

AQUACERT

**Just 3 Steps To
Peace of Mind**



.... the company that made legionella testing simple, affordable and available to everyone

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EMS AquaCert is a privately owned company which provides a total water testing and treatment package. The Company is headed by Duncan Hollis, a leading expert in the field of water and air quality, who has been giving seminars on Legionellosis for more than 15 years. He was acknowledged by the Health and Safety Executive for his contribution to their L8 publication, ' Approved Code of Practice and Guidance - Legionnaires' Disease', now considered the definitive guide to the control of and prevention of Legionnaires' Disease.

For all enquiries, please call our Head Office on 01327 844848

Sampling for Legionella and TVC's

A step by step guide to legionella sampling from EMS AquaCert

We post the bottles/courier bags & "Sample Collection Request" sheets out to your site(s).



You fill the bottles, then complete the "Sample Collection Request" sheet. Then fax us this sheet, we organise and pay the courier costs.



The courier takes the samples to our laboratory for analysis.



The "filled" bottles and "Courier Pick Up Request" are put into the courier bag.



Date Sampled	Water System	Total Viable Count	Legionella	Lead	Highly Resistant Legionella	Other
22.06.08	CHW1.1	1	<1	<1	<1	
22.06.08	CHW1.2	1	<1	<1	<1	
22.06.08	CHW1.3	1	<1	<1	<1	
22.06.08	Legionella Reception Unit	1	<1	<1	<1	
22.06.08	Legionella Reception Unit	2	5	<1	<1	

We send the results certificate out to your property and to your Head Office, if appropriate.



The results sheet will interpret the bacteria levels - if poor - we will suggest what actions are necessary.



Finally.....
We will update our database ,which automatically sends out a reminder to you when your next test is due..

How the sampling process works

Do you have to test for legionella?

What is the law and what is simply good practice?

The main document from the HSC is **called Legionnaires' Disease - The control of legionella bacteria in water systems (L8)**. This provides practical guidance and also acts as an Approved Code of Practice but is not in itself primary Law.

When tragedies have happened in the past, those responsible have been prosecuted under existing legislation, namely the **Health & Safety at Work Act (HSWA)** and **Control of Substances Hazardous to Health (COSHH)**.

When does the HSE require Legionella Sampling?

In June 2003 the HSE published an Audit Checklist which is designed to help the responsible person audit the arrangements in place to control legionella in the water systems for your premises.

Para 39 states

Are there procedures in place to identify circumstances when either general microbiological monitoring or sampling for legionella would be appropriate?

Para 40 states

If there are procedures in place, do these identify where samples should be taken, and the frequency and actions required?

In the HSE document **Legionnaires' Disease - The control of legionella bacteria in water systems (L8)**, monitoring for legionella is recommended under the following situations (*para 185*):

1. If the hot water temperatures are not consistently achieved - weekly samples for legionella testing are recommended!!
2. If an outbreak is suspected or identified.
3. Where the premises contain "at risk" people such as people over 45 years old, smokers, alcoholics, diabetics, and those with cancer, chronic respiratory or kidney disease.

Most care facilities, particularly those with residential accommodation, will contain "at risk" people, and additionally many will have hot water services which fail to meet the target temperatures during peak periods.

Who else gets involved with the "Legionella Issue"

Apart from the Care Commission and National Minimum Care Standards requirements, many local authority social services are also insisting that legionella sampling is undertaken on a regular basis.

Our recommendations

YOU MUST carry out a risk assessment on your water system, then manage the risks and implement a system of record keeping. **Sampling for legionella every 6 months will help demonstrate that control is being achieved.**

What if the result shows there is legionella present?

There are 40 different species of legionella, but only one - Legionella pneumophila - causes fatalities. There are even 16 serogroups of legionella pneumophila of which only serogroup 1 is most commonly associated with cases of Legionnaires' Disease.

It is not uncommon to find legionella bacteria in hot water systems - often at levels of 200 - 300 (cfu/litre). At this concentration, there are too few to cause an outbreak - but we recommend the whole system design and operation is reviewed. A disinfection of the water services is advised, followed by resampling.

When the concentration rises above 1000 (cfu/litre) a disinfection is necessary and you should notify your local Care Standards Inspectorate.

How many samples do we need to take?

The number of samples will depend on the type, size and complexity of the building, but we can use experience to help simplify the selection.

- ❖ In a large building, there may be more than 1 hot water system - each system will need to be sampled.
- ❖ In a large building, some rooms may be rarely used - allowing water to stagnate. Therefore additional sampling locations will be needed to check the whole building is clear from legionella bacteria.
- ❖ If the building has 100 "at risk" residents rather than 10 young, healthy ones - additional and perhaps more frequent sampling will be needed.

Legionella sampling - is it law?

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The Legionella
Control Association



Laboratory Analysis

Which bacteria are harmful?

There are millions of different types of bacteria, most of them pose no health hazards to us. Those that are harmful are called pathogens and it's the proliferation of these organisms which we need to control.

Testing for bacteria

When we check the water quality, we ask for several tests to be carried out to measure the bacteria present. Naturally, it would be too costly to test for every known pathogen, so there are standard analyses which will determine if the water is potable.

Total Viable Counts (TVC's)

This test measures the total number of bacteria present in a 1cm³ sample. The results do not tell us if there are pathogens or legionella present but the more bacteria we find, the poorer the water quality is.

E.Coli and Coliforms

These bacteria come from faecal contamination. If we find any of these at all, the system must be disinfected without delay.

Legionellae

This test checks for the presence of any of the 40 species of the legionellaceae family. The genus which causes us most problems is legionella pneumophila which has 14 serogroups. It is serogroup 1 which can be fatal.

