

Designated by Government  
to issue  
European Technical  
Approvals

**JJI-Joists**

Poutres pour planchers  
Bodenbalken

**Product**



• *THIS CERTIFICATE RELATES TO JJI-JOISTS.*

• *The joists are fabricated from solid and reconstituted timber and are for use as structural members, for example as floor or roof joists, beams, rafters, wall studs or ceiling ties.*

*These Front Sheets must be read in conjunction with the accompanying Detail Sheets, which provide information specific to particular joists.*

**Regulations — Detail Sheet 1**

**1 The Building Regulations 1991 (as amended) (England and Wales)**



The Secretary of State has agreed with the British Board of Agrément the requirements of the Building Regulations to which joists can contribute in achieving compliance. In the opinion of the BBA, JJI-Joists, if used in accordance with the provisions of this Certificate, will contribute to meeting the relevant requirements.

Requirement: **A1**

Comment:

Loading

The joists have adequate strength and stiffness. See sections 9.1 to 9.3 of these Front Sheets and section 2 of the relevant Detail Sheet.

Requirement: **B2**

Comment:

Internal fire spread (linings)

The joists have a Class 3 surface and are combustible. Materials and workmanship

Requirement: **Regulation 7**

Comment:

The joists are acceptable but have been assessed as untreated and are therefore restricted in the House Longhorn beetle areas. See sections 10.1 and 10.3 of these Front Sheets.

## 2 The Building Standards (Scotland) Regulations 1990 (as amended)



In the opinion of the BBA, JJI-Joists, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and Technical Standards as listed below.

Regulation:	10	Fitness of materials
Standard:	B2.1	Selection and use of materials and components
Comment:		The joists are acceptable. See section 10.1 of these Front Sheets.
Regulation:	11	Structure
Standard:	C2.1	Construction
Comment:		The joists have adequate strength and stiffness. See sections 9.1 to 9.3 of these Front Sheets and section 2 of the relevant Detail Sheet.
Regulation:	12	Structural fire precautions
Standard:	D2.2	Non-combustibility
Comment:		In common with other timber products the joists are of a combustible material and their use will be restricted under this Standard.
Regulation:	13	Means of escape from fire, facilities for fire-fighting and means of warning of fire in dwellings
Standard:	E6.1	Internal fire spread – General
Comment:		The joists have a Class 3 surface.

## 3 The Building Regulations (Northern Ireland) 1994 (as amended)



In the opinion of the BBA, JJI-Joists, if used in accordance with the provisions of this Certificate, will satisfy the various Building Regulations as listed below.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The joists are acceptable. See section 10.1 of these Front Sheets.
Regulation:	D1	Stability
Comment:		The joists have adequate strength and stiffness. See sections 9.1 to 9.3 of these Front Sheets and section 2 of the relevant Detail Sheet.
Regulation:	E4	Internal fire spread – Linings
Comment:		The joists have a Class 3 surface.

## 4 Construction (Design and Management) Regulations 1994

Information in this Certificate may assist the client, planning supervisor, designers and contractors to address their obligations under these Regulations.

See sections: 5 *Delivery and site storage*, 7 *Practicability of installation*  
11 *General* and 12 *Procedure* of these Front Sheets.

## Technical Specification

### 5 Delivery and site storage

5.1 This must be carried out in accordance with the manufacturer's instructions and the requirements of this Certificate.

5.2 During transportation the joists must be protected from adverse weather.

5.3 On site, in accordance with normal good practice for timber products, the joists should be stored clear of the ground and stacked vertically. Precautions should be taken to minimise changes in moisture content due to the weather. Full cover should be provided but permit free passage of air.

5.4 The joists bear the number of this Certificate.

## Design Data

### 6 General

6.1 JJI-Joists are satisfactory for use as structural members, for example as floor or roof joists, beams, rafters, wall studs or ceiling ties, provided the conditions described in section 9 of these Front sheets are followed.

6.2 The sound reduction properties of floors incorporating joist units are not covered by this Certificate. Where particular sound insulation properties are required, appropriate testing or assessment, relating to the structure, should be obtained.

## 7 Practicability of installation

7.1 The joists are lighter than solid timber beams of equivalent structural properties and are therefore more easily handled. Joist weights are given in the relevant Detail Sheet. Normal precautions should be taken when handling, lifting and installing the joists.

7.2 The joists are easily cut to length and fixed using conventional woodworking tools.

7.3 The flanges are nailable for the fixing of flooring and ceiling materials.

7.4 Care should be taken to avoid damage to the flanges and to the webs.

## 8 Behaviour in relation to moisture

8.1 JJI-Joists are for use in a service class 1 or 2 environment<sup>(1)</sup>. In these environments, the moisture content of the product incorporating softwood flanges will not exceed 18% (see Table 1). Tests indicate that the equilibrium moisture content of the product (see Table 1) incorporating laminated veneer lumber (LVL) flanges in a given environment is lower than that of solid timber.

(1) as defined in BS 5268 : Part 2 : 1996.

8.2 To ensure that these moisture conditions in a service class 1 or 2 are maintained:

(1) flat roofs must be constructed in accordance with BS 6229 : 1982, BS 8217 : 1994, and where appropriate, NHBC Standards, Chapter 7.1 or the Zurich Building Guarantees Technical Standards, Section 5, clause 5.9.3.19

(2) roof coverings should be the subject of a relevant Agrément Certificate and must be installed and maintained in accordance with that Certificate, the manufacturer's instructions, and the relevant clauses of BS 8000 : Part 4 : 1989 and BS 8217 : 1994

(3) in suspended ground floors, careful attention must be given to the adequate provision of solum treatment, underfloor space and ventilation. Guidance on design is given in CP 102 : 1973 and Zurich Building Guarantees Technical Standards, Section 3, clause 3.9.1.

