



NSAI
Standards

Standard Recommendation
S.R. 50-1:2021

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

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S.R. 50-1:2021

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SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document was published
under the authority of the NSAI
and comes into effect on:
8 February, 2021

ICS number:
23.040.20
83.140.30

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Contents

	Page
Foreword.....	7
Introduction.....	8
1 Scope	9
2 References.....	9
3 Terms and definitions.....	14
4 Heat distribution system design requirements.....	17
4.1 Requirements for preliminary design information	17
4.2 Heat distribution system layout.....	19
4.3 Heat supply system design.....	20
4.3.1 Fuel selection	20
4.3.2 Type of system	21
4.3.3 Location of heat generators	21
4.3.4 Sizing.....	21
4.3.5 System efficiency.....	22
4.4 Heat emission system design	22
4.4.1 Pipework.....	22
4.4.2 Heat emitters.....	22
4.5 Attached system design – Domestic hot-water	23
4.5.1 General requirements.....	23
4.5.2 Combination (combi) boiler	24
5 Heat loss.....	24
5.1 Methodology.....	24
5.1.1 Heat loss calculation.....	24
5.1.2 Internal design temperatures.....	25
5.1.3 External design temperatures	25
5.1.4 Building exposure	25
5.1.5 Intermittent heating.....	25
5.1.6 High ceilings	26
5.1.7 Adjoining properties	26
5.2 Ventilation heat loss	27
5.2.1 Calculation method.....	27
5.2.2 Air change rates.....	27
5.3 Fabric heat loss.....	28
5.3.1 Calculation method.....	28
5.3.2 U-values.....	28
5.4 Additional methods and information.....	30
5.4.1 DEAP	30
5.4.2 European standards.....	30
6 Pipework and fittings.....	31
6.1 General	31
6.2 Copper pipe.....	32
6.2.1 General requirements.....	32

6.2.2	Jointing methods	32
6.2.3	Pipe bending	33
6.3	Crosslinked polyethylene [PE-X] plastic pipe	33
6.3.1	Pipework	33
6.3.2	Jointing methods	33
6.4	Multilayer piping systems	34
6.4.1	Pipework	34
6.4.2	Jointing methods	35
6.5	Polybutylene [PB]	35
6.5.1	Pipework	35
6.5.2	Jointing methods	36
6.6	Polyethylene of raised temperature resistance (PE-RT)	36
6.7	Stainless steel pipework	36
6.8	Pipe cutting	37
6.8.1	Copper tube	37
6.8.2	Plastic pipe	37
6.9	Pipe bending	37
6.10	Jointing methods	37
6.10.1	Soldered or brazed joints	37
6.10.2	Compression fittings in accordance with I.S. EN 1254-2	39
6.10.3	Flange joints	39
6.10.4	Demountable unions	39
6.10.5	Push-fit joints	40
6.10.6	Threaded joints	40
6.10.7	Welded copper joints	41
6.10.8	Press fit joints	41
6.10.9	Solvent cemented joints	43
7	Solid fuel open vented heating systems	43
7.1	General	43
7.2	Solid fuel heating appliances	44
7.3	Primary gravity circuit	44
7.4	Open vent pipe	48
7.5	Cold feed pipework	49
7.6	Feed and expansion cistern	50
7.6.1	General requirements	50
7.6.2	Cold water supply	51
7.6.3	Open vent pipe	52
7.6.4	Overflow pipe	52
7.6.5	Cold feed	52
7.6.6	Final set up	52
7.7	Heat-leak circuit	53
7.7.1	General requirements	53
7.7.2	Hot water storage vessel heat-leak circuit	54
7.7.3	Heat-leak radiator circuits	54
7.8	Heat emission system	55
7.8.1	Secondary pumped heating	55
7.8.2	Thermostatic radiator valve (TRV)	55
7.9	Pressure safety valve	55
7.10	Motorized valves	56
7.11	Commissioning	56
8	Interlinking solid fuel heating appliances	56
9	Heat distribution system requirements	57

9.1	General	57
9.2	Pipework within the system	58
9.3	Pipework insulation and frost protection	59
9.3.1	Insulation general	59
9.3.2	Insulation of heating circuit pipework	59
9.4	Air eliminator	60
9.5	Electrical requirements	60
9.6	Safety devices	60
9.7	Water quality requirements	60
9.8	Water flowrate	62
10	Heat supply system requirements	62
10.1	Heat generator	62
10.2	Circulation pumps	62
10.2.1	General	62
10.2.2	Eco-design	63
10.2.3	Pump curves	64
10.2.4	Calculation of pump head (H)	65
10.2.5	Static pressure	65
10.2.6	Configuring pumps together	65
10.3	Sealed systems	68
10.3.1	General requirements	68
10.3.2	Pressure safety valve	68
10.3.3	Filling loop for pressurised sealed systems	69
10.3.4	Expansion vessel	69
10.4	Open vented systems	70
11	Heat emission system requirements	74
11.1	General	74
11.2	Emitter type	74
11.3	Output factors	74
11.4	Mean water temperature	74
12	Attached systems	74
13	Control systems	75
13.1	Introduction	75
13.2	Electrical competency	75
13.3	General requirements	75
13.4	Boiler interlock	76
13.5	Programmable and time switches	76
13.6	Room thermostats	76
13.7	Hot water thermostats	77
13.8	Thermostatic radiator valves (TRVs)	77
13.9	Space heating zones	77
13.10	Domestic hot-water heating circuit	78
13.11	Time control of space heating and water heating	78
13.12	Temperature control of space heating	78
13.13	Temperature control of domestic hot-water	78
14	Underfloor heating	78
14.1	General	78
14.2	Manifold	79
14.3	Thermostatic mixing valve	79
14.4	Over heat thermostat	79
14.5	Zone thermostats	79