Controlling bacteria

We prevent bacteria multiplying by keeping water systems clean and maintaining safe temperatures, this means keeping the cold water below 20°C and the hot water above 50°C at the outlets (but stored at 60°).

Often, we need to test for specific bacteria (such as those below), this is where our UKAS accredited laboratory demonstrates its expertise.

Listeria	<i>can cause meningitis, septicaemia and miscarriages</i>
E.Coli 0157	<i>causes haemorrhagic colitis and haemolytic uraemia syndrome, giving rise to kidney failure</i>
Salmonella	<i>is found in raw meat, poultry, untreated milk, unwashed vegetables and eggs</i>
Staphylococcus Aurous	<i>can be found in human septic cuts and boils as well as the nose & throat (and even healthy skin)</i>
Clostridium Perringens	<i>is normally associated with human/animal excreta, raw meat and poultry. This bacterium can be activated by the cooking process to cause problems after eating</i>
Campylobacter	<i>is found in poultry, meat, raw milk, untreated water and is carried by many birds and dogs</i>
Cryptosporidium	<i>is common in sheep, calves and domestic pets and will cause abdominal pain, fever and diarrhoea for about 2 weeks</i>
Pseudomonas aeruginosa	<i>is found in soil, water, and vegetation. Now resistant to many antibiotics and can cause septicaemia, urinary tract infections, pneumonia, chronic lung infections, endocarditis, dermatitis, and osteochondritis.</i>

Testing for Bacteria

L8 Legionella Risk Assessment

You have to undertake a risk assessment of your water system, it's now a legal duty

The paragraphs below are taken from HSE documents

What are the changes to the ACOP? (Approved Code of Practice & Guidance)

The most significant change for you, as a provider of residential accommodation, is the removal of the 300 litre limit for hot and cold water services. This was an artificially chosen limit and its removal means that all premises with a water system are now within the scope of the revised ACOP. Also, recent research shows that legionella does occur in smaller domestic systems.

Practical guidance on how to comply with your new legal responsibilities regarding control of legionella is given in the ACOP. It is important you use the current version of the ACOP as it has been recently updated. Important changes that we made to the ACOP and guidance include:

- Keeping records for a minimum of five years.
- Water treatment companies and consultants must show their service is effective.
- Recommended guidance linked to the appropriate sections of the ACOP.
- Details on all aspects of risk assessment control.
- Inclusion of tables which detail the monitoring requirements for cooling towers, and hot and cold water systems.

What do I have to do to comply with the law?

Legionella bacteria can multiply in hot or cold water systems and storage tanks in residential properties, and then be spread, eg in spray from showers and taps. Although the generally high throughput and relatively low volume of water held in smaller water systems reduces the likelihood of the bacteria reaching dangerous concentrations, you must still carry out a risk assessment to identify and assess potential sources of exposure. You must then introduce a course of action to prevent or control any risk you have identified.

Assessing the risk

It may be possible for you to assess the risk yourself, but if you do not feel you have the right skills, you can obtain help and advice from **EMS Ltd**. When you do the risk assessment, consider the following:

- Are conditions right for the bacteria to multiply, eg is the water temperature between 20°C and 45°C?
- Are there areas where stagnant water occurs (deadlegs), eg pipes to a washing machine that is no longer used?
- Are there infrequently used outlets, eg showers, taps?
- Is there debris in the system, such as rust, sludge or scale (often a problem in old metal cisterns), that could provide food for growing legionella?
- Are there thermostatic mixing valves that set a favourable outlet temperature for legionella growth?
- Are any of your employees, residents, visitors etc vulnerable to infection, eg older people, those already ill?

Answering 'yes' to any of these questions suggests there is an increased risk of your residents being exposed to legionella and falling ill.

What should you do if you decide the risks are insignificant?

Review the assessment periodically.

What should you do if you identify risks?

L8 Risk Assessments

L8 Legionella Risk Assessment

Introduce proper controls, which could include disinfection of the system -you will need to refer to the ACOP for guidance on the action you should take.

As the design, maintenance and operation of the system are crucial in controlling the growth of legionella, any action you take is likely to include the following:

- Ensuring water cannot stagnate anywhere in the system, eg remove redundant pipework, run taps/showers in unoccupied rooms.
- Keeping water cisterns covered, insulated, clean and free of debris.
- Insulating pipework.
- maintaining the correct temperature at the calorifier (ie the hot water cylinder).
- Advising maintenance staff working on the system about the risks and how to minimise them; and advising tenants about the risks, the control measures you are taking and the precautions they can take, such as flushing through showers following a period of non-use.

Raising the temperature of your warm water is one way to control legionella growth, but could also increase the risk of burns and scalding.

You will need to consider points like this when you do your risk assessment and decide which control measures to use.

What should you do after assessing the risk and putting controls in place?

Review your risk assessment at regular intervals, especially if any factors change, eg you change your disinfection regime, more vulnerable groups of people (eg the elderly) move into your accommodation.

Where can I get further information?

Further details about the treatment and management of hot and cold water systems are available in the Approved Code of Practice and guidance:

Legionnaires' disease. The control of legionella bacteria in water systems. Approved Code of Practice and guidance L8 (Third edition) HSE Books 2000 ISBN 0717617726.

Part 1 of this publication contains advice on your duties under the law.

Part 2 contains guidance on the technical aspects of the assessment and control of legionella risks.

You may also find the following publications helpful:

Legionnaires' disease: A guide for employers Leaflet IAC27(rev2)

HSE Books 2001 (single copy free or priced packs of 15 ISBN 0 71761773 4).

Controlling legionella in nursing and residential care homes Leaflet INDG253

HSE Books 1997 (single copy free).

