

Reclaimed roof tiles and slates

(May 2024) (Second issue – supersedes March 2020)

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Question

What assessments should be carried out on reclaimed roof tiles and slates to check their suitability for reuse on new roofs ?

Considerations

- NHBC Standards clause 7.2.18 'Roof coverings' says, 'Recovered materials may be reused where prior approval by NHBC has been granted (independent certification of suitability may be required).'
- Where appropriate, tests should be carried out to check the strength, porosity and frost resistance of tiles and slates. Tests should be carried out by an UKAS accredited laboratory.

Answer

Clay tiles

BS 1304 describes the characteristics and test methods that new clay tiles must achieve. Existing clay tiles should be assessed against the same criteria as new tiles. Clay tiles should be visually checked for integrity, soundness, major cracks, fractures or spalling and those with any faults should be rejected.

Tiles should be tested for flexural strength in accordance with BS EN 538 to demonstrate their ability to resist the wind uplift on the new roof. A minimum value of 600N should be achieved. Tiles should also be tested for their permeability in accordance with BS EN 539-1 to show their resistance to water penetration.

For small quantities of tiles, up to 100 m² of new roof per building project, the frost resistance can be decided by a visual check of the tiles. For re-roofing larger areas the tiles should be tested for frost resistance in accordance with BS EN 539-2.

Natural slates

A visual check should be made for any cracks, discolouration or pitting of the slates which may affect the strength and water-tightness of the slate. Each slate should be checked for soundness by tapping, a dull sound would indicate a crack and the slate should be rejected.

Any softened or damaged edges, on an otherwise sound slate, can be dressed down to produce a smaller slate if that size is still suitable for the roof design.

The existing nail holes must be examined for soundness and suitability for reuse. It is likely that the holes will be damaged during lifting of the slates from the previous roof. A re-holing regime showing how suitable head and side laps will be achieved, in accordance with BS 5534, will need to be demonstrated by the roofer. If a suitable regime cannot be provided then the slates should be rejected.

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Concrete tiles

New roofs should be tiled with new concrete tiles (plain or interlocking) fixed in accordance with the tile manufacturer's fixing specification including the tile manufacturer's fixing clips where specified.

Existing roofs should be tiled with new concrete tiles unless the existing tiles can be shown to be suitable for reuse. Assessment of the existing tiles should include:

- a visual inspection for any obvious defects, those with cracks or damaged edges should be rejected.
- tiles which have previously been jet-washed, or surface coated, or have roughened surface due to acid erosion, should be rejected.
- a sample of tiles, taken from random areas, should be assessed for transverse strength, water impermeability, and freeze-thaw resistance, in accordance with BS EN 490 product specification for concrete tiles and BS EN 491 test methods. Test results should be similar to those required for new tile, otherwise the tiles should be rejected.



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