



LCD and Filter Minutes

Location: Energy Saving Trust England, 21 Dartmouth Street, London, SW1H 9BP

Date: 28/10/2015

Attendees: Bryan Stockley, Carl Jasper, Dan Twiss, Dr. Denzil Rodrigues, Harvey Bowden, Ian Broad, John Thompson, Jon Wicks, Kevin Johnson, Mo Jassal, Nikhil Hardy, Paul Day, Payam Malek, Roger Williams, Sharon Brightman, Simon Harpin, Stephen Elsmore, Steve McAllorum, Steve Sperring, Thomas Jenkins, Tony Frost, Trevor Woods.

Companies represented: ADEY, Altecnic Ltd, Aqua Focus, BEAMA Water Treatment, BRS Consultants/BSA, BWT UK Ltd, Eclipse Magnetics, Environmental Treatment Concepts Ltd, European Water Care, Harvey Water Softeners Ltd, Hydropath Technology Limited, KIWA, KTP Associate (University of Portsmouth), Monarch Water Ltd, Sentinel Performance Solutions Ltd, Spirotech, UKWTA, WRAS.

EST Representatives: Stewart Muir, Elaine Berry, Katie Searle, Thomas Murphy.

Introductions

Energy Saving Trust introduced topic of meeting and objectives. Participants introduced themselves to group.

Energy Saving Trust explained background of Energy Saving Trust work and standards as per slide deck.

Scope

Energy Saving Trust introduced the scope of potential standard and asked the group to contribute on the scope of the products to be included within the performance standard and topics covering potential criteria, conformity and so on.

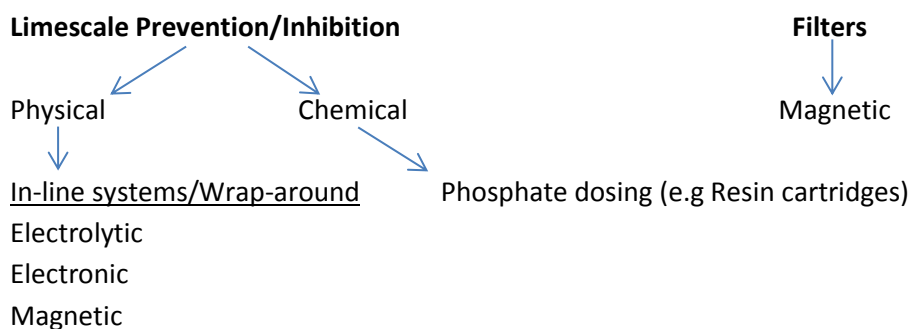
Energy Saving Trust presented the previous questionnaire responses as per slide deck to group and inviting comment.

Environmental Treatment Concepts Ltd states Building Regulations are confusing as they stand and need to make a clearer definition between primary and secondary treatments and the proposed standard should as well. Furthermore Building Regulations sets water hardness thresholds too high and needs to set better definition of hardness, again something for the standard to consider.

Sentinel highlighted that rather than a combined Limescale Control Device (LCD) and Filter standard this should be split into two separate standards. There was general group agreement, with the exception of UKWTA who suggested “limescale filters” should be covered under the Limescale Control Device standard. Hydropath suggested that products should be assigned to each standard based on function opposed to type (e.g. does it remove limescale?).

Sentinel asked for clarification that Chemical Inhibitors and Water Softeners will be excluded from these standards, to which Energy Saving Trust confirms they will.

Energy Saving Trust suggests a list of products could be produced which could then be sent around for agreement on which product would fall in to which standard. An initial list based on discussion at the meeting is below. This will also be included in the subsequent electronic consultation that is circulated for comments on categorisation and naming, and enable companies to add any other types to the scope:



Naming of standards

Spirotech claims the term magnetic filters should not be used as this is only one of multiple types of filters and is not the correct term. Dirt separators would be more appropriate.

Hydropath suggested naming should be function based and that they use the term magnetic filters. UKWTA says a universal, umbrella term is needed e.g. heating system filters. Most agreed to stay generic but avoid being too generic.

BEAMA Water Treatment stated that heating system filters would need to be grouped with other heating products, e.g. Chemical Inhibitors.

Umbrella naming convention for filters could include Filters, Heating System Filters, Dirt Separators or Heating System Protection.

Energy Saving Trust and Hydropath suggested that the term “LCD” may lead to consumer confusion, receiving general group agreement and that perhaps a revision of this acronym may be useful.

Umbrella naming conventions for limescale control devices could include limescale inhibitors; limescale management; limescale reduction or limescale maintenance.

