



NSAI
Standards

Main + Amendment
S.R. 325:2013+A2:2018

Recommendations for the design of masonry structures in Ireland to Eurocode 6

S.R. 325:2013+A2:2018

Relationship with other documents and/or

Incorporating amendments/corrigenda issued since publication:

		Published	Withdrawn
Replaces	S.R. 325:2013+A1:2014	23/05/2014	31/07/2018
Corrected by	S.R. 325:2013+A2:2018/AC:2019	25/02/2019	

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

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

This document is based on:
S.R. 325:2013+A2:2018

This document was published
under the authority of the NSAI
and comes into effect on:
31 July, 2018

ICS number:
91.080.01

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S.R. 325:2013+A2:2018 – Recommendations for the design of masonry structures in Ireland to Eurocode 6

Corrigendum 1 to S.R. 325:2013+A2:2018

To distinguish the text from corrigendum 1 when consolidated in the main text, it is marked with the symbols **AC1** **AC1** before and after the change.

This corrigendum becomes effective on 2019-02-25.

Subclause F.9 Corrosion of metals (6.13 [Footnote 6])

Delete "preferred" and replace with "recommended", i.e.

In Ireland, the use of stainless steel for metal components is **AC1** recommended **AC1**.

Table F.2

Delete Table tile "Prescribed Mixes suitable for rendering" and replace with "Severe exposure: recommended rendering specifications, i.e.

Table F.2 – **AC1** Severe exposure: recommended rendering specifications **AC1**

Table F.2

NOTE 1: Include "for general purpose renders" at end of note, i.e.

"The nominal overall thickness (excluding texture) is not normally less than 20 mm **AC1** for general purpose renders. **AC1**

Table F.2

NOTE 2: Delete "preferred" and replace with "recommended", i.e.

"For severe exposure, it is **AC1** recommended **AC1** that the finish coat be thrown, or rough textured.

Table F.2

NOTE 2: Delete reference to clause "5.3.3.2.9" and replace with "5.5.3.2.9", i.e.

"For full fill cavity applications refer to clause **AC1** 5.5.3.2.9 **AC1**.

Table F.2

Footnote a: Delete "preferred" and replace with "recommended", i.e.

"For severe exposure, the use of two undercoats is **AC1** recommended **AC1**"

Table F.3

NOTE: Include "for general purpose renders" at end of note, i.e.

S.R. 325:2013+A2:2018/AC:2019

"The nominal overall thickness (excluding texture) is not normally less than 20 mm AC₁ for general purpose renders. AC₁"

Table F.3

Footnote a: Delete "may be required" and replace with "is recommended", i.e.

"For severe exposure, the use of two undercoats AC₁ is recommended AC₁"

Subclause F.17 Reinforcement (7.5.2.5 [Footnote 13])

Delete "preferred" and replace with "recommended", i.e.

In Ireland, the use of stainless steel for metal components is AC₁ recommended AC₁.

Contents

	Page
Foreword.....	5
1 Scope	6
2 Normative references	6
3 Terms and definitions.....	9
3.1 General terms.....	9
3.2 Joint type terms.....	11
3.3 Masonry joints type terms.....	11
3.4 Mortar bedding terms.....	11
3.5 Support types terms	12
3.6 Wall types terms	12
4 Materials and components.....	13
4.1 Materials and components - General.....	13
4.2 Masonry units	13
4.3 Mortars.....	13
4.4 Wall ties.....	13
4.5 Ancillary components	13
4.6 Reinforcement	18
4.7 Damp-proof courses.....	18
4.8 Sealants	18
4.9 Airbricks, gratings and flues.....	18
4.10 Sills.....	18
4.11 Lintels	19
4.12 Copings and cappings.....	19
4.13 Flashings and weatherings and insulation in cavity walls	20
4.13.1 Flashings and weatherings.....	20
4.13.2 Insulation in cavity walls	20
5 Design	21
5.1 General design considerations	21
5.1.1 Factors to be considered	21
5.1.2 Loading.....	22
5.1.3 Accidental loading	22
5.1.4 Foundations.....	22
5.1.5 Adhesion	22
5.1.6 Selection of masonry units and materials	23
5.2 Design for stability	23
5.2.1 Masonry in general	23
5.2.2 Walls subjected to concentrated loads	24
5.2.3 Walls subjected to imposed lateral load only	25
5.2.4 Internal walls or partitions not designed for imposed loading.....	25
5.3 Structural detailing for stability.....	28
5.3.1 General	28
5.3.2 Floors	28
5.3.3 Roofs.....	29