If all this sounds too much then EMS can help you!

EMS undertake the complete package for you

- **We will visit your site to inspect and survey all the water systems.**
- **We will check temperatures throughout the property and provide a report/risk assessment according to the guidelines.**
- **We will produce a basic schematic of your hot/cold water services**
- **We can undertake remedial works to bring your systems into compliance**

L8 Risk Assessments

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The Legionella
Control Association



L8 Training

Attain L8 compliance for training/competence of responsible personnel

Attitudes toward water management regimes and the effectiveness of legionella control measures can be strongly influenced by basic education and training. EMS will adjust our training to suit your individual needs, from basic general awareness and background information, through to the advanced details of the approved code of practice.

Typically we undertake training at your site since this offers the advantage of blending the theory with the practical requirements of your individual systems.

We aim to banish some of the myths associated with legionnaires disease, boost awareness and above all increase the competence of staff to implement control measures.

All staff that attend the training will receive a certificate of attendance, for their personal training files and for the legionella control records.

Sample Training Agenda

Mains water supply

Why the water quality varies in different parts of the country - when do you take responsibility for it?

Microbiological organisms

What makes them proliferate, which are harmful to humans, how many can a system have before it is deemed dangerous?

Cooling towers OPTIONAL - only if you look after Cooling Towers

What do the chemical tests mean, why do the values keep changing?

Humidifiers, water features and domestic hot/cold water services

What are the water hygiene risks associated with various water systems?

Law -v- guidance

Are you responsible if there is a problem? Could it be you that goes to prison?

Assessing water hygiene risks in water systems

This section allows the delegates to assess the risks in all types of water systems and is used to check that the information in the previous topics has been understood?

Monthly tasks for L8

What L8 says should be carried out weekly / monthly / 3 monthly etc

Logbook entries

How to complete the site logbook for water hygiene tasks

Change of Emphasis

For owners, directors and managers
- we will emphasise their responsibilities and obligations in greater detail.

For engineers the emphasis will be of a more practical nature.

Frequently Asked Questions

How long does the training take?

Normally a basic training course takes 2 hours, we find that we can cover all the essential information in an upbeat, light-hearted manner within this period. Keeping it short and fun means your staff find it both fun and enlightening.

How many people per session?

We can manage from 1 right up to 50

What do you need from us?

If there are more than 8 people, we prefer that you supply an OHP. If that's a problem, we can bring one (but they don't travel too well in cars!)

Costs

If we already look after 20 or more of your sites - the training is FREE.

If not, the daily rate for training is £320.00^{+VAT}. Bear in mind we can actually do 3 sessions in a day - so you can split your staff into groups/shifts - thereby minimising disruption to your normal working practices.

If you get 50 people trained during 1 day - that's only £6 per person! (Maximum 20 people per session)

excerpt from The ACOP and Guidance L8: Legionnaires Disease the control of legionella bacteria in water systems (para 45)

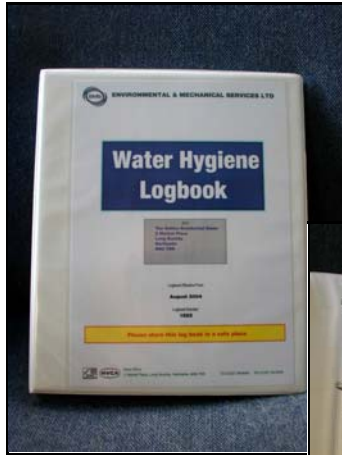
“Those who are appointed to carry out the control measures and strategies should be suitably informed, instructed and trained and their suitability assessed. They should be properly trained to a standard, which ensures that tasks are carried out in a safe, technically competent manner. Regular refresher training should be given and records of all initial and refresher

L8 Training

L8 Water Hygiene Logbook

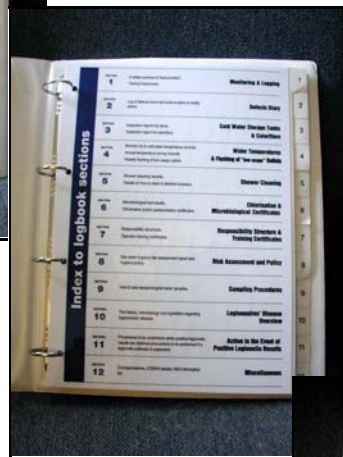
To comply with L8 Legionnaires' disease - The control of legionella bacteria in water systems" APPROVED CODE OF PRACTICE & GUIDANCE, then the records of assessments , inspections, tests and checks must be kept for 5 years.

L8 Water Hygiene Logbooks



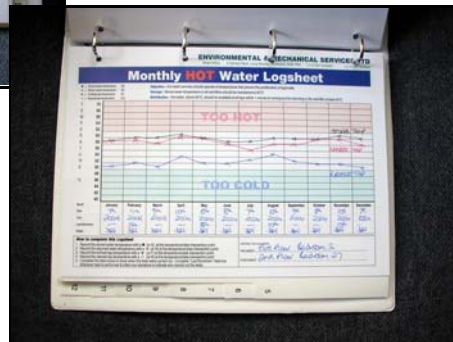
Each logbook is bespoke to an individual site.

We have different logbooks for hotels, care homes, manufacturing facilities and commercial offices



An index at the front with easy to read sections.

This sample logsheet records the hot water temperatures for a full 12 months on a single page.



The logbook will contain the site risk assessment and schematic. It will also have sections for:-

- Cold Water Storage Tanks & Calorifiers
- Water Temperatures & Flushing of "low usage" Outlets
- Shower Cleaning
- Chlorination & Microbiological Certificates
- Responsibility Structure & Training Certificates
- Risk Assessment and Policy
- Sampling Procedures
- Legionnaires' Disease Overview
- Action in the Event of Positive Legionella Results
-plus much, much more.