Energy Saving Trust asked the group what products would fall into Limescale Control Device area; Environmental Treatment Concepts Ltd says there needs to be definition between products that remove limescale and those which reduce or inhibit. Sentinel believes subcategories should be split between chemical, electronic, physical in contact with water and physical non-contact. Although Hydropath believe this could be hard to define (e.g. where a product is in line but the magnetic element is on the exterior.)

Energy Saving Trust and Environmental Treatment Concepts Ltd agreed that perhaps Energy Saving Trust should provide a matrix which consumers can use to find appropriate devices based on their situation.

Harvey Water Softeners were wary that this may lead to too many subcategories, to which Monarch highlighted would there be a separate test for each type of subcategory?

Endorsement Scope

Energy Saving Trust referred to the previous questionnaire in regards to question would endorsement be for “best in class” or for the majority, excluding the “weakest”? As per the slide deck.

Sentinel highlighted that if this is an Energy Saving Trust standard the focus needs to be on energy saving and therefore an energy saving bottom-line would need to be set for which products are measured against. Aqua Focus agreed that if products endorsed are to receive Energy Saving Trust brand-marking the product should produce some eco/energy benefit. UKWTA responded that essentially the standard is a way of informing consumers to purchase products based on a key metric, in this case energy saving. This metric would need defining.

Performance Criteria

Energy Saving Trust asked the group for thoughts on possible performance criteria as per slide deck: What should be set for minimum criteria?

Hydropath stated that the existing suggestions are too ambiguous and that Energy Saving Trust needs to consider the question of removing or inhibiting limescale.

CE marking is agreed by the group to not be relevant for all products and therefore should not be a mandatory criterion. There was agreement from the group on the “clarity of usage” instructions criteria. A further criterion might be minimum warranty.

The meeting highlighted and agreed that the performance standard should consider how much energy is saved if a device either reduces, inhibits or removes scale and there was debate over whether Energy Saving Trust and the standard should highlight energy related criteria. It was discussed that the metrics for this might not relate to improving boiler efficiency but instead preventing or reducing a decrease in efficiency through improving heating exchange efficiency and how much energy is saved. The group also discussed whether the rate of deposit reduction would be a suitable metric to show whether the product works and, if so, deposit reduction requires a better definition, perhaps this should be effectiveness, rate or extent – clarifying whether this is the removal of limescale or the reduction of deposition/ limescale creation.

Also the rationale for including criteria not applicable to energy saving performance was discussed as the potential criteria list also specified consideration of product functionality. Energy Saving Trust highlighted that this was to ensure “fitness for purpose”.

Hydropath highlighted that expressing deposition is hard to measure and instead how it impacts heat exchange would be more in scope.

It was also suggested the standard makes clear that the product will maintain, restore or prevent reduction of efficiency but not make a heating system more efficient. Namely the product can restore or prevent loss of efficiency on a system but not make the system more efficient than it was when brand new.

In relation to BS6920 it was agreed overall that this standard is not to be viable. This is only for secondary devices and doesn’t cover the scope.

Conformity Assessment

Energy Saving Trust introduced the topic of conformity assessment as per the slide deck, presenting the survey feedback. The question what can be tested and what tests have the group used was presented.

Spirotech stated that testing the removal of sludge on boiler efficiency (in order to show the effect on boiler efficiency) is very complex and expensive.

Sentinel wanted it made clear that filters are not a substitution for cleaning and additionally are not known for their energy saving ability. Spirotech agreed stating these are to protect systems/boiler from debris and could at best prevent or reduce energy efficiency loss.

There was group agreement that in relation to testing instantaneous heat transfer testing is affordable but there are long term implications as scale can take a long time to build up.

Sentinel stated that this testing has been done previously, however the point needs to be clear that use of a filter doesn't substitute effective maintenance and cleaning. Energy Saving Trust confirmed this will be the case and that Limescale Control Devices and Filter information will be similar in line to Chemical Inhibitor's.

In relation to Limescale Control Devices, some will gradually remove scale, while others will inhibit the build-up of further scale. As the boiler becomes more scaled the efficiency decreases. So, therefore, testing will need to show how these products can maintain or reduce the decrease in heating system efficiency.

Hydropath highlighted some products can return scaled devices back to efficient levels; however DVGW W512 is not always an appropriate test for some technologies. It must also be clear that products don't stop limescale formation but stop it attaching and therefore flow rate is important.

Harvey Water Softeners claimed build-up of scale and drops in heating efficiency don't necessarily go hand in hand and that studies had shown cracking of scale takes place on electric heating elements, though not always on the heat exchanger of a gas-fired heater.