S.R. 325:2013+A2:2018

5.3.4	Support over openings.....	29
5.3.5	Anchorage, dowels and fixings.....	38
5.3.6	Wall ties.....	40
5.3.7	Provision for services and fittings.....	40
5.3.8	Chimneys.....	40
5.4	Movement in masonry.....	43
5.4.1	General.....	43
5.4.2	Movement and materials.....	43
5.4.3	Movement in joints.....	43
5.5	Exclusion of moisture.....	47
5.5.1	General.....	47
5.5.2	Classification of exposure to local wind-driven rain.....	48
5.5.3	Selection of external constructions to resist rain penetration.....	50
5.5.4	Damp-proof courses and cavity trays.....	57
5.5.5	Positioning of DPC's.....	58
5.5.6	Flashings and weatherings.....	69
5.5.7	Flashings and copings.....	69
5.5.8	External wall becoming an internal wall.....	69
5.5.9	Structural frames.....	70
5.6	Durability.....	70
5.6.1	General.....	70
5.6.2	Sulphate attack.....	72
5.6.3	Architectural features.....	72
5.6.4	Selection of masonry units and mortar for durability.....	73
5.6.5	Protection of components embedded in masonry from corrosion or degradation....	81
5.7	Mortars.....	81
5.7.1	Types of mortar.....	81
5.7.2	Mortar admixtures.....	82
5.7.3	Selection of mortar.....	82
5.7.4	Factory made masonry mortar.....	82
5.8	Fire resistance to walls.....	82
6	Workmanship.....	84
6.1	General.....	84
6.2	Storage of materials on site.....	84
6.2.1	General.....	84
6.2.2	Masonry units.....	85
6.2.3	Cement and hydrated lime.....	85
6.2.4	Fine aggregate.....	85
6.2.5	Ready-to-use mortars and ready-mixed lime.....	85
6.2.6	Flexible DPC's.....	85
6.3	Laying of masonry units.....	86
6.3.1	Setting out.....	86
6.3.2	Joint thickness.....	86
6.3.3	Achieving good adhesion.....	86
6.3.4	Appearance.....	87
6.3.5	Jointing.....	87
6.3.6	Pointing.....	88
6.3.7	Bricklaying.....	88
6.3.8	Block laying.....	88
6.3.9	Reinforced block lintels.....	88
6.3.10	DPC's, cavity trays and flashings.....	89
6.3.11	Cavity walls.....	89

