



BSI Standards Publication

## Liquid fuel firing

Part 3: Installations for liquid fuelled standby generators, furnaces, kilns, ovens and other industrial purposes — Code of practice

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### Summary of pages

This document comprises a front cover, an inside front cover, pages I to VIII, pages 1 to 77, an inside back cover and a back cover.

# Foreword

## Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 28 February 2023. 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This British Standard supersedes BS 5410-3:2016, which is withdrawn.

## Information about this document

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

- the use of biofuel is now included;
- the use of coal tar fuels has been deleted; and
- the installation of standby generators is covered.

It is desirable that there are minimum recommendations for the liquid fuel firing installation aspects of furnaces, kilns, ovens, liquid fuelled standby generators and other industrial plants so that equipment manufacturers, suppliers, installers and users have a common basis on which to work.

This part of [BS 5410](#) gives recommendations on the design as well as installation, commissioning and maintenance aspects of liquid fuel-using equipment within its scope.

In following the recommendations given in this British Standard, other authorities might need to be consulted.

## Hazard warnings

**WARNING.** Decommissioning and disposal of liquid fuel storage tanks

The decommissioning and disposal of liquid fuel storage tanks, which can become necessary as part of the maintenance cycle of a liquid fuel fired system is a very hazardous procedure, and it is imperative that it is only undertaken by specialist operatives who have the right equipment and expertise.

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

*NOTE 2* Guidance on decommissioning and disposal of liquid fuel storage tanks is given in OFTEC Technical Book 3 [N1].

*NOTE 3* Attention is drawn to The Dangerous Substances and Explosive Atmospheres Regulations 2002 (Amendment 2015) [2].

## Use of this document

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.

Any user claiming compliance with this British Standard 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 British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

### Relationship with other publications

[BS 5410](#) is published in three parts, as follows:

- 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; and*
- Part 3 – *Installations for liquid fuelled standby generators, furnaces, kilns, ovens and other industrial purposes.*

### 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.

In particular, attention is drawn to the following specific regulations:

- Construction (Design and Management) Regulations 2015 [1];
- Dangerous Substances and Explosive Atmospheres Regulations 2002 (Amendment 2015) [2];
- Building Regulations 2010 [3];
- Building (Amendment) (Wales) Regulations 2014 [4];
- Building (Scotland) Regulations 2004 [5];
- Building Regulations (Northern Ireland) 2012 [6];
- Environmental Protection Act 1990 [7];
- Control of Pollution (Special Waste) (Amendment) Regulations 1988 [8];
- Control of Pollution (Oil Storage) (England) Regulations 2001 [9];
- Water Resources (Control of Pollution) (Oil Storage) (Wales) Regulations 2016 [10];
- Control of Pollution (Oil Storage) (Amendment) Regulations (Northern Ireland) 2011 [11];
- Construction (Design and Management) Regulations (Northern Ireland) 2016 [12];
- Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) [13];
- Waste (England and Wales) Regulations 2011 (as amended) [14];
- Hazardous Waste (Amendment) Regulations (Northern Ireland) 2015 [15];
- Special Waste (Amendment) (England and Wales) Regulations 2001 [16];
- Special Waste Amendment (Scotland) Amendment Regulations 2004 [17];
- Building (Approved Inspectors etc.) Regulations 2010 [18];
- Building (Forms) (Scotland) Regulations 2005 (as amended) [19];
- Waste Incineration Directive (UK) [20];
- Medium Combustion Plant Directive (UK) – MCPD (EU 2015/2193) [21];
- Non-Road Mobile Machinery Regulation – NRMM (EU 2016/1628) [22];
- Industrial, Emissions Directive (UK) – IED (EU 2010/75) [23];

- Environmental Permitting (England and Wales) (Amendment) Regulations 2018 [\[24\]](#);
- Pollution Prevention and Control (Scotland) Amendment Regulations 2017 [\[25\]](#);
- Pollution Prevention and Control (Industrial Emissions) (Amendment) Regulations (Northern Ireland) 2018 [\[26\]](#).



## 1 Scope

This part of [BS 5410](#) gives recommendations and guidance on the design, installation, commissioning and maintenance of liquid fuel consuming equipment used in conjunction with industrial installations, such as standby generators, furnaces, kilns and ovens. Recommendations and guidance are given for the selection, application and installation of burners, storage tanks, piping systems, accommodation, chimneys, electrical and control equipment.

This part of [BS 5410](#) is applicable to installations consuming liquid fuel conforming to BS 2869, [BS EN 16900](#), BS EN 590, including biofuels conforming to BS EN 14214, and blends thereof, and BS EN 15940.

*NOTE For the avoidance of doubt, the scope of this British Standard does not include equipment in relation to liquid gases.*

This British Standard covers the provision of new installations and also gives guidance on the modernizing of existing installations. Recommendations and guidance are given on the selection and installation of liquid fuel storage tanks associated with these installations.

This British Standard is primarily intended for use by designers, specifiers, installers and building owners of systems having an environmental impact and seeking to use the best available technologies that have the potential for improvement through design where practical.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions of this document<sup>1)</sup>. 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 799-3](#), *Oil burning equipment – Part 3: Automatic and semi-automatic atomizing burners up to 36 litres per hour*

[BS 799-4:1991](#), *Oil burning equipment – Part 4: Specification for atomizing burners (other than monobloc type) together with associated equipment for single burner and multi burner installations*

[BS 799-5:2010](#), *Oil burning equipment – Part 5: Carbon steel oil storage tanks – Specification*

[BS 1710](#), *Specification for identification of pipelines and services*

BS 2869, *Fuel oils for agricultural, domestic and industrial engines and boilers – Specification*

BS 5306 (all parts), *Fire extinguishing installations and equipment on premises*

[BS 5410-1](#), *Code of practice for liquid fuel firing – Part 1: Installations for space heating and hot water supply purposes for domestic buildings*

[BS 5410-2](#), *Code of practice for liquid fuel firing – Part 2: Installations providing space heating, hot water and steam supply services to non-domestic buildings*

[BS 5970](#), *Thermal insulation of pipework, ductwork, associated equipment and other industrial installations in the temperature range of –100 °C to +870 °C – Code of practice*

[BS 7430](#), *Code of practice for protective earthing of electrical installations*

BS 7445 (all parts), *Description and measurement of environmental noise*

<sup>1)</sup> Documents that are referred to solely in an informative manner are listed in the Bibliography.