

Does Automist comply with the guidance within the associated British Standard?

Automist Smartscan Hydra has been independently, third-party, tested by Exova Warrington Fire to confirm that it meets the performance requirements of BS 8458 2015, as validated by BSI Verification Certificate [VC 780009](#).

- Automist Smartscan Hydra Exova Warrington test report - [BS 8458: 2015: Annex C, Method for Measuring the Capability of a Watermist System to Control a Fire.pdf](#)
- Automist Smartscan BSi Verification Certificate for BS 8458 performance requirements - [BSi Verification Certificate.pdf](#)

A Verification Certificate utilises BSi's "non-standard" Certification Process. As per the [BSi website](#):

'At BSI we are asked to certify many fantastic innovations that meet a specific objective (e.g. a new technology for extinguishing a fire). However, because it's new and innovative, there often isn't a suitable standard to certify the product against. Fear not, there are a few ways to solve this problem, especially if you think outside of the 'standard' box.'

'An independent overview of the product and/or process by industry experts can often give you a beneficial advantage in the market place. Verification considers both the type testing to a standard (or equivalent), and a review of the technical file. If this is successfully approved, the certificate is issued, without the need for ongoing surveillance or assessment visits to be carried out as part of the verification process.'

We have created an [FAQ area](#) on our website specifically for Approvers for further information about our product's technical elements. The table below helps readers understand how Automist complies with the applicable clauses of BS 8458, justifies any deviations, and highlights where to find further details within our Design, Installation and Operation Manual ([DIOM](#)):

BS 8458 Clause		Automist	
Section	Sub Section	Compliant	Detail
1 - Scope		Alternative	See DIOM page 13
2 – Normative references		n/a	n/a
3 – Terms and definitions		n/a	n/a
4 – Preliminary work and consultation	4.1 – Initial consultations	Yes	See DIOM page 16
	4.2 – Consultation	Yes	See DIOM page 16
	4.3 – Category of system	Yes	See DIOM page 18
	4.4 – Cylinder-based systems	n/a	n/a
	4.5 – Use of watermist systems as a compensatory feature	Yes	See DIOM page 20
	4.6 – Special circumstances	Yes	See DIOM page 18

5 – System actuation		Alternative	See DIOM page 13
6 – Design	6.1 – Fire tests	Yes	See DIOM page 25
	6.2 – Limits of application	Yes	See DIOM page 25
	6.3 – System design	Alternative	See DIOM page 25 and page 27
	6.4 – Extent of watermist system protection	Yes	See DIOM page 26
	6.5 – Hydraulic calculations	Yes	See DIOM page 40
	6.6 – Discharge performance	Yes	See DIOM page 40
	6.7 - Discharge duration	Yes	See DIOM page 40
	6.8 – Water supplies	Alternative	See DIOM page 41
	6.9 – Backflow prevention	Yes	See DIOM page 42
	6.10 – Watermist nozzle coverage and location	Alternative	See DIOM page 27 and page 28
	6.11 – Components	Alternative	See DIOM page 42
	6.12 – Electrical design and installation	Yes	See DIOM page 58
	6.13 – Additives	Yes	See DIOM page 58
7 – Installation, commissioning, and documentation	7.1 – Installation	Yes	See DIOM page 59
	7.2 – Commissioning	Yes	See DIOM page 84
	7.3 – Documentation	Yes	See DIOM page 95
	7.4 – System data label	Alternative	See DIOM page 93
8 – Maintenance	8.1 – Inspecting and testing after commissioning and whilst in service	Yes	See DIOM page 101
	8.2 – Reinstatement of the system	Yes	See DIOM page 101
	8.3 – Logbook	Alternative	See DIOM page 92

Why does Automist deviate from BS 8458?

There is no formal requirement, legal or otherwise, for Automist to fully comply with BS8458. We deviate from this Standard intentionally (and declare it with full transparency), not due to failings in our thoroughness, but to [address well-documented problems](#) with standardised solutions. The rationale is captured in this peer-reviewed [fire engineering research paper](#). If a manufacturer can adopt all the recommendations in the code of practice of a Standard, these should be met, and any deviations declared. However, when this is not possible due to the nature of the innovation, there is no obligation to fully comply.

Why is this in line with BSi Principles of Standardisation?

To quote BS 8458, the document is:

'as a code of practice, this British Standard takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading'.

As per [BS 0:2016](#), A standard for standards - Principles of standardisation published by BSi, clause 9:

'British Standards are voluntary in that there is no obligation to apply them or comply with them, except in those few cases where their application is directly demanded by regulatory instruments. They are tools devised for the convenience of those who wish to use them.'

'Particularly for the purpose of preventing anticompetitive effects or impeding innovation, whenever possible, provisions are expressed in terms of performance rather than design or descriptive characteristics.'

