



National Standards Authority of Ireland

IRISH STANDARD

I.S. 193:2006

ICS 91.060.20

National Standards
Authority of Ireland
Glasnevin, Dublin 9
Ireland

Tel: +353 1 807 3800
Fax: +353 1 807 3838
<http://www.nsai.ie>

Sales

<http://www.standards.ie>

TIMBER TRUSSES FOR ROOFS

*This Irish Standard was
published under the
authority of the National
Standards Authority of
Ireland and comes into
effect on:
December 29, 2006*

**NO COPYING WITHOUT NSAI
PERMISSION EXCEPT AS
PERMITTED BY COPYRIGHT
LAW**

© NSAI 2006

Price Code P

Údarás um Chaighdeáin Náisiúnta na hÉireann

DECLARATION
OF
SPECIFICATION
ENTITLED
TIMBER TRUSSES FOR ROOFS
AS
THE IRISH STANDARD SPECIFICATION FOR
TIMBER TRUSSES FOR ROOFS

NSAI in exercise of the power conferred by section 16 (5) of the National Standards Authority of Ireland Act, 1996 (No. 28 of 1996) and with the consent of the Minister for Enterprise, Trade and Employment, hereby declare as follows:

1. This instrument may be cited as the Standard Specification (Timber trusses for roofs) Declaration, 2006.
2. (1) The Specification set forth in the Schedule to this declaration is hereby declared to be the standard specification for Timber trusses for roofs.

(2) The said standard specification may be cited as Irish Standard 193:2006 or as I.S. 193:2006.
3. (1) The Standard Specification (Timber trussed rafters for roofs) Declaration 1986, is hereby revoked.

(2) Reference in any other standard specification to the Instrument hereby revoked and to Irish Standard 193:1986 thereby prescribed, shall be construed, respectively, as references to this instrument and to Irish Standard 193:2006.

Contents

Foreword

DECLARATION	1
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Materials	9
4.1 Timber	9
4.1.1 Grades.....	9
4.1.2 Resawn Timber	9
4.1.3 Finger jointed timber	9
4.2 Mechanical fasteners	10
4.3 Timber treatments.....	10
4.3.1 Preservation	10
4.3.2 Flame retardant treatment	10
4.3.3 Effects of timber treatment	11
5 Assessment of structural adequacy	11
6 Design requirements	11
6.1 Basic requirements.....	11
6.2 Requirements for timber members	11
6.3 Design loading	11
6.4 Joint loads	13
6.5 Application of loads	13
7 Roof truss design	13
7.1 General.....	13
7.2 Generalized analysis	14
7.3 Simple design method	14
7.3.1 General.....	14
7.3.2 Axial force.....	14
7.3.3 Bending moments.....	14
7.3.4 Member design.....	15
7.3.5 Compression members.....	15
7.3.6 Load sharing	16
7.3.7 Multi-ply trusses	16
7.3.8 Torsion.....	18
7.3.9 Joints	18
7.3.10 Deflection.....	21
8 Limitations for roof truss spans and sizes	23
8.1 General.....	23
9 Fabrication.....	24
9.1 Staff and premises.....	24
9.2 Equipment	24
9.3 Assembly	24
9.3.1 General.....	24
9.3.2 Joints formed with metal plate fasteners.....	24
9.4 Marking	25
10 Information for design and fabrication.....	25

10.1	Information required by the truss designer	25
10.2	Information required by the building designer	26
10.3	Information required by the trussed fabricator prior to assembly.....	27
10.3.1	Timber.....	27
10.3.2	Connection devices.....	27
10.3.3	Dimensions	27
10.3.4	Fixing	27
10.3.5	Treatment	27
11	Handling and storage.....	27
11.1	General	27
11.2	Handling	27
11.3	Storage	28
11.3.1	General	28
11.3.2	Vertical storage.....	28
11.3.3	Horizontal storage	28
12	Erection and site work	28
12.1	Delivery inspection.....	28
12.2	Modification and repair	28
12.3	Erection	29
12.3.1	General	29
12.3.2	Vertical measurement	29
12.3.3	Parallel measurement	29
12.3.4	Position to end walls.....	29
12.3.5	Fixings at points of permanent support.....	29
12.3.6	Fixing of girder trusses.....	29
12.4	Wall plates	29
12.4.1	General	29
12.4.2	Position.....	30
12.5	Bracing	30
12.5.1	General	30
12.5.2	Minimum bracing requirements.....	30
12.5.3	Temporary bracing during erection.....	30
12.6	Support of water cisterns and fixed plant.....	30
12.6.1	General	30
12.6.2	Minimum support	31
12.6.3	Multiple cisterns	31
12.7	Openings at ceiling tie and rafter levels	31
12.7.1	General	31
12.7.2	Openings in excess of 600 mm.....	31
12.8	Tiling battens	31
12.8.1	Minimum batten sizes	31
12.8.2	Batten spacing.....	32
12.8.3	Battens used for lateral stability.....	32
12.8.4	Batten joints.....	32
12.8.5	Batten fixing.....	32
12.8.6	Truss alignment.....	32
12.9	Gable ladders	32
12.10	Hip roofs.....	32
13	General	33
13.1	Records	33
13.2	Future alterations and changes of use	33
13.3	Chimneys and small windows	33
13.4	Re-roofing	33
Annex A	(normative) Standard roof bracing	34
Annex B	(informative) Figures 1 to 10-2.....	36
Bibliography	53

I.S. 193:2006

Foreword

This Irish Standard has been revised by Working Group 2, Task Group 2 (Timber trusses) of the Timber Standards Consultative Committee established by the National Standards Authority of Ireland (NSAI). The secretariat for the Task Group was held by NSAI.

This standard gives requirements in relation to design and site work.

This Irish Standard is in compliance with I.S. EN 14250 "*Timber structures – Product requirements for prefabricated structural members assembled with punched metal plate fasteners*" and should be read in conjunction with that standard.

The principal differences between I.S. 193:1986 and this standard are:

- a) a section on normative references is included;
- b) a section on timber treatments is introduced;
- c) additional design requirements are introduced;
- d) section on fabrication is expanded;
- e) additional figures are introduced to illustrate handling and storage as well as erection and site work practices;
- f) a normative annex is introduced;
- g) an informative annex is introduced;
- h) a bibliography is introduced.

Within the terms of this standard general definitions are given for "building designer", "client", "roof designer" and "truss designer", however, work contracts may define these differently. Other definitions and responsibilities may exist under Irish Safety, Health and Welfare (Construction) Regulations and may take precedence.

During all construction related activities account should be taken of the Safety, Health and Welfare at Work (Construction) Regulations.

Compliance with an Irish Standard does not of itself confer immunity from legal obligations.

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](#)
-