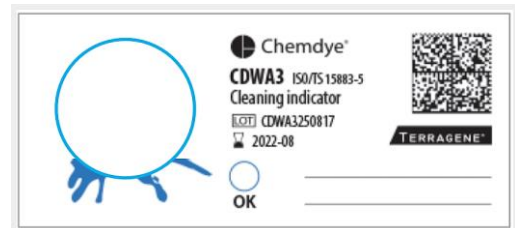
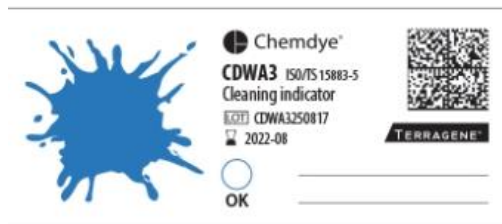
Updated ultrasonic cleaner std AS 2773:2019



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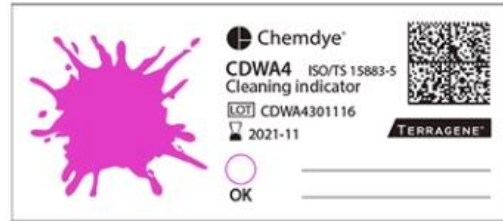
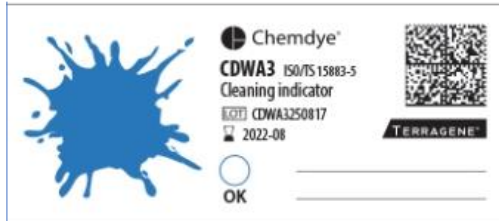
Washer disinfecter performance tests: SPLAT



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Washer disinfectant performance tests: SPLAT



Chemdye Cleaning Indicators

Chemdye CDWA indicators consist of a 70 x 30mm temperature stable indicator containing a mixture of specially combined natural colored components (proteins, carbohydrates, fatty acids & dyes). The test soil is non-toxic and will dissolve with the cleaning agent. The chemdye indicators will detect all factors that can effect the result of the cleaning process. Chemdye indicators are suitable for routine monitoring of washer disinfectors and ultrasonics and will give you a visual indication of how effective your cleaning process is.

CDWA Cleaning system offers 2 different levels of indicators with different adhesion characteristics, thus allowing different challenge levels to test cleaning efficiency.

Both indicators are **ISO/TS 1588305:2005** standard.

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Washer disinfectant performance tests

Zones of Effect | Process Cleaning Indicators



Chemdye indicators must be used with the CDWAH holder. The holder mimics a realistic challenge, and will show you how well your process is cleaning hard to reach areas.

When placed in the holder, half of the test soil will be obscured. This is the **Covered Zone**. This will simulate the cleaning of a joint of a surgical instrument, as the water stream will only hit it indirectly. The other half of the indicator is covered by mesh, this is the **Basket Zone**. This mimics shadowed or occluded surfaces as the water stream will have difficulty reaching the indicator.

<p>Basket Zone</p> <p>Covered Zone</p>	
<p>Basket Zone Influence Factors</p> <ul style="list-style-type: none"> ■ Water Pressure ■ Spray System Performance ■ Detergent Chemistry ■ Detergent Concentration ■ Temperature 	<p>Covered Zone Influence Factors</p> <ul style="list-style-type: none"> ■ Water Quality ■ Cycle Duration ■ Detergent Chemistry ■ Detergent Concentration ■ Temperature

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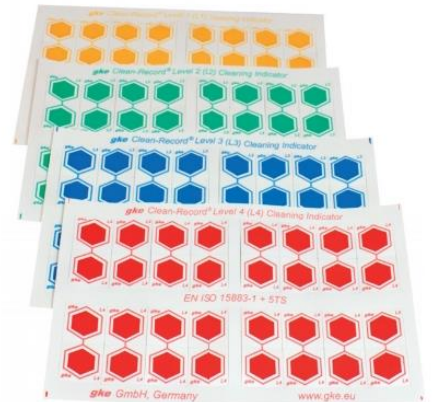
U/sonic and Washer disinfectant performance tests

gke Cleaning Efficacy Test

gke Cleaning Efficacy tests are state of the art self adhesive Cleaning Indicators for washer disinfectors and ultrasonic baths. These synthetic indicators manufactured in Germany can be matched to your critical process parameters to ensure you will never get a false pass.