Gastec detailed some of the metrics in testing of magnetic filters that they have been involved in; this includes the ability of a magnetic to pick up debris in the first instance, and then a measurement of its ongoing performance after initial pick-up.

Environmental Treatment Concepts Ltd, mentioned that DVGW W512 is not efficient as it weighs scale which is not suitable towards our objectives.

UKWTA made reference to ***BS EN 26:2015 Gas-fired instantaneous water heaters for the production of domestic hot water***. British Gas and others have tested efficiency over a long time scale in regards to lime scale. UKWTA supported the point that DVGW W512 is not appropriate. Harvey Water Softeners supported the idea that scaled up and clean boilers could be tested against this standard, then a boiler implemented with the device could be test against the efficiency standard as well. This is a short term time to temperature test to see how long it takes to heat a volume of water, e.g. energy in/energy out. With an approximate set up time of 3 months to scale and test.

Hydropath suggested using a test rig otherwise there would be the need to determine a definition of the right boiler. Energy Saving Trust confirmed that the same make of boiler would be required for testing in order to ensure replicability.

ACTION: Group are to email Energy Saving Trust their product types, including a description of what they would define it as/function as well as copies of any testing carried out. This will be kept confidential but used by Energy Saving Trust to compare and contrast information to get insight to what testing can be applied/common ground.

Energy Saving Trust explained the process of endorsement, communication and marketing available through Energy Saving Trust as well as fees.

Q&A or comments

- Hydropath – Would a test report be required per product? EST -Yes. However the aim is to develop a test that is benefit to manufactures on the whole so that manufacturers aren't carrying out testing purely for the sake of the endorsement
- Monarch – Asked if there would be a steering group specifically for developing the test method. EST -There hasn't been before but something that can be looked into.
- UKWTA – There needs to be clarification that the standard will be focused on energy saving/efficiency and will exclude drinking water.
- How is the logo and brand protected? EST states an effective system set up to monitor and control this.
- Hydropath – In regards to testing, the primary question is using a rig or test boiler? Open to debate
- Sentinel asked if the products to be covered by the standard would include domestic use products only. EST confirmed this was the intention.
- Environmental Treatment Concepts – What time line is there going forward? EST states a first draft out end of November with a follow up survey coming out shortly after the meeting.

Actions

- EST to send out presentation and meeting notes.
- Follow up survey to meeting to provide sense check that EST has understood the points raised and to gather feedback on possible scope, criteria and testing.
- EST to contact attendees to send through brief summary description of their products and what the function. Plus any testing performed and how carried out.

¹ This European Standard defines the specifications and test methods concerning the construction, safety, rational use of energy and fitness for purpose, and also the classification and marking of gas-fired instantaneous water heaters for sanitary uses, hereafter called "water heaters". This European Standard applies to water heaters: - of types AAS, B11, B11BS, B12, B12BS, B13, B13BS, B14, B22, B23, B32, B33, B44, B52, B53, C11, C12, C13, C21, C22, C23, C32, C33, C42, C43, C52, C53, C62, C63, C72, C73, C82 and C83 according to CEN/TR 1749; - fitted with atmospheric burners; - equipped with atmospheric burners assisted by a fan for the supply of combustion air or evacuation of combustion products or fully premix burners; - using one or more combustible gases corresponding to the three gas families and at the pressures stated in accordance to EN 437; - of nominal heat input not exceeding 70 kW; - with an ignition burner or with direct ignition of the main burner. In this European Standard, the heat inputs are expressed in relation to the net calorific value (Hi). This European Standard does not contain all the requirements necessary for: - boiling water appliances; - appliances intended to be connected to a mechanical means of evacuating the combustion products; - appliances which fulfil a dual role of space heating and heating water for sanitary use; - appliances making use of the heat of condensation of the water contained in the combustion products; - water heaters of types B21, B31, B41, B42, B43 and B51. This European Standard only covers water heaters where the fan, if any, is an integral part of the appliance. This European Standard: - does not apply to appliances not intended to be connected to a flue when they are not fitted with an atmosphere sensing device; - takes account of the information given in Technical Report CEN/CR 1472:1994 with respect to marking. Type B appliances should be with a combustion products discharge safety device to comply with essential requirement 3.4.3 of the Gas Appliances Directive 2009/142/EC. In this European Standard, the appliance is identified as type B11BS. Appliances intended to be installed outdoors or in a room separate from inhabited rooms and provided with appropriate ventilation are not required to have this combustion products discharge safety device but, in this case, appropriate warnings on the packaging, and in the instructions should clearly define the limited authorized use for this type of appliance. In this European Standard, the appliance is identified as type B11. The main symbols used in this European Standard are summarized in Annex F.