

Guidance on the proper use of roofing battens

Technical guidance for building control surveyors, designers and architects



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Introduction

There have been many serious incidents where people working on roofs have fallen through them as a direct result of standing on sub-standard roof battens. To address this, industry and the Health and Safety Executive (HSE) are working to educate people on the importance of safe working practices and the use of graded roof battens.

The HSE released an updated version of its guide HSG33 'Health and Safety in Roof Work' to address the issue while the National Federation of Roofing Contractors (NFRC) revised its guidance on the use of roof battens.

BS5534, 'The Code of Practice for Slating and Tiling' now requires that all battens on roofs where rafter spacing exceed 600mm should be graded.

Everyone involved in the specification and checking of roof construction has a duty to be working towards safer working and proof should always be requested of the type of roof battens that have been used in all roofing work.

Background

BS5534 has had four major revisions over the last 15 years and now sets out requirements for roofing battens including grading, marking, species and treatment. In support of this change, the NFRC issued guidance on interpretation of BS5534 with respect to Roofing Battens; TB33 was issued in June 2011 together with a 'Health and Safety guidance Sheet on the correct installation and safe use of slating and tiling battens.

Grading of roofing battens was introduced in 2005 but even now many of the roofing battens used in the UK arrive on site without being factory-graded. The rest are either fixed ungraded or have some grading on site – frequently by personnel who have had no formal training.

Battens are a structural product and as such should be properly graded.

Current position

Following tests carried out by the NFRC in conjunction with the HSE the guidance sheet 'HSG33' has been updated and now permits the use of graded roofing battens as a foothold when fixed to rafters set at 600mm spacing. HSG33 makes clear that the batten should be a minimum size of 50mm X 25mm and meet the grading requirements specified in BS 5534 and NFRC Technical Bulletin 33 Graded battens for slating and tiling.

Roofing contractors are expected to follow the safe system of work outlined in the guidance. This includes:

- The battens are at least 1.2m long to ensure they span a minimum of three trusses;
- The battens are only fixed with the recommended nails;
- Roofers never deliberately walk on the battens mid span between the trusses;

- Roofers should always walk on the rafter line when installing the tiles and slates.

Whilst the situation is improving many battens are still incorrectly marked with BS5534, implying they have been graded where no grading has in fact taken place. It should be noted BS5534 recommends that factory or machine graded battens are produced within a UKAS third party quality assurance scheme.

A number of suppliers use colour coding - red, yellow or blue - in accordance with BS5534. These include UK manufacturer John Brash, producer of JB RED, which also has BRE product certification.

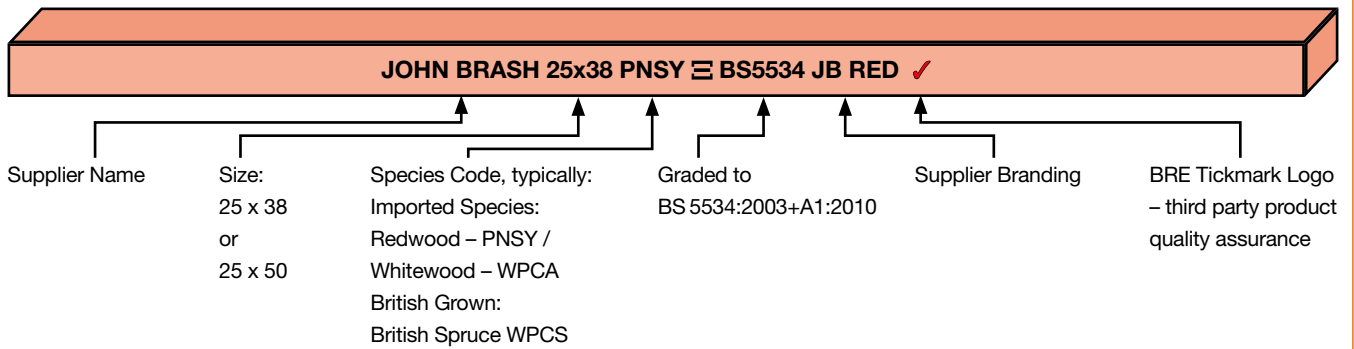
Conclusion

The fixed product must meet the BS5534 standard and be a minimum size 25x50mm and be correctly graded.



Being a structural product, battens should be properly graded

Example of correctly marked batten (each supplier's batten will be a different colour):



A simple check list for grading battens is shown below:

Item to Assess	Ungraded Roofing Batten	Graded Roofing Batten
Dimension (Full Measure)	Check or Grade on Site	Done
Length	Check	Done
Knots	Check or Grade on Site	Done
Wane	Check or Grade on Site	Done
Slope of Grain	Check or Grade on Site	Done
Distortion	Check or Grade on Site	Done
Species	Check	Done
Fissures	Check or Grade on Site	Done
Rate of Growth	Check or Grade on Site	Done
Decay & Insect Attack	Check or Grade on Site	Done
Treatment (60 year warranty BS 8417:2011)	Check with Supplier	Done
Identification & Marking **	Check	Done
FSC/PEFC Accreditation	Check with Supplier	FSC or PEFC accredited

- * Graded at point of manufacture, end splits can occasionally subsequently occur.
- ** Each batten should be indelibly marked with:
 - Supplier
 - Origin (i.e. species code)
 - “Graded BS5534”
 - Size.

Battens are very often overlooked and their value to the roof structure and their safety in roof work underestimated.

Typical defects that can occur with battens:



Under measure



Off spec



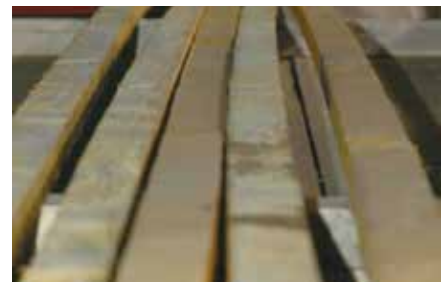
Oversize knot



Poor marking



Decay



Distortion

Key points to consider

- All roofing battens should be graded in accordance with BS5534
- Roofing battens should be a minimum size of 25*50mm
- Roofing contractors should follow the safe system of work which includes:
 - the battens are at least 1.2m long to ensure they span a minimum of three trusses;
 - the battens are only fixed with the recommended nails;
 - roofers never deliberately walk on the battens mid span between the trusses;
 - roofers should always walk on the rafter line when installing the tiles and slates.

Further guides and useful links

HSG33 'Health and Safety in Roof Work.

http://www.hseni.gov.uk/hsg33_roof_work.pdf

- BS 5534 for the provisions relating to the battens
- BS 8000: Part 6 for its guidance regarding the workmanship and installation of battens
- BS 8417 for its guidance relating to timber treatments.

NFRC technical bulletin TB33 Graded Battens for Slating and Tiling.

<http://www.nfrc.co.uk/knowledge-hub/publications-list>

NFRC health and safety guidance sheet: correct installation and safe use of slating and tiling battens.

<http://www.nfrc.co.uk/knowledge-hub/publications-list>

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