

Technical Guidance

Strutting to floor joists, (including attic trusses).



Questions

- Is herringbone strutting acceptable where joists bear into the web of steel joists or are supported in hangers?
- Where joists are in hangers is it acceptable to use 38mm x 38mm noggings at the top of the joists (for support of the floor decking) and at the bottom of the joists (for fixing plasterboard ceiling) as the strutting between joists?
- Is strutting required where trimmed floor joists are notched into a trimmer or over a support batten, as shown in NHBC Standards clause 6.4 – S5 or supported in joists hangers which do not extend the full depth of the joists?

Considerations

- Strutting is needed to prevent rotation of the joists.
- NHBC Standards clause 6.4 – S8 refers to solid strutting between solid joists ends bearing into the web of steel joists or supported in hangers.
- NHBC Standards clause 6.4 – S3 says where solid timber joists are supported in joist hangers the hanger should be the full depth of the joist.
- NHBC Standards clause 6.4 – S5 shows different methods of fixing lightly loaded trimmed solid joists to a trimmer.

Answers

- Herringbone strutting is acceptable where joists bear into the web of steel joists or are supported in joist hangers. At perimeters of floors and ceilings noggings, as required, should be provided to support the floor decking and ceiling.
- Noggings at the top and bottom of joists would not prevent rotation of the joists and provide load sharing. They are not an acceptable alternative to solid or herringbone strutting.
- Solid floor joists carrying only light loads e.g. short trimmed joists, can be fixed to a trimmer by notching into the trimmer or over a support batten or with timber-to-timber joist hangers. In these arrangements strutting or joist hangers, which extend the full depth of the trimmed joists, are not required provided the trimmed joists are skew nailed to the trimmer to resist rotation.

Note: For timber engineered joists

- Strutting is necessary where joists bear onto the web of steel joists.
- Strutting is not necessary where joists are supported in joist hangers of a type, which retain both the top and bottom flanges.