



**NSAI**  
Standards

Standard Recommendation  
S.R. 50-1:2021

# Building services - Code of Practice - Part 1: Water based heating systems in dwellings

## S.R. 50-1:2021

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**NSAI**

1 Swift Square,  
Northwood, Santry  
Dublin 9

T +353 1 807 3800  
F +353 1 807 3838  
E [standards@nsai.ie](mailto:standards@nsai.ie)  
W [NSAI.ie](http://NSAI.ie)

**Sales:**

T +353 1 857 6730  
F +353 1 857 6729  
W [standards.ie](http://standards.ie)

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## Foreword

This document is an Irish Standard Recommendation (S.R.). It provides a Code of Practice that specifies the Irish National requirements which are additional to existing Irish Standards.

This Code of Practice has been prepared by the National Standards Authority of Ireland Building Services Committee, NSAI/TC 31.

This Code of Practice promotes higher standards of quality in the design, installation, commissioning and maintenance of domestic plumbing and heating systems.

This is the first edition of S.R. 50-1.

The recommendations in this Code of Practice encourage uniformity of application.

The S.R. 50 series is made up of number of parts that compliment various sections of domestic plumbing systems:

- S.R. 50-1 covers the requirements for water-based central heating systems used for space heating in dwellings.
- S.R. 50-2 covers the requirements for solar thermal systems used for heating domestic hot-water in dwellings.
- S.R. 50-3 covers the requirements for the conveyance of potable cold water and domestic hot and cold water from the mains supply to the draw off points within the dwelling and its curtilages.
- S.R. 50-4 covers the requirements for the design, installation and commissioning of residential heat pumps in new and existing dwellings.

In preparing this Code of Practice the assumption has been made that the reader has suitable knowledge and understanding of the subject.

There are a number of Annexes to this Code of Practice. These Annexes are referred to as either *Normative* or *Informative Annexes*. *Normative Annexes* are mandatory for compliance with this Code of Practice whereas *Informative Annexes* are for information only.

This Code of Practice represents a standard of good practice but compliance with it does not, in itself, confer immunity from legal obligations, regulations and local by-laws.

In line with international standards practice the following representation of numbers and numerical values apply.

The decimal point is shown as a comma ( , ) throughout this Irish Standard.

Each group of three digits reading to the left or to the right of a decimal sign are separated by a space from preceding digits or following digits respectively.

## **S.R. 50-1:2021**

### **Introduction**

This Code of Practice has been written to encourage designers and installers to ensure that central heating systems are not only designed and installed correctly but are also energy efficient and meet manufacturer's criteria. This Code of Practice provides practical information and guidance on water-based central heating systems in permanent domestic dwellings. This Code of Practice is complimentary to the European Standards I.S. EN 12828, I.S. EN 12831 and I.S. EN 14336, which have been adopted as Irish Standards.

This Code of Practice is intended for the use by engineers, architects, surveyors, contractors, installers and inspection authorities involved in the supply, installation, operation and maintenance of water-based heating systems in buildings.

The various parts of S.R. 50 can be used together to design, install and commission water-based heating systems for space heating and for heating domestic hot-water, which can include solar thermal heating.

While provisions are made for heat pumps as heat generators in a water-based heating system, this Code of Practice is not specific to heat pumps for which there are specific design considerations required to ensure an effective, efficient and economical heating system.

# Building services – Code of practice – Part 1: Water-based heating systems in dwellings

## 1 Scope

This Code of Practice provides practical information and guidance on the design, installation and optimisation of traditional water-based (wet) central heating systems in permanent domestic dwellings.

This document specifies the requirements for the design, installation, commissioning and maintenance of space heating and hot-water heating systems.

This Code of Practice applies to new and existing domestic dwellings for rated input up to 70 kW. The scope of this document is limited to heating systems with a combined output of up to 70 kW. Engineering assistance should be sought if designing a heating system larger than 70 kW.

Domestic gas installations are covered in I.S. 813 and are not included in this Code of Practice. The specific requirements for the installation of solid fuel, oil or electric heat generators are not covered in this Code of Practice.

Hot-water and cold-water supply systems are covered in S.R. 50-3.

This Code of Practice does not cover district heating systems.

## 2 References

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE For Standards harmonised to a European Directive or Regulation, the version of the harmonised Standard cited in the Official Journal of the European Union is used for demonstrating legal compliance and CE marking.

I.S. 813, *Domestic gas installations*

I.S. 10101:2020, *National rules for electrical installations*

I.S. EN 215, *Thermostatic radiator valves - Requirements and test methods*

I.S. EN 442-1, *Radiators and convectors - Part 1: Technical specifications and requirements*

I.S. EN 751-1, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water - Part 1: Anaerobic jointing compounds*

I.S. EN 751-2, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water - Part 2: Non-hardening jointing compounds*

I.S. EN 751-3, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water - Part 3: Unsintered PTFE tapes*

I.S. EN 1057, *Copper and copper alloys - Seamless, round copper tubes for water and gas in sanitary and heating applications*

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