14.6 Installation 79

14.7 Pre-commissioning..... 80

15 Installation of the system..... 80

15.1 General..... 80

15.2 Handling of materials 80

15.3 Pipework installation 80

15.4 Pipe bending 81

15.5 Pipe cutting..... 82

15.6 Jointing of pipes 82

15.6.1 General requirements 82

15.6.2 Pipe materials and jointing methods..... 83

15.7 Pipework support 84

15.8 Noise within the system..... 84

15.9 External buried pipework from an externally located boiler..... 85

15.10 Pipework in concrete and solid walls..... 85

15.11 Internal concealed pipework..... 85

15.12 Pipework passing through walls, floors and ceilings..... 86

15.13 Pipework passing through timber structures 86

15.14 Pipework protection..... 87

16 Documentation for installation, operation, maintenance and use 88

16.1 General requirements for the OM&U documentation 88

16.2 General information..... 88

16.3 Instructions for operation and use 89

16.4 Instructions for maintenance 89

16.5 Additional information 89

17 Pre-commissioning..... 90

17.1 Objective..... 90

17.2 Pre-commissioning checks 90

17.3 Safety considerations..... 90

17.4 Test preparation..... 91

17.5 Testing of existing systems..... 91

17.6 Pneumatic leak test 91

17.7 Water tightness test 92

17.8 Strength test..... 92

17.9 System flushing and cleaning..... 92

17.10 System filling and venting..... 94

17.11 Frost precautions 94

17.12 Operational checks..... 94

17.12.1 General system checks..... 94

17.12.2 Pump checks..... 94

17.12.3 Automatic control valves 95

17.12.4 Checks with all electrical supplies isolated 95

17.12.5 Checks with electrical supply available..... 96

17.13 Circulating pump setting 96

17.13.1 Checks before circulating pump start 96

17.13.2 Preliminary check of circulating pumps..... 97

18 Commissioning..... 97

18.1 Setting to work..... 97

18.2 Heat generator (boiler) commissioning 98

18.3 Balancing water flowrates 98

18.4 Adjusting of controls..... 99

This is a free 11 page sample. Access the full version online.

18.5	Completion.....	99
19	Recommissioning of existing systems.....	99
20	Decommissioning	100
20.1	General	100
20.2	Solid fuel back boilers.....	101
20.2.1	Risks from redundant solid fuel back boilers	101
20.2.2	Decommissioning solid fuel back boilers in fireplaces.....	102
20.2.3	Decommissioning solid fuel back boilers in stoves.....	102
21	Servicing and maintenance	103
Annex A (normative)	Pressure safety valve.....	104
A.1	Pressure safety valves for hot-water central heating systems	104
A.2	Pressure relief safety valve discharge requirements.....	104
Annex B (normative)	Water tightness test procedure	105
B.1	General	105
B.2	Procedure	105
B.3	Documentation	105
Annex C (normative)	Pneumatic leak or pressure testing.....	106
C.1	Test requirements.....	106
C.2	Documentation	107
Annex D (normative)	Cleansing and power flushing	108
D.1	General	108
D.2	Powerflushing and cleansing	109
D.2.1	Preparation for powerflushing.....	109
D.2.2	Powerflushing procedure.....	109
D.3	Mains pressure cleansing and flushing.....	110
D.3.1	Preparation for mains pressure cleansing.....	110
D.3.2	Cleansing procedure.....	110
D.3.3	Mains pressure flushing procedure	111
D.4	Gravity cleansing and flushing.....	111
D.4.1	General	111
D.4.2	Preparation for gravity cleansing.....	111
D.4.3	Gravity cleansing procedure	112
D.4.4	Gravity flushing procedure	112
D.5	Re-commissioning.....	112
D.6	Documentation	113
Annex E (informative)	Example reports and checklists for OM&U documentation	114
E.1	Example water/pneumatic tightness test report.....	114
E.2	Example water treatment and system flushing report.....	115
E.3	Example setting to work report.....	116
E.4	Example balancing report	117
E.5	Example of commissioning report.....	118
Annex F (informative)	Heat loss calculation example.....	120
F.1	Example layout	120
F.2	New build dwelling heat loss calculation	120
F.3	Retrofitted dwelling heat loss calculation	123
F.4	Old building heat loss calculation.....	125
F.5	Summary of results	128
Annex G (informative)	Pipe sizing guidelines	129

G.1	Objective.....	129
G.2	Pipework heat loss	129
G.3	Heat load	130
G.4	Temperature difference	131
G.5	Mass flowrate.....	131
G.6	Pipe sizing.....	131
G.7	Water velocity	131
G.8	Resistance to flow	133
G.9	Equivalent length	133
G.10	Head loss	133
G.11	Concluding parameters.....	133
G.12	Worked example for single radiator.....	134
Annex H (informative) Radiator sizing.....		137
Annex I (informative) Calculation of the water volume in a heating system		140
I.1	General.....	140
I.2	Heat generator	140
I.3	Heat emitters	140
I.4	Hot water storage vessel (cylinder)	140
I.5	Pipework.....	141
I.6	Sample calculation for water volume	141
Annex J (informative) Electrical considerations.....		142
J.1	General.....	142
J.2	Electrical supply - Cables and connections.....	142
J.3	Equipotential bonding.....	143
J.3.1	General.....	143
J.3.2	New build dwellings.....	143
J.3.3	Existing dwellings	143
Annex K (informative) Carbon monoxide detectors.....		144
K.1	CO detector requirements.....	144
K.2	CO detector types	144
K.2.1	Type.....	144
K.2.2	Model	144
K.3	Installation of CO detectors	145
K.3.1	Location within dwellings.....	145
K.3.2	Location within rooms	145
Bibliography.....		146

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.

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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