Thermometers

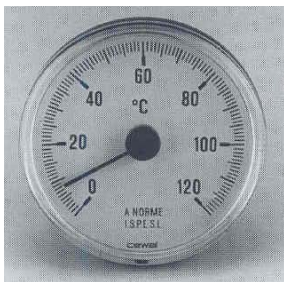
Cold Water Storage Tank Thermometer CODE **DDT1**



This thermometer displays the air temperature as well as the water temperature in the tank. It comes with a 2 metre lead/sensor which can be placed in the tank so the tank temperature is constantly displayed. It also has a MIN / MAX memory to show the extremes of temperature. It is accurate to less than 1°C and runs off a single AAA battery.

Also available with a 3 metre lead - CODE **DDT2**

Clip on Thermometer CODE **CCT1**



This thermometer clips onto your water pipework to give a visible display of the temperatures. It is used extensively to show the stored water temperature in calorifiers when it is placed on the hot water outlet pipe. It is usually also placed on the return pipe to the calorifier as an indication of the return temperature. Monitoring the flow and return temperatures is a requirement of L8.

Digital Temperature Probe CODE **PRT1**



An inexpensive probe which can be used to take water temperatures from your hot and cold taps, showers etc. It is accurate to within 1°C and waterproof to IP65. It takes just 0.7 seconds to determine the temperature and incorporates an auto power shutoff after 10 minutes. This thermometer is powered by a 1.5v button cell battery.

Digital Probe Thermometer CODE **PRT2**



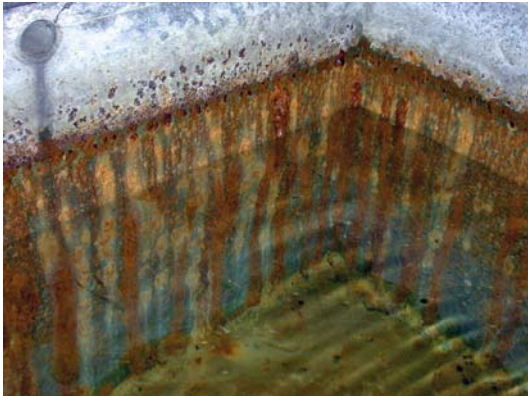
A highly accurate, top of the range probe, which features a 1 metre lead, back light on the 22mm high contrast LCD display and reads the temperature in just 0.5 seconds -accurate to within 0.5°C

Please quote product code when ordering

Thermometers

Cold Water Storage Tanks

Bacteria can multiply in storage tanks for a variety of reasons. To help minimise this possibility we carry out tank inspections every six months and will be looking if any of the following conditions are present:-



- **Missing or damaged overflow screens** would allow debris, insects, birds or rodents entry into the tank.
- **Inlet and outlet valves on same side** which would allow one end of the tank to stagnate.



- **Corrosion** which can be a nutrient to certain bacteria.
- **Temperature** stored water must be below 20°C otherwise bacteria will grow very quickly, including legionella.

- **Missing or ill fitting lids** which would allow debris, insects, birds or rodents entry into the tank.
- **Missing or damaged lagging** which would allow the stored water temperature to rise and allow bacteria to multiply more quickly.



- **Stagnant tanks** where there is minimal flow into the tank.
- **Overcapacity** where the volume of stored water is more than that required in a single working day.
- **High sediment levels** which provide nutrients and protection for bacteria.

Inspecting CWS Tanks

How often do cold water storage tanks, calorifiers & hot/cold outlets need to be cleaned & disinfected?

Whilst there are no laws which dictate the frequency that water systems should be disinfected, there is guidance from the HSE. Their L8 document offers several circumstances where disinfection should be undertaken. Most property owners carry out these disinfections on an annual basis, regardless - but others base the decision on the conditions set out below.

Taken from L8 - Legionnaires' Disease : The Control of Legionella Bacteria In Water Systems; Approved Code of Practice & Guidance

Cleaning and disinfection

The ACOP says the risk from exposure to legionella should be prevented or controlled; precautions include keeping the system and the water in it clean. The following section on cleaning and disinfection offers guidance on when to do this in hot and cold water systems.

Paragraph 190

Hot water services and cold water services, should be cleaned and disinfected in the following situations:

1. If routine inspection shows it to be necessary
2. If the system or part of it has been substantially altered or entered for maintenance purposes in a manner which may lead to contamination; or
3. During or following an outbreak or suspected outbreak of legionellosis.

What do these phrases mean ?

If routine inspection shows it to be necessary

Tanks over 1,000 litres should be inspected every 6 months (every year for tanks less than 1,000 litres). If we find there any of the following, we should clean and disinfect:-

1. Significant sediment - either from years of gradual build up or due to external works on the water mains.
2. A shiny or oily skin on the surface which indicates that the tank is stagnating.
3. The TVC bacteria results are high or we find E.coli/coliforms in the water.

If the system or part of it has been substantially altered or entered for maintenance purposes in a manner which may lead to contamination

Examples which fall into this category include:

1. Where an engineer has been working inside a tank, changing the ballvalve, painting the tank etc.
2. If the tank lid has been moved and dirt, dust or bird droppings have fallen into the tank
3. If pipework leading to or from the tank has been renewed - so that dirty spanners or hands could have contaminated the pipework

During or following an outbreak or suspected outbreak of legionellosis

If any person has either contracted legionnaires' disease or even thinks that they may have, then it would be prudent to disinfect all of the hot and cold water services

NOTE

- Some people refer to this task as a disinfection, others use the term chlorination (due to the use of chlorine as the disinfectant). In general both terms refer to the same process.
- Other disinfectants such as chlorine dioxide or hydrogen peroxide/silver can also be used.

