

The Assessor shall determine the business's commitment and support to good and safe working practices; also that it has a positive culture in all aspects of its work. In particular, the assessor shall check that the business's health, safety and environmental arrangements are followed while the work is carried. The details that the assessor will expect to find in use, are given in the BESCA standard BS.5 and BS.6. The level of assessment will be appropriate for, the size and the complexity of the business.

Reclaimed water systems technical standards			
BESCA standard	Scheme Requirement	Typical evidence required	
		Work done in domestic premises	Work done in non-domestic premises
TS.12.1	<p>Storage facilities <i>Reclaimed water, is water other than potable water direct from the mains, which has been collected and treated so its quality is suitable for particular, specified purposes e.g., irrigation or toilet flushing. It may be water originating from the mains potable water that has been used for bathing or washing (grey water), or rainwater that is collected from the external surfaces of buildings and hardstanding areas. Reclaimed water systems vary significantly in their complexity and size, from small systems with very simple treatment, to large systems with complex treatment processes.</i></p> <p>Technical standards that apply to this work: <i>The Building Regulations Approved Documents Compliance guides Water Fitting Regulations BS 7671- Requirements for electrical installations British Standards BESA standards Manufacturers instructions</i></p>	<ul style="list-style-type: none"> • Only competent individuals, who have the necessary skills, knowledge and experience, as set out in BESCA standard BS.9, shall undertake the work so that it meets the standards set by BESCA. The business's training and/or subcontract records shall identify these people, as set out in BESCA standards BS.9 and/or BS.10. • Each situation where a reclaimed water system is to be installed, or is to be modified, shall be assessed for hazards. The most important exposure to be considered shall be any intended or accidental human consumption of reclaimed water. • Water suppliers shall be notified in advance, and grant consent for the installation of reused water systems in all new developments supplied with, or intended to be supplied with, mains water. • The system shall comply with the requirements set out in Part G of the Building Regulations, including the applicable Approved Documents and General Guidance; and shall be designed so as to deal adequately with any contaminants, solids and organisms in the source waters. If the system fails to operate it shall default simply to the potable mains water back up supply. • Systems that store greywater shall incorporate some level of treatment, as untreated greywater deteriorates rapidly in storage. Filters and chemical additives, including disinfectants, must be sized and dosed to deal with the volumes that will be produced as well as the seasonal variations. • The collection tank(s) shall be installed in accordance with the manufacturer's and the designer's instructions, with grey water tanks positioned in a relatively cool but frost-free environment to minimise bacterial growth; and sized to hold a useful reserve while maintaining a reasonable throughput, with an allowance for residues which build up over time. Rainwater storage tanks are normally placed underground. • The tanks/s shall be designed to promote settlement of solids to the bottom, and have inlets and draw off points located to avoid disturbing bottom sediments. They shall also be protected from the ingress of contaminants, dust or organisms by adequate covers, as well as the exclusion of light, and be fitted with screens on the inlets and outlets, which are easily accessible for cleaning and made from materials that do not biodegrade. • The tank(s) shall be sited with adequate clearances around, or to it, for maintenance and servicing. • The energy supplies to the pumping equipment and controls shall be installed so that there is sufficient space between and around them to allow the energy that it uses to be monitored. If carried out as part of the installation, the electrical isolation, wiring, controls, etc, shall be installed and tested as set out in BS 7671- "Requirements for electrical installations" and BESCA standard TS.13. • Where mains potable water is used for back-up supplies to reclaimed water storage tanks and/or cisterns, an air gap suitable for protection against a risk shall be provided for backflow prevention. An overflow to a suitable drain shall be incorporated into the cistern and/or tank, with a warning pipe or other device fitted to warn if the system malfunctions. • The tank(s) used for reclaimed water shall only be used for that purpose, and shall be clearly colour coded and labelled. Where separate potable and greywater, rainwater or reclaimed water cisterns are installed, each shall be clearly marked to show their intended use • On completion, notes shall be made or a drawing of the installation marked to show any deviations from the original specification or envisaged layout. This information shall be passed back to the office to use when the final record drawings are produced. 	