'Standards are always subordinate to the law. It is important that they are drafted so as to avoid any confusion between the provisions of a standard and requirements imposed by law. In general, it is not acceptable for standards to contain provisions that are already requirements imposed by law, nor to contain any statement recommending or requiring compliance with the law.'

Is there a process for the approval of non-Standard products like Automist?

The approval process for non-standardised materials (including fire safety systems) is specified as part of the current building and fire safety regulatory system, as shown in Figure 1 below. There are many ways to meet regulation 7, which states that either a UKAS or an equivalent accredited national laboratory can demonstrate the performance of a product for its intended purpose.

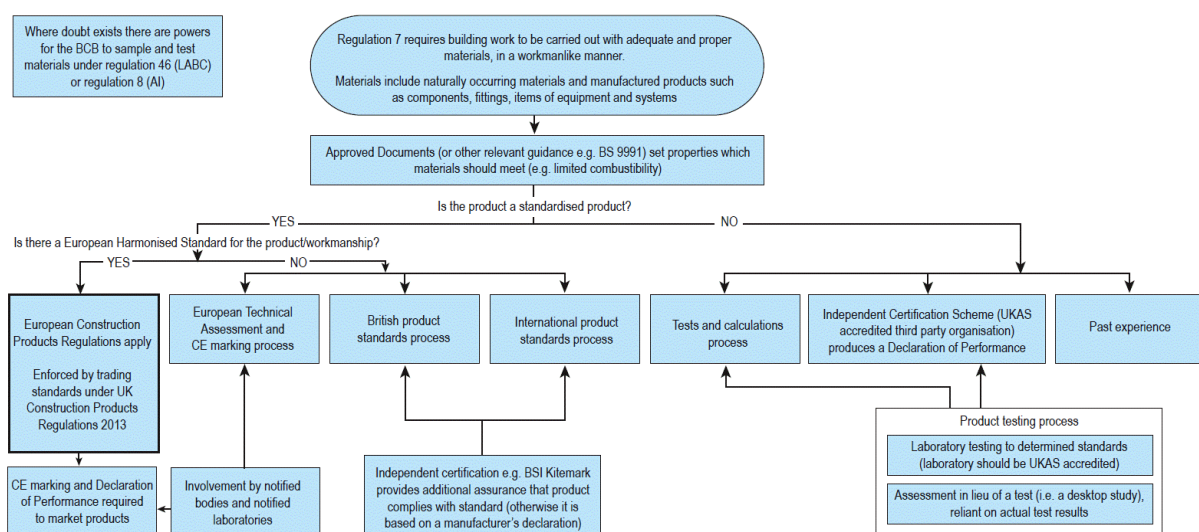


Figure 1: Map of the current regulatory system (taken from Dame Judith Hackitt's, "Building a Safer Future: [Independent Review of Building Regulations and Fire Safety](#)")

Will BS 8458 be updated to include electronic nozzles?

The UK watermist standard is out of date and should have been updated in 2020. All British Standards should be subject to review at least every five years. BSi has [confirmed that electronic nozzles](#) will be included in the update of the Standard.

Why is the over-reliance on British Standards a problem within the Fire Industry?

Dame Judith Hackitt, recognised in her report that the over-reliance on standardised solutions is one of the building industry's key failings, resulting in 'an over-reliance on the system' that 'discourages[s] ownership and accountability for decisions'.

An expectation that all products fully meet a specific standard, limits competition from alternative safe and effective products (including both existing technologies and potential new products) that do not completely comply with those standards. This reduces consumer choice and results in innovative new products that could potentially improve fire safety being excluded from the market. To exclude a system that is outside of the scope of a standard, as opposed to a technical justification, results in a restriction of competition which further stifles innovation.

The exploration of new technology is an important part of the Regulatory Reform (Fire Safety) Order 2005, which states:

'Where the responsible person implements any preventive and protective measures, he must do so on the basis of the principles specified in Part 3 of Schedule 1.' Part 3 of Schedule 1 states under Article 10:

PRINCIPLES OF PREVENTION, adapting to technical progress.

It is essential that fire protection standards, products and systems keep pace with new expectations of fire and structural safety in the built environment – especially to maintain the reduction of fire-related injuries and fatalities in the future.