6.3.12	Slips.....	90
6.4	Masonry bonds and other constructional details	91
6.4.1	Masonry bonds	91
6.4.2	Architectural features.....	92
6.4.3	Arches	94
6.4.4	Jointing and pointing.....	94
6.4.5	Corbelling	94
6.4.6	Provision for services and fittings.....	94
6.4.7	Chases and holes	95
6.4.8	Ducts across cavities cavity walls	95
6.4.9	Constructional details.....	96
6.5	Provision of services, including fixings and chases	99
6.6	Protection against damage during construction.....	99
6.6.1	General	99
6.6.2	Protection against rain	99
6.6.3	Work in cold conditions	99
6.7	Supervision	100
Annex A	(informative) Masonry bonds and joint finishes	101
A.1	Brick masonry bonds	101
A.1.1	English bond	101
A.1.2	Flemish bond.....	101
A.1.3	English garden-wall bond	101
A.1.4	Flemish garden-wall bond.....	101
A.1.5	Header bond	101
A.1.6	Quetta bond	101
A.1.7	Rat-trap bond	101
A.2	Block masonry bonds.....	101
A.2.1	Running or stretcher bonds.....	101
A.2.2	Thin stretcher bond	102
A.2.3	Off-centre running bond	102
A.3	Joint finishes.....	102
Annex B	(informative) Use of replacement wall ties	105
B.1	Use of replacement wall ties.....	105
B.2	Installation of replacement wall ties.....	105
B.3	Types of replacement wall tie	105
B.4	Advantages and disadvantages affixing methods.....	106
B.5	Choice of replacement wall tie.....	106
B.6	Characteristics of replacement wall ties.....	107
B.7	Accommodation of relative movement.....	107
B.8	Spacing of replacement ties	108
Annex C	Ⓐ (informative) Masonry units I.S. EN 771-1 to 6.....	109
C.1	General	109
C.2	Dimensions	109
C.3	Dimensional tolerances.....	110
C.3.1	Aggregate concrete masonry units to I.S. EN 771-3.....	110
C.4	Compressive strength	110
C.5	Durability	111
C.6	Moisture movement.....	111
Annex D	Ⓐ (informative) Ancillary components for masonry I.S. EN 845-1 to 3.....	112
D.1	Ties, tension straps, hangers and brackets to I.S. EN 845-1	112
D.1.1	General	112

S.R. 325:2013+A2:2018

D.1.2	Durability	112
D.1.3	Fire resistance	112
D.1.4	Mechanical strength (See I.S. EN 845-1)	112
D.2	Lintels to I.S. EN 845-2	113
D.2.1	Mechanical performance (See I.S. EN 845-2)	113
D.2.2	Durability	114
D.3	Bed joint reinforcement of steel meshwork to I.S. EN 845-3.....	114
D.3.1	Durability	114
Annex E	Ⓐ (informative) Specification for mortar for masonry I.S. EN 998-1 and 2	115
E.1	Rendering and plastering mortar (I.S. EN 998-1).....	115
E.1.1	Exclusion of moisture	115
E.2	Masonry mortar (I.S. EN 998-2)	115
E.2.1	Compressive strength.....	115
E.2.2	Durability	115
Annex F	Ⓐ (informative) National guidance to I.S. EN 13914-1:2016.....	116
F.1	Scope (Clause 1.0 Footnote 1).....	116
F.2	Mineral Binders (5.2.1 Table 3 [Footnote a])	116
F.3	Materials for reinforcement, carrier and beads (5.4 Table 4 [Footnote a])	116
F.4	Plugs and anchors (5.5.2 [Footnote 2])	116
F.5	Choice of render type, mix, number of coats and thickness (6.2.1 [Footnote 2])	116
F.6	Strength of background (6.3.2 [Footnote 3])	117
F.7	Exposure conditions (6.6 [Footnote 4])	117
F.8	Resistance to water rising from the ground without pressure (capillary water) (6.8 [Footnote 5]).....	117
F.9	Corrosion of metals (6.13 [Footnote 6])	117
F.10	Movement of the rendering (6.14.3 [Footnote 7])	117
F.11	Methods of minimizing the occurrence of cracks (6.14.5.1 [Footnote 8]).....	117
F.12	Site made prescribed mixes (6.17.2.2 [Footnotes 9 & 10]).....	117
F.12.1	General.....	117
F.12.2	Designation I mixes	117
F.12.3	Designations II, III and IV mixes	118
F.12.4	Designation V mixes.....	118
F.13	Recommended thicknesses for various types of multicoat systems	118
F.13.1	Factory made, semi-finished and established site mixed rendering mortars	118
F.14	Renovation render (R) (6.18.6.4 [Footnote 11])	120
F.15	Minimum applied coat thickness for one coat mineral renders (Table 8 [Footnote a])	121
F.16	Scaffolding (7.3 [Footnote 12])	121
F.17	Reinforcement (7.5.2.5 [Footnote 13])	121
F.18	Lathing over timber-framed construction (7.5.2.6 [Footnote 13]).....	121
F.19	Special rendering methods, using factory made renders, over thermal insulation or backgrounds that may move (7.5.2.7 [Footnote 13]).....	121
F.20	Volume batching (7.6.3 [Footnote 14])	121
F.21	Mixing on site (7.7 and 7.7.1 [Footnote 15])	121
F.22	Curing (7.9.2 [Footnote 15]).....	121
F.23	Thermal insulating renders (7.9.4 [Footnote 16]).....	121
F.24	Example on the selection of site mixed prescribed renders mixed in accordance with background type (Annex A (informative) [Footnote 17])	121
F.25	Restoration of renders on old and historic buildings (Annex B (informative) [Footnote 18])	121
F.26	Air lime based renders (B.4.6 [Footnote 19])	122