Upgrading cold water storage tanks to meet current regulations

The continuing increase in importance attached to water quality has led to the publication of L8 by the HSC and the strict enforcement of the existing BS6700 and Water Byelaws.



Some aspects of remedial work are quite straightforward such as:-

- Installing air vents to allow fresh air into the tank.
- Fitting insect/rodent screens to prevent ingress of insects and small rodents.
- Applying insulation to protect from frost and prevent heat gain which would allow proliferation of bacteria.
- A tight fitting lid to stop dirt and debris entering the water.

Other aspects such as preventing corrosion have several quite different techniques to overcome the problem. The most common methods are painting with either bitumen or epoxy resin and lining with butyl rubber or fibre glass. The advantages of each are explained below.

Painting

Any paint applied to a tank must have WRC approval if the tank is used for potable water.

Bitumen

This was common some 5 years ago and is the cheapest paint to apply. Unfortunately the rust reappears after just a few months and the whole painting process needs to be repeated every few years, even if a "touch up" regime is followed on an annual basis. This method has the lowest capital cost but the highest ongoing cost and as such is now losing favour.

It is still appropriate if you wish to extend the tank life by just 1 or 2 years prior to replacement.

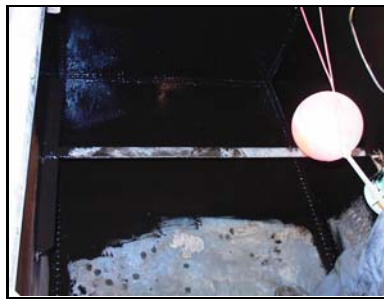
Epoxy Resin

This will involve a primer and either 1 or 2 top coats which will give a very, resilient smooth finish.

Initial Tank Condition

Applying base coat after the surface preparation

....And finally, after the top coat



Depending on the preparation, this method of tank lining will last from 3 to 15 years without further maintenance. The tank will need to be off-line for approx a week for the process to be applied and cure completely. Epoxy painting is favoured for larger tanks where replacement costs are prohibitive and the required life span exceeds 5 years.

Linings

Any lining in contact with the water must have WRC approval if the tank is used for potable water.

Butyl or PVC Linings

Used rarely, these applications involve inserting sheets of rubber or plastic sheeting into a tank so that the water no longer touches the metal surfaces. The difficult areas are around the service outlets and any internal support bars. Many tanks suffer from either poor installation which means the lining was never watertight, or poor maintenance whereby the lining is punctured. In both cases water seeps between the liner and the tank and stagnates, allowing bacteria to proliferate to give potentially poorer water quality than before the liner was installed.

Upgrading cold water storage tanks to meet current regulations

Strict installation and maintenance guarantees are necessary before agreeing to these types of linings.

Glass Fibre

There are two types of glass fibre lining, the traditional hand laid variety which takes several days to cure and a newer type which uses UV light to get a rapid curing. After curing a smooth gel coat is normally applied to give a pleasant smooth surface to the tank.

Both methods add additional strength and integrity to a weakened tank, but the whole process takes longer than other methods. Rushed applications result in insufficient curing and the smell and taste of styrene in the water for weeks or months.

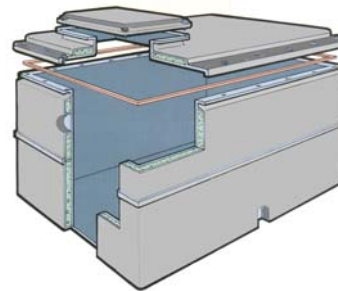
Complete Tank Replacement

Obviously if the budget allows, the tank can be replaced with a new, modern GRP tank.

When considering the options, it is necessary to calculate the amount of stored water that is really necessary, often existing tanks are too big because the guidelines have changed since the original tanks were installed or maybe the number of people in the office or factory has reduced.

In calculating the cost for replacement, ensure it is based on the correct sized tank - not simply the same size as the existing one.

It is surprising how often the cost of replacement is similar and sometimes less expensive than the sum of all the remedial works.



Reducing Stored Water Capacity

If the tank meets all current guidelines except that there is an excess stored water capacity, then fitting an Aylesbury ball valve is the answer. Offers almost infinitely variable opening and closing water level settings.

The versatility of the Aylesbury 'KB' Type makes it suitable for installation either direct into a tank or into a raised valve chamber. Changes in water levels and differentials can be made quickly by the installer or maintenance engineer without tools.

This feature is particularly useful where building occupancy levels change either due to seasonal factors, or where the commissioning of a facility is phased, as it reduces the risk associated with excess water being stored for too long.



The unique design makes this valve ideal for use with pumped systems, saving energy and wear by maximising full flow running time and preventing pump hunting.

Also suitable for water treatment plants and many other applications.

Additional Information

Equilibrium float valve with DZR brass body, having fully variable delayed action. The valve incorporates a non-wearing maintenance-free ceramic disc seal for water pressures up to 10 Bar. For standard cisterns with or without a raised chamber.

Valve sizes: ¾", 1", 1¼", 1½"SF, 1½"HF, 2"SF, 2"HF, 2½"SF & 3"RB

SF - Standard Flow HF - High Flow RB - Reduced Bore

Shower Head *plus* kills legionnaires' disease bacteria in 30 seconds



Descale *and* disinfect in one simple operation

Use **Shower Head plus** regularly and you will not only keep your shower free from scale deposits, you will be disinfecting it too!

