

Legionella in Building Water Systems

Legionnaires' disease is a potentially fatal form of pneumonia. People may get infected when they breathe in tiny water droplets (aerosols) or droplet nuclei (particles left after the water has evaporated) contaminated with elevated concentrations of Legionella bacteria.



Legionella bacteria grow best between temperatures of 20°C – 45°C with optimum growth temperature being 35°C – 40°C. High temperatures (minimum 60°C) kill the bacteria.

Legionella bacteria are found in low numbers in natural aquatic environments, for instance, lakes, rivers and ground water. As a result it is virtually impossible to prevent Legionella bacteria entering man-made water systems.

In low numbers the bacteria are generally considered harmless. With the correct conditions, for example, warm water, the presence of micro-organisms and nutrients in the water or materials such as rust, the bacteria can grow and multiply to high levels which increase the risk of exposure.

The bacteria tend to grow in biofilms (slime). Biofilms are likely to form on surfaces where there is low water flow or water is allowed to stagnate. However the growth of the bacteria can be controlled.



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The Legislation & Guidelines

HBE adhere to and utilise the following documents when devising legionella control programmes:

- UK HSE ACoP L8 – Legionnaires' Disease, The Control of Legionella Bacteria in Water Systems: Approved Code of Practice & Guidance. HSG274 Parts 1, 2 & 3.
- Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005).
- Safety, Health and Welfare at Work (Biological Agents) Regulations 1994, as amended in 1998 (S.I. No. 146 of 1994 and S.I. 248 of 1998).
- Safety, Health and Welfare at Work (General Application) Regulations, 2007 (S.I. No. 299 of 2007).
- Health Protection Surveillance Centre: National Guidelines for the Control of Legionellosis in Ireland, 2009.
- CIBSE TM13 – Minimising the risk of Legionnaires' Disease.
- HTM 04-01.
- Legionella Control Association Compliance.

All of the documents listed giving advice specific on legionella follow a similar format on how to control this risk:

- Identify and assess sources of risk using competent help and advice.
- Prepare a scheme for preventing or controlling the risk.
- Implement, manage and monitor precautions.
- Keep records of the precautions.
- Appoint a person to be managerially responsible.

Legionella Management

HBE provide the following services to help the building manager discharge their duties and obligations relating to the control of legionella bacteria in water systems:

UKAS accredited Legionella Risk Assessments

- Qualified consultants
- Schematic drawings
- Priority of Risk
- Written schemes
- Soft & hard report copies

Remedial Actions

- Clean & disinfection of domestic hot & cold water systems, old or new
- Clean & disinfection of new mains pipework and reservoirs
- Tank relining & replacement programmes
- Precommission cleaning of closed circuits
- Treatment & monitoring of closed circuits
- Showerhead cleaning programmes
- TMV servicing
- Deadleg flushing programmes
- On-line dosing systems

Monitoring & Sampling Programmes

- Provision of either hardcopy or electronic logbooks
- Provision of technicians to carry out sentinel temperature monitoring & logbook maintenance
- Bar-coding of outlets
- Legionella and microbiological sampling programmes

Accredited Training Programmes

- BOHS P901 Legionella Awareness - One day classroom
- Basic Legionella Awareness - Half day classroom
- Basic Legionella Awareness eLearning

“HBE is proud to be one of only two companies in the UK to hold UKAS accreditation for Legionella Risk Assessments, Asbestos Surveying and Asbestos testing.”



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