

Technical Bulletin

Industry Information: NHBC policy for combination boilers

NHBC policy regarding the minimum simultaneous flow rates from combination boilers – Updated January 2019

Background

The National House Builders Council or NHBC, offer warranty and insurance protection for new homes. Their 'Buildmark' 10 year cover is reported to be in place for approximately 80% of new homes built in the UK. In order to be able to offer this type of cover for homebuyers, the NHBC provide technical requirements, performance standards and guidance for the design and construction of new homes – these are known as the NHBC Standards. The NHBC Standards cover all aspects of the dwelling construction and services within. The standards can be accessed by anyone for free via the NHBC website:

www.nhbc.co.uk/Builders/ProductsandServices/TechZone/nhbcstandards

Hot water service

In the NHBC Standards, 'Hot water service' is covered by paragraph 8.1.5. It details the design flow rates and required supply temperatures to different types of outlets in the home i.e. bath, shower, basin etc.

However, when determining the type of hot water supply system for the dwelling i.e. stored water or instantaneous, it is necessary to consider the simultaneous demand. In this instance, a set of minimum supply flow rates are detailed in the standards.

Update to the NHBC Standards 2019

Based on on-going feedback, customer expectations and common practice, the NHBC have updated the minimum requirements for simultaneous demand. Table 4 from the NHBC standards is shown below for information.

What does it mean for specifying Worcester combination boilers in new houses?

With reference to Table 4 in paragraph 8.1.5 of the NHBC standards - In order to comply with the requirements for simultaneous demand, a combination boiler should be selected with the following minimum rated output to hot water i.e.

0.15 L/sec (9 L/min) = ≥25 kW rated output to hot water

0.20 L/sec (12 L/min) = ≥30 kW rated output to hot water

0.25 L/sec (15 L/min) = ≥36 kW rated output to hot water

Example 1 – Dwelling has single bathroom with shower over the bath. Minimum NHBC requirement is 0.2 L/sec (12 L/min) therefore a Worcester Greenstar 30i could be specified.

Example 2 – Dwelling has Bathroom and one separate Shower room/en-suite. Minimum NHBC requirement is 0.25 L/sec (15 L/min) therefore a Worcester Greenstar 36CDi Compact could be specified.

Houses with a greater number of bathrooms or shower rooms / en-suites are likely to require a stored water solution.

Whichever Worcester boiler is selected it should have a rated heat output to hot water equal or higher than that required for the corresponding flow rate. This should ensure that the equivalent flow rate at the outlet is achieved with a 35°C temperature rise from the incoming mains cold water temperature.

Table 4: Hot water demand and simultaneous use

Bathroom		Shower room		Hot Water demand ⁽⁵⁾	
Bath only	Bath + Shower ⁽¹⁾	1 st Shower room	2 nd Shower room	L/sec	(L/min)
✓ ⁽²⁾				0.20	(12)
		✓ ⁽³⁾		0.15	(9)
✓		✓		0.25	(15)
✓		✓	✓	0.35	(21)
	✓ ⁽²⁾			0.20	(12)
	✓ ⁽⁴⁾	✓		0.20	(12)
	✓ ⁽⁴⁾	✓	✓	0.30	(18)
		✓	✓	0.20	(12)

Notes

1 Shower may be over the bath or in a separate enclosure within the bathroom

2 Demand based on 'Design' flow rate of bath

3 Demand based on minimum acceptable boiler output

4 Demand based on use of the shower in preference to the bath

5 The hot water system should supply at least the hot water demand stated and take into account of distribution heat losses through the pipework. The suitability of the instantaneous systems (combination boilers) will be limited by their performance as quoted by the boiler manufacturer.

Whilst it is always our intention to fully assist, it is essential to recognise that all information given by the company in response to an enquiry of any nature is provided in good faith and based upon the information provided with the enquiry. We recommend that advice should always be checked with your installer or contract partner. Consequently, the company cannot be held responsible for any liability relating to the use or repetition of such information or part thereof. In addition, whilst making every reasonable effort to monitor the performance and quality of our supply, installation and service network, we do not accept responsibility for the workmanship or operation of any third party company that the company may have promoted either in conversation, e-mail, or other communication. Similarly, the views and opinions expressed in communication with individuals within the company may not reflect that of the business as a whole.

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