

Roofing Battens



Introduction

This guide has been produced to help reduce the number of serious incidents where persons working on roofs have fallen through them as a direct result of standing on sub standard battens. In a joint bid to combat this the Health and Safety Executive together with the NFRC are revising guidance on the use of battens on roofs, HSE will shortly be updating their guide HSG33 'Health and Safety in Roof Work' to address this matter and NFRC have issued Technical Bulletin 33. In essence all battens on roofs where rafter spacings are 600mm or more should be graded in accordance with the guidance below.

It is incumbent on all involved in the industry to work towards safer working and this guide shows how building control surveyors can make a positive impact by asking for evidence of proper grading of all roof battens.

Background

BS5534, The Code of Practice for Slating and Tiling including Shingles, has had 4 major revisions over the last 15 years and sets out very specific requirements for roofing battens including grading, marking, species and treatment, with each revision increasing the standards for roofing battens. In parallel with this the NFRC (National Federation of Roofing Contractors) has issued technical bulletins giving guidance and interpretation of BS5534 with respect to Roofing Battens; the most recent being TB33 - June 2011. The NFRC have also just issued 'Health and Safety guidance Sheet on the correct installation and safe use of slating and tiling battens.

Until 2005 graded Roofing Battens were not available on the UK market. The industry relied on custom and practice. Even now less than 20% of the Roofing Battens used in the UK arrive on site factory or pre graded. The rest are either fixed ungraded or have some grading on site – frequently by personnel who have had no formal training.

Battens are the last structural timber product not to be effectively graded, they are a structural product and their design and grade rules have been set assuming industry accepted loads.

Current Position

Following tests carried out by the NFRC in conjunction with HSE at John Brash using the company's JB-RED graded battens a decision has been taken to update HSG33. This will now allow roofing battens to be used as a foothold when fixed to rafters set at 600mm spacing. However, HSG33 makes clear that the batten should meet certain minimum requirements and one of these is that: *the battens are a minimum size of 50mm x 25mm and meet the grading requirements specified in BS 5534 Code of practice for slating and tiling (including shingles) and NFRC Technical Bulletin 33 Graded battens for slating and tiling.*

If roofing contractors choose to use this method, they must also follow the safe system of work as follows:

- the battens are at least 1.2m long to ensure they span a minimum of 3 trusses;
- the battens are only fixed with the recommended nails;

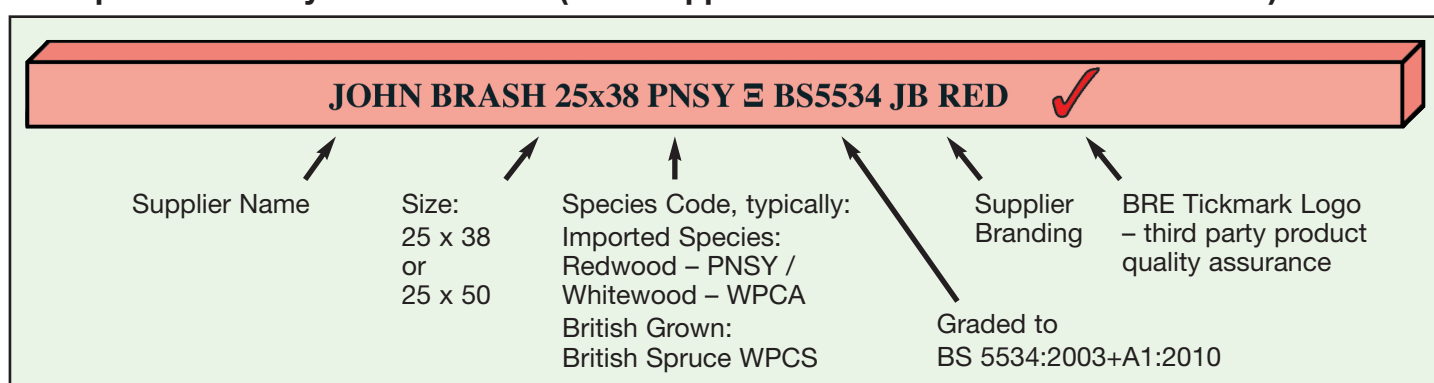
- the safe system of work dictates that roofers never deliberately walk on the battens mid span between the trusses;
- the safe system of work dictates that roofers always walk on the rafter line when installing the tiles and slates.

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. To assist the education process guidance notes and safety alerts are periodically issued by the NFRC, TTF, NHBC and leading builders. However, it is

recommended the extent and type of grading, and third party accreditation (if any), is fully checked. It should be noted BS5534 recommends that factory or machine graded battens are produced within a UKAS third party quality assurance scheme.

At the time of writing there are only 2 suppliers who use colour coding; these are John Brash a UK manufacturer who uses a system of lasers and scanners to produce JB RED which also has BRE 'tickmark' product certification, and the other is SR Timber who colour code their Baltic States manufactured graded battens gold.

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



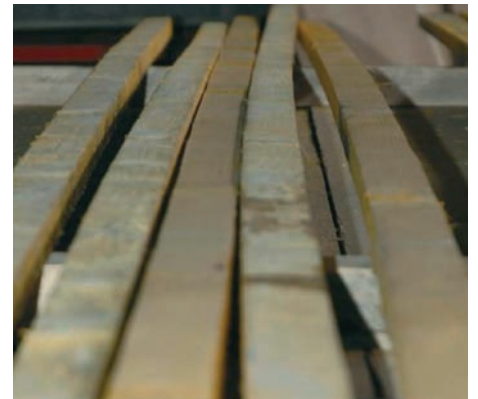
Oversize knot



Poor marking



Decay



Distortion

Conclusion

Graded battens do cost more than the standard product – the initial cost is higher but this needs to be offset against less waste on site and reduced time in grading. The fixed product must meet the BS5534 standard and 25x50 correctly graded battens can be used as a foothold on 600mm rafter centres in accordance with the new guidance from the HSE as set out within HSG 33.

Remember, the use of ungraded battens can put the safety of the operative at risk, which can put the contractor at risk for breach of his 'Duty of Care'.

Further information can be found in:

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

Notes: