



**NSAI**  
Standards

National Annex plus Amendment  
NA:2010+A1:2020 TO I.S. EN 1993-3  
-1:2006&AC:2009

# Irish National Annex to I.S. EN 1993-3-1: Eurocode 3: Design of steel structures - Part 3-1: Towers, masts and chimneys - Towers and masts

## NA:2010+A1:2020 to I.S. EN 1993-3-1:2006&AC:2009

*Relationship with other documents and/or  
Incorporating amendments/corrigenda issued since publication:*

		Published	Withdrawn
Revises	NA to I.S. EN 1993-3-1:2006	25/3/2010	08/12/2020

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 was published under the authority of the NSAI and comes into effect on:

8 December, 2020

ICS number:  
91.010.30

**NSAI**  
1 Swift Square,  
Northwood, Santry  
Dublin 9

T +353 1 807 3800  
F +353 1 807 3838  
E standards@nsai.ie

W NSAI.ie

**Sales:**  
T +353 1 857 6730  
F +353 1 857 6729  
W standards.ie

Údarás um Chaighdeán Náisiúnta na hÉireann

## Contents

Page

<b>Annex NA (informative) Irish National Annex to Eurocode 3: Design of steel structures –</b>	
<b>    Part 3-1:Towers, masts and chimneys - Towers and masts .....</b>	<b>4</b>
<b>Introduction.....</b>	<b>4</b>
<b>NA.1 Scope .....</b>	<b>4</b>
<b>NA.2 Nationally Determined Parameters.....</b>	<b>5</b>
<b>NA.2.1 Subclause 2.1.1(3) P - Basic requirements.....</b>	<b>5</b>
<b>NA.2.2 Subclause 2.3.1(1) - Wind actions .....</b>	<b>5</b>
<b>NA.2.3 Subclause 2.3.2(1) - Ice loads .....</b>	<b>5</b>
<b>NA.2.4 Subclause 2.3.6(2) - Imposed loads .....</b>	<b>5</b>
<b>NA.2.5 Subclause 2.3.7(1) - Other actions .....</b>	<b>5</b>
<b>NA.2.6 Subclause 2.3.7(4) - Other actions .....</b>	<b>5</b>
<b>NA.2.7 Subclause 2.5(1) - Design assisted by testing .....</b>	<b>5</b>
<b>NA.2.8 Subclause 2.6(1) - Durability .....</b>	<b>5</b>
<b>NA.2.9 Subclause 4.1(1) - Allowance for corrosion .....</b>	<b>5</b>
<b>NA.2.10 Subclause 4.2(1) - Guys.....</b>	<b>5</b>
<b>NA.2.11 Subclause 5.1(6) - Modelling for determining action effects .....</b>	<b>6</b>
<b>NA.2.12 Subclause 5.2.4(1) - Triangulated structures where continuity is taken into account (continuous or semi-continuous framing) .....</b>	<b>6</b>
<b>NA.2.13 Subclause 6.1(1) - Ultimate limit states - General .....</b>	<b>6</b>
<b>NA.2.14 Subclause 6.3.1(1) - Compression members .....</b>	<b>6</b>
<b>NA.2.15 Subclause 6.4.1(1) - Connections - General .....</b>	<b>6</b>
<b>NA.2.16 Subclause 6.4.2(2) - Tension bolts in end plates (flanged connections) .....</b>	<b>6</b>
<b>NA.2.17 Subclause 6.5.1(1) - Mast base joint.....</b>	<b>7</b>
<b>NA.2.18 Subclause 7.1(1) - Serviceability limit states - Basis.....</b>	<b>8</b>
<b>NA.2.19 Subclause 9.5(1) - Partial factors for fatigue .....</b>	<b>8</b>
<b>NA.2.20 Subclause A.1(1) - Reliability differentiation for masts and towers .....</b>	<b>9</b>
<b>NA.2.21 Subclause A.2(1)P - Partial factors for actions .....</b>	<b>9</b>
<b>NA.2.22 Subclause B.1.1(1) - General – Scope of this annex .....</b>	<b>9</b>
<b>NA.2.23 Subclause B.2.1.1(5) - Wind force – General - Outline .....</b>	<b>9</b>
<b>NA.2.24 Subclause B.2.3(1) - Wind force coefficients of linear ancillaries .....</b>	<b>9</b>
<b>NA.2.25 Subclause B.2.3(3) - Wind force coefficients of linear ancillaries .....</b>	<b>9</b>
<b>NA.2.26 Subclause B.3.2.2.6(4) - Wind loading for unsymmetrical towers or towers with complex attachments .....</b>	<b>9</b>
<b>NA.2.27 Subclause B.3.3(1) - Spectral analysis method .....</b>	<b>9</b>
<b>NA.2.28 Subclause B.3.3(2) - Spectral analysis method .....</b>	<b>9</b>
<b>NA.2.29 Subclause B.4.3.2.2(2) - Patch loads .....</b>	<b>9</b>
<b>NA.2.30 Subclause B.4.3.2.3(1) - Loading on guys .....</b>	<b>9</b>
<b>NA.2.31 Subclause B.4.3.2.8.1(4) - Wind loading for unsymmetrical towers or towers with complex attachments - General .....</b>	<b>10</b>
<b>NA.2.32 Subclause C.2(1) - Ice loading .....</b>	<b>10</b>
<b>NA.2.33 Subclause C.6(1) - Combinations of ice and wind .....</b>	<b>10</b>
<b>NA.2.34 Subclause D.1.1(1) - Metallic guys and tension elements .....</b>	<b>10</b>
<b>NA.2.35 Subclause D.1.2(2) - Non metallic guys .....</b>	<b>10</b>
<b>NA.2.36 Subclause D.3(6) - Insulators .....</b>	<b>10</b>
<b>NA.2.37 Subclause D.4.1(1) - Ladders, platforms, etc. .....</b>	<b>10</b>
<b>NA.2.38 Subclause D.4.2(3) - Lightning protection .....</b>	<b>10</b>
<b>NA.2.39 Subclause D.4.3(1) - Aircraft warning .....</b>	<b>10</b>
<b>NA.2.40 Subclause D.4.4(1) - Protection against vandalism.....</b>	<b>10</b>
<b>NA.2.41 Subclause F.4.2.1(1) - Lattice towers .....</b>	<b>10</b>
<b>NA.2.42 Subclause F.4.2.2(2) - Guyed masts.....</b>	<b>11</b>
<b>NA.2.43 Subclause G.1(3) - Buckling resistance of compression members.....</b>	<b>11</b>
<b>NA.2.44 Subclause H.2(5) - Leg members.....</b>	<b>11</b>

## NA:2010+A1:2020 to I.S. EN 1993-3-1:2006&AC:2009

NA.2.45 Subclause H.2(7) - Leg members .....	11
NA.3 Decisions on informative annexes .....	11
NA.3.1 Annex B [informative] - Modelling of meteorological actions .....	11
NA.3.2 Annex C [informative] - Ice loading and combinations of ice with wind .....	11
NA.3.3 Annex E [informative] – Guy rupture.....	11
NA.3.4 Annex F [informative] – Execution .....	11
NA.3.5 Annex G [informative] – Buckling of components of masts and towers.....	12
NA.3.6 Annex H [informative] – Buckling length and slenderness of members.....	12
NA.4 References to non-contradictory complementary information .....	12
A1) Bibliography.....	13

## **[A1] National Annex Foreword**

National Annexes must always be used in conjunction with the relevant European Standard.

National Annexes are reviewed as necessary e.g. when a new edition, an amendment or a corrigendum is issued.

This National Annex identifies what amendments/corrigenda are addressed.

The user should check that the National Annex addresses the latest changes to the European Standard. Previews of all documents are available on [www.standards.ie](http://www.standards.ie). Any questions should be directed to NSAI.

Where a European Standard has been changed (revised/amended/corrected) and the National Annex has yet to be revised to account for the change(s), the National Annex for the previous version is available.

Engineering judgement must be applied if using guidance contained therein e.g. when selecting appropriate parameters.

The table below indicates which changes have been considered by the relevant National Committee during the life of this edition of the European Standard.

Publication	Date published	Assessed and taken into account if relevant
I.S. EN 1993-3-1:2006	2007-01-29	Yes
I.S. EN 1993-3-1:2006/AC:2009	2009-09-10	Yes

Where relevant this NA includes:

- an overview of possible national choices and clauses containing complementary information;
- national choices;
- decisions on the application of informative annexes;
- references to non-contradictory complementary information which may assist the user of the Eurocode.

The numbering refers to the clauses of the Eurocode where national choices have been made and/or complementary information is given. To the extent possible, headings are identical to the headings of the clauses in the Eurocode followed by a clarification, as appropriate. [A1]

## **Annex NA** (informative)

### **Irish National Annex to Eurocode 3: Design of steel structures – Part 3-1:Towers, masts and chimneys - Towers and masts**

#### **Introduction**

This National Annex has been prepared through the [\[A1\]](#) NSAI Eurocodes Consultative Committee [\[A1\]](#).

#### **NA.1 Scope**

This National Annex is to be used together with I.S. EN 1993-3-1:2006&AC:2009, for the design of buildings and civil engineering works in steel that will be erected on sites in the Republic of Ireland.

The National Annex gives guidance as required in the foreword of I.S. EN 1993-3-1&AC:2009. This annex contains all Nationally Determined Parameters for the design of structures in the Republic of Ireland. These parameters are referred to in the subclauses listed below:

— 2.1.1(3)P	— 5.2.4(1)	— B.2.1.1(5)	— D.1.2(2)
— 2.3.1(1)	— 6.1(1)	— B.2.3(1)	— D.3(6) (2 places)
— 2.3.2(1)	— 6.3.1(1)	— B.3.2.2.6(4)	— D.4.1(1)
— 2.3.6(2)	— 6.4.1(1)	— B.3.3(1)	— D.4.2(3)
— 2.3.7(1)	— 6.4.2(2)	— B.3.3(2)	— D.4.3(1)
— 2.3.7(4)	— 6.5.1(1)	— B.4.3.2.2(2)	— D.4.4(1)
— 2.5(1)	— 7.1(1)	— B.4.3.2.3(1)	— F.4.2.1(1)
— 2.6(1)	— 9.5(1)	— B.4.3.2.8.1(4)	— F.4.2.2(2)
— 4.1(1)	— A.1(1)	— C.2(1)	— G.1(3)
— 4.2(1)	— A.2(1)P (2 places)	— C.6.(1)	— H.2(5)
— 5.1(6)	— B.1.1(1)	— D.1.1(2)	— H.2(7)

Guidance is given on using the informative annexes B, C, E, F, G, H and normative annexes A and D for buildings and civil engineering works, [\[A1\]](#) as well as reference to non-contradictory complementary information [\[A1\]](#).



This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- Looking for additional Standards? Visit Intertek Inform Infostore
  - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-