With so many combinations of detergent, water quality, programme and soil you need a multi level system to ensure your process has been matched with the right indicator type. Not all indicators are equal and the GKE range is head and shoulders above the rest for quality, reliability and durability.

Use the Multi-level indicator to find your colour, then use that for routine monitoring. When a Indicator fails you can trust that something in your process has changed such as detergent, processing time or water quality. Re-test with a Multi-level when you switch detergent or change dosage to ensure you are still using the correct indicator for the new parameters.



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- Flow of work
- Bench space
- Under bench lighting
- GPO outlets
- Compressed air
- WD capability
- Water softening
- Water Tx (RO/DI) for final wash
- Separate electrical circuits
- Exhaust ventilation
- Thermal load for a/conditioning
- Clean storage of sterilized items
- Avoid direct sunlight

Sterilizing room design



Provision for washer disinfectors?

- Space in the joinery
- Chemical dosing tank space
- Location of services
 - Waste
 - Electrical power – high capacity circuit
 - Feed water – may need to come via softener when local tap water is too hard (high TDS)
 - Final rinse water – from RO or DI
- Ergonomics for loading/unloading
 - Avoid location in corners
- Total heat load in the room



WD electrical power: 3 phase vs. single phase



Water for steam sterilizers and WD final rinse

Distiller, deionizer, reverse osmosis



Cassettes – fit into WD



Cassettes



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Storage at height

- Bulkhead to ceiling good for lowering dust accumulation
- Practicality of high cupboards
- Only light items (manual handling issues)



Sterilizing room – modular design and prefab.


TOTAL STERI SOLUTIONS by Henry Schein Halas



Need for OPA instrument level disinfectant for items that cannot with stand heat?



EXPERIMENTAL AND THERAPEUTIC MEDICINE 1: 731-738, 2010

	Microorganism	Examples
<div>More resistant</div> <div></div> <div>Less resistant</div>	Prions	Scrapie, Creutzfeldt-Jakob disease, chronic wasting disease
	Bacterial spores	<i>Bacillus</i> , <i>Geobacillus</i> , <i>Clostridium</i>
	Protozoal oocysts	<i>Cryptosporidium</i>
	Helminth eggs	<i>Ascaris</i> , <i>Enterobius</i>
	Mycobacteria	<i>Mycobacterium tuberculosis</i> , <i>M. terrae</i> , <i>M. chelonae</i>
	Small, nonenveloped viruses	Poliovirus, parvoviruses, papillomaviruses
	Protozoal cysts	<i>Giardia</i> , <i>Acanthamoeba</i>
	Fungal spores	<i>Aspergillus</i> , <i>Penicillium</i>
	Gram-negative bacteria	<i>Pseudomonas</i> , <i>Providencia</i> , <i>Escherichia</i>
	Vegetative fungi and algae	<i>Aspergillus</i> , <i>Trichophyton</i> , <i>Candida</i> , <i>Chlamydomonas</i>
	Vegetative helminths and protozoa	<i>Ascaris</i> , <i>Cryptosporidium</i> , <i>Giardia</i>
	Large, nonenveloped viruses	Adenoviruses, rotaviruses
	Gram-positive bacteria	<i>Staphylococcus</i> , <i>Streptococcus</i> , <i>Enterococcus</i>
	Enveloped viruses	Human immunodeficiency virus, hepatitis B virus, herpes simplex virus

Sterilization vs High, intermediate, and low level