Foreword

This Standard Recommendation (S.R.) is published by NSAI and was prepared by the Masonry Panel, a subcommittee of the Concrete Standards Consultative Committee.

The Irish codes of practice for the use of masonry (I.S. 325-1 and I.S. 325-2) were superseded by the publication of I.S. EN 1996-1-1. Much of the material in this S.R. document is taken from those parts of I.S. 325-2 that were deemed non contradictory to the requirements of the Eurocode 6 standards.

It is intended that this Standard Recommendation will provide non-contradictory complementary information for use in the Ireland of the following parts of the Eurocode 6 series of standards together with their accompanying Irish National Annexes:

- I.S. EN 1996-1-1, Design of masonry structures - Part 1-1: General rules for reinforced and unreinforced masonry structures;
- I.S. EN 1996-1-2, Design of masonry structures - Part 1-2: General rules – Structural fire design;
- I.S. EN 1996-2, Design of masonry structures - Part 2: Design considerations, selection of materials and execution of masonry.

NSAI acknowledges the support of British Standards Institute (BSI) in the development of this Standards Recommendation through the provision of access to the content of BS PD 6697:2010 *Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2*.

The final consolidated text, S.R. 325:2013+A2:2018 includes a number of minor editorial corrections which are not detailed in this document. This also includes a new corrigendum marked by the TAG **A1** **A1**.

Amendments are indicated by the TAG **A1** **A1**

Amendment 2 is indicated by the TAGs **A2** **A2**

A1 Annex C, D & E of this S.R. provide additional guidance on the use of masonry units (I.S. EN 771 series), ancillary components (I.S. EN 845 series) and masonry mortars (I.S. EN 998 series), and establishes recommended minimum performance levels of construction products intended to be used in building works in Ireland.

As S.R. 325 (Annex C, D & E) now incorporates the information in the National Annexes to the harmonised European standards I.S. EN 771, I.S. EN 845 and I.S. EN 998, these individual National Annexes have now been withdrawn. **A1**

A2 Annex F provides additional information on I.S. EN 13914-1:2016. **A2**

S.R. 325:2013+A2:2018

1 Scope

This Standard Recommendation contains non-contradictory complementary information as guidance material for the use in Ireland of the following EN Eurocode 6 series of standards I.S. EN 1996-1-1, I.S. EN 1996-1-2 and I.S. EN 1996-2.

2 Normative references

The following referenced documents are indispensable for the application 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 Any reference to an I.S. EN includes reference to its National Annex (NA) or Standard Recommendation (S.R.) where they exist.

I.S. 65, *Mastic asphalt for buildings*

I.S. EN 1052-3, *Methods of test for masonry – Part 3: Determination of initial shear strength*

I.S. EN 1172, *Copper and copper alloys – Sheet and strip for building purposes*

I.S. EN 12588, *Lead and lead alloys – Rolled lead sheet for building purposes*

I.S. EN 12620, *Aggregates for concrete*

S.R. 16, *Guidance on the use of I.S. EN 12620, Aggregates for concrete*

I.S. EN 1304, *Clay roofing tiles and fittings – Product definitions and specifications*

I.S. EN 13139, *Aggregates for mortar*

S.R. 18 *Guidance on the use of I.S. EN 13139, Aggregates for mortar*

I.S. EN 13162, *Thermal insulating products for buildings – Factory made mineral wool (MW) products - Specification*

