

BS 5410-1:2019



BSI Standards Publication

Code of practice for liquid fuel firing

Part 1: Installations for space heating and hot water supply
purposes for domestic buildings

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Foreword

Publishing information

This part of BS 5410 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 June 2019. It was prepared by Technical Committee RHE/13, *Liquid fuel firing*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

This part of BS 5410 supersedes BS 5410-1:2014 which is withdrawn.

Relationship with other publications

BS 5410 is published in three parts:

- *Part 1: Installations for space heating and hot water supply purposes for domestic buildings*
- *Part 2: Installations providing space heating, hot water and steam supply services to non-domestic buildings*
- *Part 3: Installations for furnaces, kilns, ovens, oil-fuelled standby generators and other industrial purposes.*

Hazard warnings

WARNING. Decommissioning and disposal of liquid fuel storage tanks

The decommissioning and disposal of liquid fuel storage tanks can become necessary as part of the maintenance cycle of a liquid fuelled system. This is not covered in the present standard. It is a very hazardous procedure, and it is imperative that it is only undertaken by specialist operatives who have the right equipment, expertise and insurance. Building owners should never attempt to cut up old liquid fuel storage tanks themselves.

NOTE 1 Attention is drawn to the *Construction (Design and Management) Regulations 2007 (as amended, 2015)* [1], which class such work as a “demolition project”.

NOTE 2 Detailed guidance on decommissioning and disposal of liquid fuel storage tanks is given in *OFTEC Technical Book 3* [N4].

NOTE 3 Attention is drawn to *The Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR)*, as amended [2] and the need to risk assess the selection of equipment to ensure safety in use and maintenance operations.

Information about this document

This is a full revision of the document and introduces the following changes:

- the Scope has been revised to cover all sizes of installations serving domestic buildings up to those with an output of 70 kW;
- secondary containment fitted to storage tanks is required to be ventilated directly to atmosphere;
- a requirement to use a carbon monoxide detector with all internally installed combustion appliances has been added;
- combustion air requirements are to be calculated on the heating appliance's maximum rated output; and

- additional clarifications and guidance have been added for those carrying out installation, commissioning, service and maintenance works.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

Use of this document

As a code of practice, this part of BS 5410 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.

Any user claiming compliance with this part of BS 5410 is expected to be able to justify any course of action that deviates from its recommendations.

It has been assumed in the preparation of this part of BS 5410 that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is “should”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. “organization” rather than “organisation”).

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

Particular attention is drawn to the following specific regulations:

- The Construction (Design and Management) Regulations 2007 (as amended, 2015) [1].
- The Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR), as amended [2].
- The Boiler (Efficiency) Regulations 1993 as amended by the Boiler (Efficiency) (Amendment) Regulations 1994 and the Boiler (Efficiency) (Amendment) Regulations 2006 [3].
- The Building Regulations [4], [5], [6].
- The Control of Pollution (Special Waste) (Amendment) Regulations 1988 [7].
- The Control of Pollution (Oil Storage) (England) Regulations 2001 [8].
- The Control of Pollution (Oil Storage) (Amendment) Regulations (Northern Ireland) 2010 [9].
- Water Resources (Control of Pollution) (Oil Storage) (Wales) Regulations 2016 [10].
- The Water Environment (Miscellaneous) (Scotland) Regulations 2017 [11].

Attention is drawn also to amendments which may be made from time to time in these regulations.

1 Scope

This part of BS 5410 gives recommendations and guidance on the design, installation, commissioning and maintenance of liquid fuel burning installations for space heating and hot water supply purposes in domestic buildings with an output not exceeding 70 kW. It also gives recommendations and guidance on the selection and installation of liquid fuel storage tanks of capacity up to 3 500 l, when installed at domestic buildings. This British Standard is also applicable to liquid fuel fired cookers where these are connected to flues. This part of BS 5410 is not applicable to liquid fuel fired systems for marine and transportable installations, or for flueless heaters.

This part of BS 5410 is applicable to installations burning liquid fuel conforming to BS 2869, including biofuels conforming to BS EN 14214, and blends thereof.

This British Standard is intended for use by designers, specifiers, installers, and service and commissioning engineers.

NOTE 1 The types of appliances and burners covered by this part of BS 5410 are described in [Annex A](#).

NOTE 2 Liquid fuel tank installations at domestic buildings, with a storage capacity greater than 3 500 l, are covered by BS 5410-2.

NOTE 3 Liquid fuel tank installations at non-domestic buildings, with a storage capacity up to 3 500 l, are covered by BS 5410-2.

NOTE 4 Where a domestic building has a boiler capacity in excess of 70 kW installed in a dedicated boiler or plant room, see BS 5410-2.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Standards publications

BS 799-5, *Oil burning equipment — Part 5: Carbon steel oil storage tanks — Specification*

BS 2869:2017, *Fuel oils for agricultural, domestic and industrial engines and boilers — Specification*

BS 5410-2:2018, *Code of practice for liquid fuel firing — Part 2: Installations providing space heating, hot water and steam supply services to non-domestic buildings*

BS 7671, *Requirements for Electrical Installations — IET Wiring Regulations*

BS EN 977:1998, *Underground tanks of glass-reinforced plastics (GRP) — Method for one side exposure to fluids*

BS EN 1057:2006+A1:2010, *Copper and copper alloys — Seamless, round copper tubes for water and gas in sanitary and heating applications*

BS EN 1254-2:1998, *Copper and copper alloys — Plumbing fittings — Part 2: Fittings with compression ends for use with copper tubes*

BS EN 1856-1:2009, *Chimneys – Requirements for metal chimneys – Part 1: System chimney products*

BS EN 1856-2:2009, *Chimneys – Requirements for metal chimneys – Part 2: Metal flue liners and connecting flue pipes*

BS EN 12285-3, *Workshop fabricated steel tanks — Part 3: Horizontal cylindrical single skin and double skin tanks for the underground storage of flammable and nonflammable water polluting liquids for heating and cooling of buildings*