Long lasting

Depending on the amount of scale in your shower head, use **Shower Head plus** either neat or dilute up to 3 times with water. You can use it again and again and again. Eventually **Shower Head plus** will change from pale yellow to green/blue colour. When this happens, it's time to use fresh stock or re-order.

Showers heads suffer from SCALE and BACTERIA they have been the source of many outbreaks of LEGIONNAIRES' DISEASE.

Instructions for use

To perform the shower head cleaning in a safe and effective manner, the following protective clothing should be utilised.

Use Rubber Gloves

Shower Head plus is a mild acid which can damage skin, even after a contact time of just a few minutes.

Wear Eye Protection

Shower Head plus can damage your eyes, avoid accidents by wearing safety glasses.

Apron

A rubber/PVC apron should be worn to prevent splashes or spillage contacting your clothes or skin.

Cleaning the Shower Head

Place your shower heads in a sturdy plastic bucket. Pour sufficient **Shower Head plus** into the bucket so as just to cover the shower heads. Leave to soak for 2 - 15 minutes, if any loose scale deposits remain - then remove by gentle rubbing.

Safety Tip

Where possible the shower head should be removed from the shower installation and the remainder of this operation carried out in a dedicated cleaning area.

Before returning unit to service

Thoroughly flush the reassembled shower for at least 1 minute before allowing it back into service. Unless all traces of acid are removed, you are liable to harm the first person to use the shower.

Versatile - Use in toilets, urinals and on shower tiles too!

Shower Head plus is a powerful product, so you can also use it to remove scale from toilet pans, urinals and shower tiles.

Dirty Toilet Bowls

Pour in neat to the bowl and use brush or toilet mop to rub stubborn stains or deposits. Then flush. Once cleaned, simply use daily (dilute with 20 parts water) to stop the scale returning.

Stained Urinals

Apply neat to surface working from side to side and swab entire area with brush or toilet mop. Leave to flush automatically. Once cleaned, simply use daily (dilute with 20 parts water) to stop the scale returning. It's safe to use on stainless steel too.

Shower Tiles

Use a dilute solution, approx 1 part **Shower Head plus** with 20 parts of water. Apart from helping to break down fats and greases, it will disinfect the whole area and prevent unsightly scale deposits.

Shower Head Plus has proven efficacy against Legionella.

The European Legionella Disinfection Test Standard (1995) for Legionella Pneumophila Serogroup 1 (NTCC 11192) gave control at 30 second contact time for 1:3 dilution.

IMPORTANT NOTE Mixing of any acid and a chlorine solution (such as household bleach) liberates chlorine gas. In a poorly ventilated area, the gas can overcome a person very quickly. Do not store acid and chlorine compounds near to each other.

Pack Sizes

Shower Head plus is available in 5 & 10 litres drums (minimum order is 20 litres)

PRODUCT DATA SHEET

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EMS AquaCert, Sentinel House
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The Legionella
Control Association



HVCA

Sanosil Super 25

PRODUCT DATA SHEET

The disinfectant you dose and then leave in your system

Employing specialists to disinfect your cold water storage tanks has been very expensive until now - with Sanosil virtually anyone can perform the job at a fraction of the cost.

How effective is it?

Even at low dosages (40ppm) Sanosil kills the legionella bacteria in 3 minutes, this reduces to just 1 minute for warm water (above 40°C)

How does it work ?

Hydrogen peroxide is a strong oxidising agent (more powerful than chlorine or chlorine dioxide). The oxygen separated from hydrogen peroxide destroys the biofilm, enabling the silver to help destroy any bacteria or virus.

Sanosil Super 25
is a new generation of disinfectant based on a mixture of hydrogen peroxide and silver.

How does it compare to chlorine?

Sanosil is superior to chlorine since it imparts no taste or odour to the water and is highly effective at both hot and cold temperatures.

How safe is it ?

It cannot pollute waste water, because it breaks down into water and oxygen, i.e. it produces no noxious by-products.

Sanosil has full approval under Regulation 31 of the Water Supply (Water Quality) Regulations 2000 & 2001 in England and Wales

Applications

Routine Disinfection

Sanosil can be dosed into your storage tanks at 100 ppm and because it is safe to drink at this level - there is no need to flush or neutralise the system. This is ideal for water systems in nursing homes, hospitals, hotels, apartment blocks etc where it is imperative to maintain water supplies at all times.

If you wish to prove the disinfectant reaches every water outlet, then we can supply test strips where a colour change indicates the concentration.

This makes Sanosil ideal for:-

▪ drinking water	▪ pipe work	▪ Water storage tanks	▪ drinking fountains
▪ swimming pools	▪ thermal pools	▪ spa baths	▪ whirlpools
▪ saunas	▪ long-term conservation of emergency water supplies		



concentration within the system. Dip the strip in the water and a colour change shows the shows the

Emergency Disinfection

If your water is shown to have high bacteria levels or legionella - Sanosil is the ideal product to dose. Keep a supply which can be dosed as soon as a problem is found.