I.S. EN 13163, *Thermal insulating products for buildings – Factory made products of expanded polystyrene (EPS) – Specification*

I.S. EN 13164, *Thermal insulating products for buildings – Factory made products of extruded polystyrene foam (XPS) – Specification*

I.S. EN 13165, *Thermal insulating products for buildings – Factory made rigid polyurethane foam (PUR) products – Specification*

I.S. EN 13166, *Thermal insulating products for buildings – Factory made products of phenolic foam (PF) – Specification*

I.S. EN 13167, *Thermal insulating products for buildings – Factory made cellular glass (CG) products – Specification*

I.S. EN 13279-1, *Gypsum binders and gypsum plasters – Part1: Definitions and requirements*

- I.S. EN 13914-1, *Design, preparation and application of external rendering and internal plastering – Part 1: External rendering*
- I.S. EN 14411, *Ceramic tiles – Definitions, classification, characterisation and marking*
- I.S. EN 14909, *Flexible sheets for waterproofing – Plastic and rubber damp proof courses – Definitions and characteristics*
- I.S. EN 14967, *Flexible sheets for waterproofing – Bitumen damp proof courses – Definitions and characteristics*
- I.S. EN 15287-1, *Chimneys – Design, installation and commissioning of chimneys – Part 1: Chimneys for non-room sealed appliances*
- I.S. EN 1652, *Copper and copper alloys – Plate, sheet, strip and circles for general purposes*
- I.S. EN 1991-1-1, *Eurocode 1: actions on structures - Part 1-1: General actions - densities, self-weight, imposed loads for buildings*
- I.S. EN 1991-1-4, *Eurocode 1: Actions on structures - Part 1-4: General actions - wind actions*
- I.S. EN 1991-1-7, *Eurocode 1: Actions on structures - Part 1-7: General actions - accidental actions*
- I.S. EN 1992-1-1, *Eurocode 2 – Design of concrete structures – Part 1-1: General rules and rules for buildings*
- I.S. EN 1995-1-1, *Eurocode 5 – Design of timber structures – Part 1-1: General – Common rules and rules for buildings*
- I.S. EN 1996-1-1, *Eurocode 6 – Design of masonry structures – Part 1-1: General rules for reinforced and unreinforced masonry structures*
- I.S. EN 1996-1-2, *Eurocode 6 – Design of masonry structures – Part 1-2: General rules – Structural fire design*
- I.S. EN 1996-2, *Eurocode 6 – Design of masonry structures – Part 2: Design considerations, selection of materials and execution of masonry*
- I.S. EN 1996-3, *Eurocode 6 – Design of masonry structures – Part 3: Simplified calculation methods for unreinforced masonry structures*
- I.S. EN 1997-1, *Eurocode 7: Geotechnical design – Part 1: General rules*
- I.S. EN 206-1, *Concrete – Part 1: Specification, performance, production and conformity*
- I.S. EN 459-1, *Building lime – Part 1: Definitions, specifications and conformity criteria*
- I.S. EN 485-1, *Aluminium and aluminium alloys – Sheet, strip and plate – Part 1: Technical conditions for inspection and delivery*
- I.S. EN 485-2, *Aluminium and aluminium alloys – Sheet, strip and plate – Part 2: Mechanical properties*
- I.S. EN 490, *Concrete roofing tiles and fittings for roof covering and wall cladding – Product specifications*
- I.S. EN 515, *Aluminium and aluminium alloys – Wrought products – Temper designations*

S.R. 325:2013+A2:2018

I.S. EN 573-3, Aluminium and aluminium alloys – Chemical composition and form of wrought products – Part 3: Chemical composition and form of products

I.S. EN 771-1, Specification for masonry units – Part 1: Clay masonry units

I.S. EN 771-2, Specification for masonry units – Part 2: Calcium silicate masonry units

I.S. EN 771-3, Specification for masonry units – Part 3: Aggregate concrete masonry units (dense and light-weight aggregates)