<p>TS.12.2</p>	<p>Pipework systems</p> <p>Technical standards that apply to this work: <i>The Building Regulations</i> <i>Approved Documents</i> <i>Compliance guides</i> <i>Water Fitting Regulations</i> <i>British Standards</i> <i>BESA standards</i> <i>Manufacturers instructions</i></p>	<ul style="list-style-type: none"> • Only competent individuals, who have the necessary skills, knowledge and experience, as set out in BESCA standard BS.9, shall undertake the work so that it meets the standards set by BESCA. The business's training and/or subcontract records must identify these people, as set out in BESCA standards BS.9 and/or BS.10. • Pipework systems used to convey reclaimed water shall only be used for that purpose, and each shall be clearly colour coded with 'green-black-green' banding and labeled to show their intended use. Pipes or fittings conveying potable water shall not be cross connected to any pipe, fitting or appliance conveying reclaimed water. • The pipework shall be installed as set out in BESCA standard TS.5.4; and shall be designed to prevent blockages and residue build-up within the system, and provided with access points for maintenance and clearing of blockages. Each draw off point from the reclaimed water system shall have a clear, visible warning sign in place. • Standard sewer and drainage pipes are often used for reclaimed water collection systems both within and outside of the buildings, as are ABS and other plastic pipework systems. Copper pipework should not normally be used. • Pipework passing through walls and floors shall be sealed and fire protected to prevent the spread of noise, fire and smoke, as set out in BESCA Standard TS.4.1. • For external reclaimed pipework, black polyethylene pipe that is marked with longitudinal green stripes at the four quadrants shall be used. To identify buried reclaimed water pipework pipeline marker tape shall be laid in the trench directly above the pipeline during installation. • All draw-off points supplied by the reclaimed water system shall be identified by signage which clearly identifies that an unwholesome reused water system is connected to it. • On completion, notes shall be made or a drawing of the installation marked to show any deviations from the original specification or envisaged layout. This information shall be passed back to the office to use when the final record drawings are produced.
<p>TS.12.3</p>	<p>Cisterns</p> <p>Technical standards that apply to this work: <i>The Building Regulations</i> <i>Approved Documents</i> <i>Compliance guides</i> <i>Water Fitting Regulations</i> <i>BS 7671- Requirements for electrical installations</i> <i>BESA standards</i> <i>British Standards</i> <i>Manufacturers instructions</i></p>	<ul style="list-style-type: none"> • Only competent individuals, who have the necessary skills, knowledge and experience, as set out in BESCA standard BS.9, shall undertake the work so that it meets the standards set by BESCA. The business's training and/or subcontract records must identify these people, as set out in BESCA standards BS.9 and/or BS.10. • The cistern shall be securely located, as required by the designer and the manufacturer. It shall be positioned so that it is accessible for future servicing and maintenance needs, and shall be provided with a loose but close fitting lid and with screens on the inlets and outlets. • The cistern shall have an isolating valve on the reclaimed water inlet, a ball float valve and an overflow warning pipe, all of which comply with the Water Regulations. • Where mains potable water is used as a back-up supply to a reclaimed water cistern, an air gap suitable for protection against a risk shall be provided for backflow prevention. • The pipework, fittings and other materials used around the cistern shall meet the requirements of the Water Regulations. • The pipework to and from the tank shall be run as set out in BESCA standard TS.5.4. Pipework passing through walls and floors shall be sealed and fire protected to prevent the spread of noise, fire and smoke, as set out in BESCA Standard TS.4.1. • The cisterns shall be identified by signage to clearly identify that a reclaimed water system is connected to it. • On completion, notes shall be made or a drawing of the installation marked to show any deviations from the original specification or envisaged layout. This information shall be passed back to the office to use when the final record drawings are produced.

<p>TS.12.4</p>	<p>Setting to work and testing</p> <p>Technical standards that apply to this work:</p> <p><i>The Building Regulations</i> <i>Approved Documents</i> <i>Compliance guides</i> <i>Water Fitting Regulations</i> <i>BESA standards</i> <i>British Standards</i> <i>Manufacturers instructions</i></p>	<ul style="list-style-type: none"> • Only competent individuals, who have the necessary skills, knowledge and experience, as set out in BESCA standard BS.9, shall undertake the work so that it meets the standards set by BESCA. The business's training and/or subcontract records shall identify these people, as set out in BESCA standards BS.9 and/or BS.10. • Leakage checks, and where required pressure tests, shall be carried out when the system is completed. This shall be done as set out in the BESCA Technical Schedule TS.5.7. • The pump(s) shall be set to work and shall be commissioned as part of the overall reclaimed water system. This shall be done in accordance with the manufacturer's instructions, and as set out in BESCA standards TS.3.1 & TS.3.2. • Where required, or where specified by the designer, the pipework around the tank shall be insulated, after it has been tested, as set out in BESCA standard TS.5.8. In particular, the tank and the associated pipework shall be protected from freezing. • Where carried out as part of the installation, the completed electrical system serving it shall be tested as set out in BESCA standard TS.13.4. • Storage facilities, plant items and completed systems shall be set-to-work, commissioned and handed-over in accordance with BESCA standard TS.3. • The completed installation shall be handed over and explained to the customer, together with operating and maintenance instructions that inform the customer how to look after and use the installation properly and efficiently so as to conserve energy, as set out in BESCA standard TS.3.3.
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