8.3 Where a building construction is likely to be sensitive to the relative movement of members, it is recommended, in accordance with BS 5268 : Part 2 : 1996, that the members should:

(a) be checked for moisture content at the time of the installation; the determination of moisture content by a calibrated moisture meter will be sufficiently accurate for this purpose

(b) have a moisture content at the time of installation close to the moisture content they will attain in service.

8.4 The joists will arrive on site with a typical flange moisture content of 14% to 16% for solid timber and 10% to 12% for LVL.

Table 1 Moisture content of JJI-Joists

Element	Moisture content (%) service class	
	1	2
Softwood flange	10–15	16–18
LVL flange	8–10	13–15
OSB web	6–8	12–14

8.5 JJI-Joists will not shrink in the same manner as solid timber, therefore care is needed to avoid problems of differential movement when using different materials.

## 9 Structural performance



9.1 The joists will have adequate strength and stiffness provided they are designed in accordance with the recommendations given in BS 5268 : Part 2 : 1996 and the manufacturer's literature using the design data given in the relevant Detail Sheet.

9.2 The lower flanges of the joists are able to support small loads, for example those associated with normal domestic services and ceilings. The recommended loads relate to the full joist loaded through the top flange.

9.3 Design and detailing of JJI-Joists should be carried out by a suitably experienced person in accordance with the manufacturer's instructions and the requirements of this Certificate.

## 10 Durability



10.1 The joists will have a durability comparable to that of board products of similar timber species incorporating phenol-formaldehyde adhesive (see BS EN 350-2 : 1994). Thus, JJI-Joists in service class 1 or 2 environments may be taken to have a service life in excess of 60 years, provided there is no mechanical damage or insect attack.

10.2 Details on maintaining the moisture conditions in a service class 1 or 2 environment are described in section 8.2 of these Front Sheets.



10.3 The joists have been assessed as untreated therefore their use is restricted in the House Longhorn beetle areas defined in the Approved Document to Regulation 7 1992 of the Building Regulations 1991. Proposals for House Longhorn beetle areas to be covered by a revision to Approved Document A are under consideration. Therefore, in the interim, Table 1 of Approved Document to Regulation 7 1992 remains valid.

10.4 The joists are classified as not durable in accordance with BS EN 460 : 1994.

### 11 General

11.1 The flanges must not be drilled, notched or otherwise altered on site.

11.2 JJI-Joists should be handled and installed in a similar manner to solid timber beams. However, the strength and stiffness of joists about their minor axis is less than that of corresponding solid timber sections. Therefore, care must be exercised to ensure that joists are not damaged during handling due to bending about their minor axis, in addition they must be adequately braced during installation to avoid instability. In accordance with normal good practice for timber they should be protected from wetting during installation.

11.3 The joists can withstand normal site handling and usage but if any are significantly damaged they must not be used.

11.4 In common with similar timber products, when using power tools to cut the joists it is recommended that eye protection and a dust mask are used.

### 12 Procedure

12.1 Installation must be in accordance with the marketing company's installation information.

12.2 Temporary bracing should be provided to keep the joists in a straight and plumb position during installation.

12.3 Any service holes cut in the web are to be in accordance with the manufacturer's instructions.

BS 5268 *Structural use of timber*

Part 2 : 1996 *Code of practice for permissible stress design, materials and workmanship*

BS 6229 : 1982 *Code of practice for flat roofs with continuously supported coverings*

BS 8000 *Workmanship on building sites*

Part 4 : 1989 *Code of practice for waterproofing*

BS 8217 : 1994 *Code of practice for built-up felt roofing* (supersedes CP 144 : Part 3)

CP 102 : 1973 *Code of practice for protection of buildings against water from the ground*

BS EN 350 *Durability of wood and wood-based products. Natural durability of solid wood*

BS EN 350-2 : 1994 *Guide to natural durability and treatability of selected wood species of importance in Europe*

BS EN 460 : 1994 *Durability of wood and wood-based products. Natural durability requirements for wood to be used in hazard classes*



## Conditions of Certification

### 13 Conditions

13.1 This Certificate:

- (a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;
- (b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;
- (c) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;
- (d) is copyright of the BBA.

13.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, shall be construed as references to such publication in the form in which it was current at the date of this Certificate.

13.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabricating process(es) thereof:

- (a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;
- (b) continue to be checked by the BBA or its agents; and
- (c) are reviewed by the BBA as and when it considers appropriate.

13.4 In granting this Certificate, the BBA makes no representation as to:

- (a) the presence or absence of any patent or similar rights subsisting in the product or any other product;
- (b) the right of the Certificate holder to market, supply, install or maintain the product; and
- (c) the nature of individual installations of the product, including methods and workmanship.

13.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the installation and use of this product.



In the opinion of the British Board of Agrément, JJI-Joists are fit for their intended use provided they are installed, used and maintained as set out in this Certificate. Certificate No 99/3633 is accordingly awarded to James Jones & Sons Ltd.

On behalf of the British Board of Agrément

Date of issue: 30th September 1999

  
Chief Executive