Biofilm Removal

Sanosil breaks down the biofilm within pipes, bacteria use biofilm for both nutrients and protection. Chlorine does not penetrate or break down biofilms

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Sanosil Super 25

PRODUCT DATA SHEET

List of Tested Pathogens

- Absidia corymbifera
- Acinetobacter Iwoffii
- Aeromonas salmonicida
- Agrobacterium radiobacter
- Alternaria alternata
- Anthrax (Bacillus anthracis)
- Aspergillus niger
- Aspergillus niger-spores
- Astenionella formosa
- Bacillus cereus
- Bacillus licheniformis
- Bacillus mesentericus
- Bacillus subtilis
- Bacillus subtilis spores
- Lactobacillus lindneri
- Bacillus sp. Marine
- Bacteria cinerea
- Bacteria erwinia
- Botrytis cinerea
- Burkholderia cepacia
- Campylobacter jejuni
- Candida albicans
- CDC gr. IV c-2
- Chlamidomonas sp.
- Colera (V. Cholerae)
- Chryseomonas luteola
- Chroomonas norstedtii
- Ciliata g. Sp.
- Citro. Fre.
- Cladosporium cladosporoides
- Clostridium novyi
- **Clostridium perfringens**
- Stephanodiscus hantzschii
- Comomonas acidovorans
- Corynebact.
- Criptomonas sp.
- Dermatophagoides pteronyssinus
- ECBO virus
- **Enterobacter aerogenes**
- Enterococcus faecium
- Enterococcus faecalis
- Enterococcus hirae
- Erwinia carotovora
- Eschericia coli
- Flagellata apochromatica
- Flavobacterium indologenes
- Fragilaria sp.
- Fusarium
- Fusarium spp.
- Galionella sp.
- G. candidum
- Hepatitis B
- Hepatitis C surrogate (BVDV)
- Herpes simplex type 1
- HIV-1
- Influenza A virus
- Klebsiella oxytoca
- Klebsiella pneumoniae
- Lactobacillus brevis
- Flavobacter/Cytophaga
- Lactobacillus plantarum
- Lactobacillus sp
- Lactobacillus wild type
- **Legionella pneumophila**
- Leuconostoc mesenteroides
- Listeria inoqua
- Listeria monocytogenes
- Melosira var.
- **MRSA**
- Microsporium gypseum
- Micrococcus luteus
- Micrococci marine
- Micrococcus pyogenes aureus
- Micrococcus roseus
- Micrococcus candidus
- Mucor Mycobacterium phlei
- Mycobacterium smegmatis
- Mycobacterium spez.
- Nagleria fowleri
- Naumaniella sp.
- Neisseria meningitidis
- Newcastle Disease virus
- Nitzschia sp.
- Ochrobactrum anthorpi
- Orthopoxvirus vaccinia
- Papovavirus SV-40
- Paramyxo virus
- Pasteurella
- Pedicoccus damnosus
- Pedicoccus sp
- Penicillium
- Penicillium digitatum
- Penicillium roqueforti
- Penicillium verrucosum
- Pestis (Y. Pestis)
- Pichia membranaefaciens
- Poliovirus 1
- Proteus mirabilis
- Proteus vulgaris
- **Pseudomonas aeruginosa**
- Pseudomonas alcaligenes
- Pseudomonas chlororaphis
- Pseudomonas fluorescens
- Pseudomonas spec.
- Pseudomonas syringae pv. Tomato
- Ralstonia picketti
- Rhizopus Rotatoria g. sp.
- Saccaromyces cerevisiae
- Saccharomyces uvarum
- Sacch.cereivisia var. uvarum Ssp.carlsbergensis
- **Salmonella enteritidis**
- **Salmonella paratyphi**
- **Salmonella sp.**
- **Salmonella typhimurium**
- **Salmonella typhi**
- **Salmonella typhosa**
- Sarcina lutea
- Staphylococcus agalactiae
- Staphylococcus albus
- Staphylococcus aureus
- Staphylococcus faecium
- Staphylococcus marcescens
- Clostridium sporogenes Coagulase +ve staphylococci
- Streptococcus faecalis
- Streptococcus lactis
- Streptococcus pyogenes
- Trichophyton mentagrophytes Pseudorabies virus
- Trophozoite protozoa incl. Amoebae
- Tuberculosis (resistant strain H37 Rv)
- Tuberculosis (Mycobacterium
- Tuberculosis, wild-type strain)
- Vaccina virus VRE
- V. parahaemolyticus
- Xanthomonas campestris
- Zoogloea sp.

Sanosil has proved effective against all these pathogens

Asbestos Surveys

Materials which contain asbestos are only dangerous when they are damaged or disturbed in such a way that harmful fibres are released into the air. The fibres are like microscopic daggers and when inhaled, embed themselves into lung tissue.

Our body's defences cannot break them down, so prolonged exposure can cause a build up of fibres, which find their way deeper into the lungs causing disease.

Asbestos - Dangerous & Deadly

It is estimated that past exposure to asbestos is responsible for 3,500 deaths a year. This figure is set to rise to 10,000 deaths a year by 2015.

What the regulations say

The Control of Asbestos at Work Regulations 2002 introduced the new duty to manage asbestos in non-domestic premises and became law on 21 May 2004.

Asbestos Diseases

There are three main diseases caused by asbestos are:-

Asbestosis
Mesothelioma
Lung cancer.

The levels and duration of exposure plus the type of asbestos involved all affect the likelihood of contracting an asbestos-related disease. All the diseases are potentially fatal and almost always incurable.

Regulation 4 requires those who have responsibilities for maintenance activities in non-domestic premises to assess whether there is any asbestos in their premises, and, depending on its condition, either remove it or manage it - making sure that maintenance activities carried out subsequently do not expose the workers to any avoidable risk.

They ensure that information on the location and condition of these materials is given to anyone likely to disturb it.

- The Health and Safety Executive advises that it would be sensible to mark or indicate the area where ACMs (Asbestos Containing Materials) have been found. EMS do this with an adhesive asbestos hazard label.
- The location, condition and extent of all Asbestos Containing Materials and suspected asbestos containing materials identified during the asbestos survey are recorded in the form of an asbestos register.

EMS undertake three types of survey in accordance with MDHS 100.