I.S. EN 771-4, Specification for masonry units – Part 4: Autoclaved aerated concrete masonry units

I.S. EN 771-5, Specification for masonry units – Part 5: Manufactured stone masonry units

I.S. EN 771-6, Specification for masonry units – Part 6: Natural stone masonry units

I.S. EN 845-1, Specification for ancillary components for masonry – Part 1: Ties, tension straps, hangers and brackets

I.S. EN 845-2, Specification for ancillary components for masonry – Part 2: Lintels

I.S. EN 845-3, Specification for ancillary components for masonry – Part 3: Bed joint reinforcement of steel meshwork

I.S. EN 934-3, Admixtures for concrete mortar and grout – Part 3: Admixtures for masonry mortar – Definitions, requirements, conformity and marking and labelling

I.S. EN 988, Zinc and zinc alloys – Specification for flat rolled products for building

I.S. EN 998-1, Specification for mortar for masonry – Part 1: Rendering and plastering mortar

I.S. EN 998-2, Specification for mortar for masonry – Part 2: Masonry mortar

I.S. EN ISO 11600, Building construction – Jointing products – Classification and requirements for sealants

BS 493, Specification for air bricks and gratings for wall ventilation

BS 5080-1, Structural fixings in concrete and masonry – Part 1: Methods of test for tensile loading

BS 5080-2, Methods of test for Structural fixings in concrete and masonry – Part 2: Methods for determination of resistance to loading in shear

BS 5440-1, Fluing and ventilation for gas appliances of rated input not exceeding 70 kW net (1st, 2nd and 3rd family gases) – Part 1: Specification for installation

BS 5617, Specification for urea-formaldehyde (UF) foam systems suitable for thermal insulation of cavity walls with masonry or concrete inner and outer leaves

BS 5618, Code of practice for thermal insulation of cavity walls (with masonry or concrete inner and outer leaves) by filling with urea-formaldehyde (UF) foam systems

BS 5642-1, Sills and copings – Part 1: Specification for window sills of precast concrete, cast stone, clayware, slate and natural stone

BS 5642-2, *Sills and copings – Part 2: Specification for copings of precast concrete, cast stone, clayware, slate and natural stone*

BS 6213, *Selection of construction sealants – Guide*

BS 6510, *Steel framed windows and glazed doors*

BS 7456, *Code of practice for stabilization and thermal insulation of cavity walls (with masonry or concrete inner and outer leaves) by filling with polyurethane (PUR) foam systems*

BS 7457, *Specification for polyurethane (PUR) foam systems suitable for stabilization and thermal insulation of cavity walls with masonry or concrete inner and outer leaves*

BS 8000-3, *Workmanship on building sites – Part 3: Code of practice for masonry*

BS 8000-16, *Workmanship on building sites – Part 16: Code of practice for sealing joints in buildings using sealants*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 General terms

capping

unit or assemblage placed at the head a wall that does not shed rainwater from the top of the wall clear of exposed surfaces of the walling beneath

Note 1 to entry: Examples of cappings are brick-on-edge and other cappings that may be flush or overhanging but that do not incorporate a throating or other device designed to shed rainwater clear of the walling beneath

cavity tray

component provided to divert water that has entered a cavity to the outside of the building

closer

portion of a masonry unit used to maintain masonry bond, either specially manufactured or cut (see Figure A.1(a))

consequence Class 2a

categorisation of building type as defined in Annex A, Table A.1 of I.S. EN 1991-1-7:2006

coping

unit or assemblage placed at the head of a wall and designed to shed rainwater from top of the wall clear of all exposed faces of the walling it is intended to protect

Note 1 to entry: Examples of copings are copings complying with BS 5642: Part 2, some types of continuous sheet metal or extruded plastic copings and built up details, such as tile creasing.

course

layer of masonry that includes a layer of mortar as well as a layer of units

efflorescence

salts on the surface of the wall left by leaching of the salts with rainwater and the subsequent evaporation of the water

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