



Testing Capabilities

Wales Laboratory



NSF International is an ISO/IEC 17065 UKAS accredited 3rd party Certification organisation. We certify and manage a number of Industry specific approval schemes that have been developed with input from NSF, trade bodies, consumer groups, manufacturers, test laboratories and if, where appropriate, Regulators.

Our Global Water Services include testing, certification and auditing for municipal water treatment components and chemicals, plastic piping systems, plumbing fixtures and fittings, point-of-use and point-of-entry water systems and filters. Our ISO/IEC 17025 UKAS accredited laboratory in South Wales is one of the world's largest specialist test laboratories for water fittings.

Water Pipes, Fittings and Appliances

The NSF International laboratory in Wales is capable of conducting various tests on water pipes, fittings and appliances. We can provide:

- > **NSF REG4 Product Certification** verifies by test and quality audits that water fittings meet the requirements of the Water Supply (Water Fittings) Regulations 1999, the Water Supply (Water Fittings) (Scotland) Byelaws 2014, and the Water Supply (Water Fittings) Regulations (Northern Ireland) 2009. This certification requires that a water fitting must not cause waste, misuse, undue consumption or contamination of the water supply and must be 'of an appropriate quality and standard.'
- > **WRAS Approval** addresses all fittings that are deemed to meet the requirements of the Water Supply (Water Fittings) Regulations 1999, the Water Supply (Water Fittings) (Scotland) Byelaws 2014, and the Water Supply (Water Fittings) Regulations (Northern Ireland) 2009. Our services include an assessment of the WRAS application documentation and the required testing to ensure that the technical information provided to the WRAS organisation is sufficient for product approval to be granted by the approval committee.
- > **Water Efficiency Testing:** Our laboratory in Wales is an accredited test house for the Unified Water Label Scheme (UWL) and the Water Efficiency Label (WELL). We are able to conduct the initial testing and audit testing for both these schemes on products or fittings such as taps, WCs, shower outlets, floor scrubbers, industrial washing machine systems and many more.
- > **British and European Standards:**
 - EN 200 — covering performance testing of faucets with non-rising, rising spindle or quarter turn headworks
 - EN 817 — covering performance testing of single lever design faucet with a ceramic cartridge
 - EN 997 — covering performance testing of WC suites to European requirements class 1 and class 2(UK)
 - BS1212 - covering performance testing of valves





Materials Testing

The NSF International laboratory in Wales is able to carry out different tests on materials in contact with potable water against BS 6920 (UK) and other international regulatory requirements that ensure the safety of materials used in drinking water applications.

These tests include: odour, flavour, appearance, growth of biofilm, extraction of metals, total organic carbon leaching and extraction of substances of concern to public health.

- > **NSF REG4 Material Certification** verifies by test and quality audits that materials in contact with water are compliant with BS 6920.
BS6920 ensures suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water.
- > **AS/NZ 4020** testing of products for use in contact with drinking water with regard to their effect on the quality of water. The Standard requires that products intended for use in contact with drinking water be tested by exposure to extractant waters.
- > **ICPMS Testing:** Inductively coupled plasma mass spectrometry provides fast identification and detection of low level trace metals (parts per billion) in water samples. Our laboratory in Oakdale, Wales can conduct ICP-MS analysis to detect the regulated trace metals detailed in The Water Supply (Water Quality) Regulations 2018.



Thermostatic Mixing Valves

Testing all variations of thermostatic mixing valves for all designations of use against the following performance specifications:

- > **BS EN 1111:** high pressure domestic type installations
- > **BS EN 1287:** low pressure domestic type installations
- > **D 08:** Department of Health performance specification for Healthcare use
- > TMV2 approval, certifies that thermostatic mixing valves comply with the performance requirements of Part G of the Building Regulations that requires thermostatic valves comply with BS 1111 and or BS 1287.
- > TMV3 approval, certifies that thermostatic mixing valves comply with the performance requirements of the Department of Health performance specification for D 08 for Healthcare use.

NSF International can undertake Australian, North American and Israeli performance testing and clients can also take the option to hire the rig for prototype verification as well as incident/dispute driven testing.

Water Meters

We also conduct mechanical performance testing and calibration on domestic water meters of diameter within the range of 15mm to 25mm.

Our accredited test facility measures the water density enabling the calculation of the volume of water passed through the meter. The tests can be run at a range of flowrates. Our laboratory in Wales is a (UKAS) United Kingdom accredited test laboratory approved in testing water meters to ISO 4064: 2014 and OIML R49: 2013, also covering the superseded versions of these standards.



Product Evaluation Testing and Consultancy

Unvented Hot Water Storage Cylinders

Testing against UK Building Regulation G3 (BS EN 12897 or BS 7206).

Regulation G3 is regarded as the legal requirement for unvented water storage cylinders within the UK and covers the safety aspects. The testing conducted includes the following tests featured within the EN12897 test requirements; hot water draw off, pressure test of coils, pressure test of shell, KW rating of coil, heat loss test, performance testing, durability test (long-term pressure pulse).

Prototype/Product Evaluation Testing

We offer prototype and pre-compliance testing for various products that are used both inside and outside of the water industry.

Testing prototypes can help reduce the risk of investment for the manufacturer on the route to obtain full approval/certification. This service can provide assurance to manufacturers prior to final submission to regulatory bodies.

This service can be especially utilised by clients whose products incorporate backflow protection devices such as physical air gaps and also identification of the causes of failure can be very useful in cases of warranty disputes.





Other Services

- > Chemical Inhibitor Approval Scheme (CIAS) certifies that chemical inhibitors comply with the performance requirements of the standard specification for chemical inhibitors for use in domestic hot water central heating systems.
- > Distribution Tempering Control Scheme (DTC) certifies that distribution tempering valves comply with the performance requirements of Part G of the Building Regulations that requires tempering valves comply with BS EN 15092.



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About NSF International

NSF International is an independent organization that writes standards, and tests and certifies products for the food, water, health sciences and consumer goods industries to minimize adverse health effects and protect the environment. Founded in 1944, NSF is committed to protecting human health and safety worldwide.

NSF's Global Water Services include testing, certification and auditing for municipal water treatment components and chemicals, plastic piping systems, plumbing fixtures and fittings, point-of-use and point-of-entry water systems and filters.