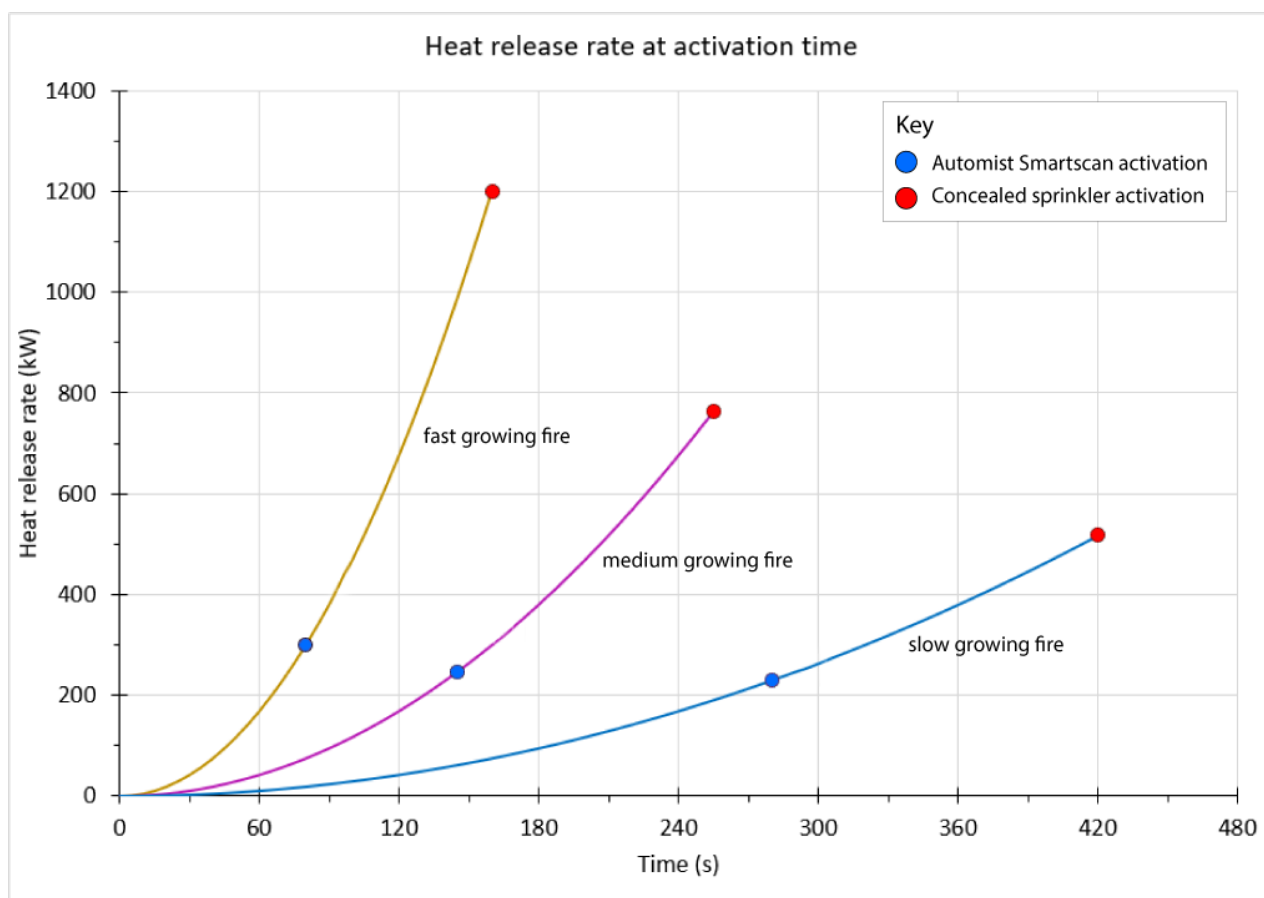
Is there any fire engineering research that supports the use of Automist?

All fire safety is about time. A performance-based design aims for the Required safe egress time (RSET) to be less than the Available safe egress time (ASET) to allow safe evacuation. A detailed explanation of the approach can be found in PD 7974-6:2004. The key features of the process and the impact of Automist can be summarised as follows:

- RSET is the sum of the fire detection/alarm time, the recognition/response time and the travel time to a place of safety. Automist can help to reduce RSET by detecting a fire at an early stage. It does this by introducing more detection into the premises.

- ASET is determined by the onset of untenable conditions within the area being considered. Untenable conditions can be caused by smoke toxicity, and heat from fire and/or smoke. Automist can help extend ASET by limiting smoke production from a fire and by reducing heat exposure.

The measured activation times of Automist is 2.0 to 13.7 times faster than a concealed sprinkler. This significantly impacts its ability to aid means of escape, especially when smoke is the most critical risk to life in domestic fires as opposed to heat.



Download Peer-reviewed Fire Engineering Research

- [Replicating the activation time of electronically controlled watermist system nozzles in B-RISK](#)
- [Estimating the Suppression Performance of an Electronically Controlled Residential Water Mist System from BS 8458:2015 Fire Test Data](#)

Any further questions?

Review our FAQs - <https://plumis.co.uk/faqs#approver>