Type 1 Location and assessment asbestos survey (*presumptive*)

Type 2 Standard sampling, identification and assessment asbestos survey (*sampling survey*)

(In most cases - the Type 2 Survey will be the most appropriate, a full explanation of the different types of survey can be found overleaf)

Why do I need an Asbestos Survey?

Increasingly, insurance companies are asking for evidence that such a survey has been carried out at policy renewal. Also, Care Standards Inspectors and Environmental Health Officers may request evidence that the survey has been carried out.

How much does a Survey cost?

For a fixed price quotation, simply call 01327 844848 and one of our consultants can give you an instant quotation based on a few simple details of your property, e.g. age, size etc.

At the end of this information pack - we have set out indicative prices so that you can budget accordingly.

Asbestos Surveys by EMS

Asbestos Surveys

Please use the explanations below to determine which type of survey is most appropriate. If you need help, simply call us and we can advise accordingly.

Type 1 MDHS100 Asbestos Surveys (Presumptive Surveys)

Type 1 Surveys locate, as far as reasonably practicable, the presence and extent of any suspect asbestos containing materials in the building and also assess their condition.

Our experienced surveyors are familiar with the range of asbestos products and can usually, simply by inspection alone, state that a material can be 'presumed' to contain asbestos.

However, it's much more difficult for surveyors to presume that some materials *do not* contain asbestos. Many materials such as vinyl floor tiles have exactly the same appearance whether they contain asbestos or not.

This means that a Type 1 survey may well list many materials that are presumed to contain asbestos that would be eliminated from the asbestos register by laboratory analysis of representative samples of the materials.

This survey essentially defers the need to sample and analyse for asbestos until a later time prior to any disturbance of the material by demolition, alteration or maintenance.

The duty holder bears the potentially significant additional costs of management for some non asbestos containing materials. Our experience suggests the additional cost of management of the non asbestos containing materials usually outweighs the additional cost of a Type 2 survey with representative sampling of such materials for laboratory analysis.

All areas are accessed and inspected as far as reasonably practicable (e.g. above false ceilings and inside risers, service ducts, lift shafts, etc.) or where not accessible will be presumed to contain asbestos.

Any material which can reasonably be expected to contain asbestos will be presumed to contain asbestos, and where it appears highly likely to contain asbestos, there will be a strong presumption that it does.

Type 2 MDHS100 Asbestos Surveys (Sampling Survey)

The purpose and procedures used in this survey are the same as for Type 1, except that representative samples are collected and analysed for the presence of asbestos.

Samples from each type of suspect ACM found are collected and analysed to confirm or refute the surveyor's judgement.

If the material sampled is found to contain asbestos, other similar homogeneous materials used in the same way in the building can be strongly presumed to contain asbestos.

Less homogeneous materials will require a greater number of samples. Our EMS surveyor will judge the number required to make an assessment of whether asbestos is or is not present.

Sampling normally takes place at the same time as the survey

We always recommend Type 2 surveys as the additional cost of representative sampling means the "duty holder" has a definitive report on all accessible asbestos containing materials.

This means the non asbestos materials determined from laboratory analysis can be eliminated from the management plan, reducing the cost of future management arrangements.

Asbestos Surveys by EMS

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Price List

Item	Cost ex VAT	Notes
Laboratory Analysis		
Legionella Test	£44.50	This costs includes the supply of sterile bottle(s) and also the courier pick-up, laboratory analysis and certification. <i>Order values under £40.00 will be subject to a contribution towards courier costs of £10.00 +VAT</i>
TVCs, E.coli, Coliforms	£25.00	
Salmonella	£8.00	
Listeria	£8.00	
Staphylococcus aureus	£8.00	
Clostridium perfringens	£8.00	
Streptococcus	£8.00	

Assessments & Surveys					
L8 Legionella risk assessment	Up to 25 beds	25 - 45 beds	45 beds & over	Optional Schematic drawing - £60	
	£445.00	£595.00	POA		
Asbestos (Type 2 as per MDHS 100)	Up to 20 beds	20 - 30 beds	30 - 60 beds	60 beds & over	Price includes five samples
	£455.00	£520.00	£715.00	POA	

Thermometers					
CWS Tank Thermometer (3m lead)	£20.91	CODE DDT1	Can be used on both water tanks and calorifiers (immersion heaters).		
Clip on Thermometer	£17.73	CODE CCT1	Can only be used on calorifiers (immersion heaters).		
Digital Temperature Probe	£21.96	CODE PRT1	Can be used for monitoring of hot and cold taps, showers etc		
Digital Probe Thermometer	£70.08	CODE PRT2	Top of the range, same uses as PRT1		

Chemical Treatments			
Shower Head <i>plus</i>	£22.72	5 Ltr drum	Minimum order 4 x 5 litres (plus carriage costs)
Shower Head <i>plus</i>	£39.96	10 Ltr drum	Minimum order 2 x 10 litres (plus carriage costs)
Sanosil S25 (liquid)	£157.50	10 kg drum	(plus £30.00 carriage costs up to 20Kg)
Sanosil S25 (liquid)	£280.00	30 kg drum	(plus carriage costs)

Logbooks	
L8 Water Hygiene Logbook	£60.00

Training		
L8 Training	FREE	Applies to clients with 20 or more sites
	£320.00	Training undertaken on your own site, 25 people maximum

Additional Information

We have fact sheets on:-

- Getting rid of Legionella from water systems
- An introduction to other EMS services
- Fitting thermometers
- Treating Spa Pools
- L8 Table of recommendations
- Corporate Manslaughter - Parliament is debating new legislation
- Legionnaires' Disease - an overview
- Pseudomonas - the damage they can do to your water systems
- Discoloured Water - how to remove the yellow colour from your hot water

If you would like further details, please contact us.

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