



## Tips on fixing battens

British standards BS 5534 and BS 8000-6:1990 give the information you need for fixing and installation:

- Ensure battens are fixed to rafters at centres not more than 600mm apart
- Ensure battens span at least three trusses and are therefore more than 1.2m long
- Batten moisture content (after treatment) should not exceed 22%
- Use round shank nails, 10 gauge and usually 65mm long
- Use zinc coated nails where extreme weather (e.g. coastal conditions) might be experienced
- Use galvanised nails when fixing treated timber battens to avoid corrosion
- Take some time in the setting out process, as this will help reduce the number of cuts to tiles and slates
- Ensure both the horizontal and perpendicular courses of the battens are true
- Nail through the middle of the batten into the middle of each rafter
- Cut joints square and butt joint at the centre of each rafter, providing maximum support and fixing
- Angle nails inwards to the rafter centre for greater holding
- Replace any battens that have split due to nailing.

## Sizes

Ensure battens are a minimum size of 38mm x 25mm.

For longer spans than those given here, or for other loading conditions, battens should be designed in accordance with Annex E of BS 5534.

The tolerances for battens are:

- +/- 3mm on width
- -0/+3mm on thickness
- Use 50mm x 25mm when using slates.

### Minimum timber batten sizes for roofing and vertical work

Application	Minimum batten size	
	Up to 450mm span	Up to 600mm span
<b>Slates (double-lap)</b>		
Natural: sized or random	50 x 25	50 x 25
Fibre-cement or concrete	38 x 25	50 x 25
<b>Clay and concrete tiles</b>		
Double-lap	38 x 25	38 x 25
Single-lap	38 x 25	50 x 25

## How durable are battens?

Most battens are supplied with an industrially applied treatment process designed to provide a 60-year design life under Use Class 2. The relevant Standard is BS 8417:2011 Preservation of Wood.

Cut ends should be treated with brush-applied preservative, especially those in contact with mortar.

**Always walk on the rafter line when installing the slates and tiles.**

**Avoid walking on the battens between trusses and rafters.**



**For trusses where the batten gauge is greater than 200mm**

- DON'T have more than one joint on any four consecutive battens on the same support.
- DON'T have more than three joints in any 12 consecutive battens on the same support.



## Why use BS 5534-compliant battens?

Graded battens are usually graded, with the exception of a final grading for knots and wane

Standard/Ungraded battens may be smaller than those allowed in BS 5534 or have other strength-reducing characteristics.

BS 5534 factory-graded battens may be more expensive than ungraded or partially graded battens, but they are the best choice because:

- They avoid time spent on site grading, which is not best practice
- And time spent marking each batten, which is sometimes a contractual requirement
- They result in less wastage, which can be as high as 40%
- And reduced liability if there is a problem with the overall roof.



## Further information and advice

Building Research Establishment (BRE): [www.bre.co.uk](http://www.bre.co.uk)

BS 5534:2003+A1:2010 Code of practice for slating and tiling (including shingles), BSI

BS 8000-6:1990 Workmanship on building sites. Code of practice for slating and tiling of roofs and claddings, BSI

BS 8417:2011 Preservation of Wood. Code of Practice, BSI

HSE HSG33 Health and safety in roof work, available at [www.hse.gov.uk/pubns/books/hsg33.htm](http://www.hse.gov.uk/pubns/books/hsg33.htm)

LABC Roofing Battens Guide for Small Builders & Designers, available at [www.jb-bestofbritish.co.uk/wp-content/uploads/2012/06/LABC-Guide-forbuilders-on-roofing-battens.pdf](http://www.jb-bestofbritish.co.uk/wp-content/uploads/2012/06/LABC-Guide-forbuilders-on-roofing-battens.pdf)

NFRC Technical Bulletin 33 (TB 33) Graded Battens for Slating & Tiling and Health and Safety Guidance Sheet Q Correct Installation and Safe Use of Slating and Tiling Battens, available at [www.nfrc.co.uk/nfrc/mediacentre/publications-list](http://www.nfrc.co.uk/nfrc/mediacentre/publications-list)

The United Kingdom Accreditation Service (UKAS): [www.ukas.org](http://www.ukas.org)

## Sustainable timber

Timber is the most sustainable mainstream building product. It is naturally renewable. Over 90% of timber used in UK construction comes from Europe, where more trees are grown than harvested (source: TTF Statistical Review 2016).

Softwood and temperate hardwood forests in Scandinavia, Europe, Canada and North America are stable or growing. Growing forests act as carbon sinks; wood products act as carbon stores.

Ask for PEFC or FSC Chain of Custody certification.

See Wood Campus RIBA CPD module *Procuring Sustainable Timber* for more on timber certification and sustainability and government requirements.



Wood Campus Timber Trade Topic sheets are designed for builders and the wider timber trade. They are published by Wood Campus in collaboration with the Timber Trade Federation.

This Topic sheet provides general advice only and is not specific to the requirements of a particular building project. It is the builder's responsibility to check compliance with building regulations and standards. Care has been taken to ensure the information is accurate and up-to-date. However, neither Wood Campus, nor any of its collaborators, can be held responsible for any mistakes or omissions.