

# JJI-Joist Technical Bulletin 38

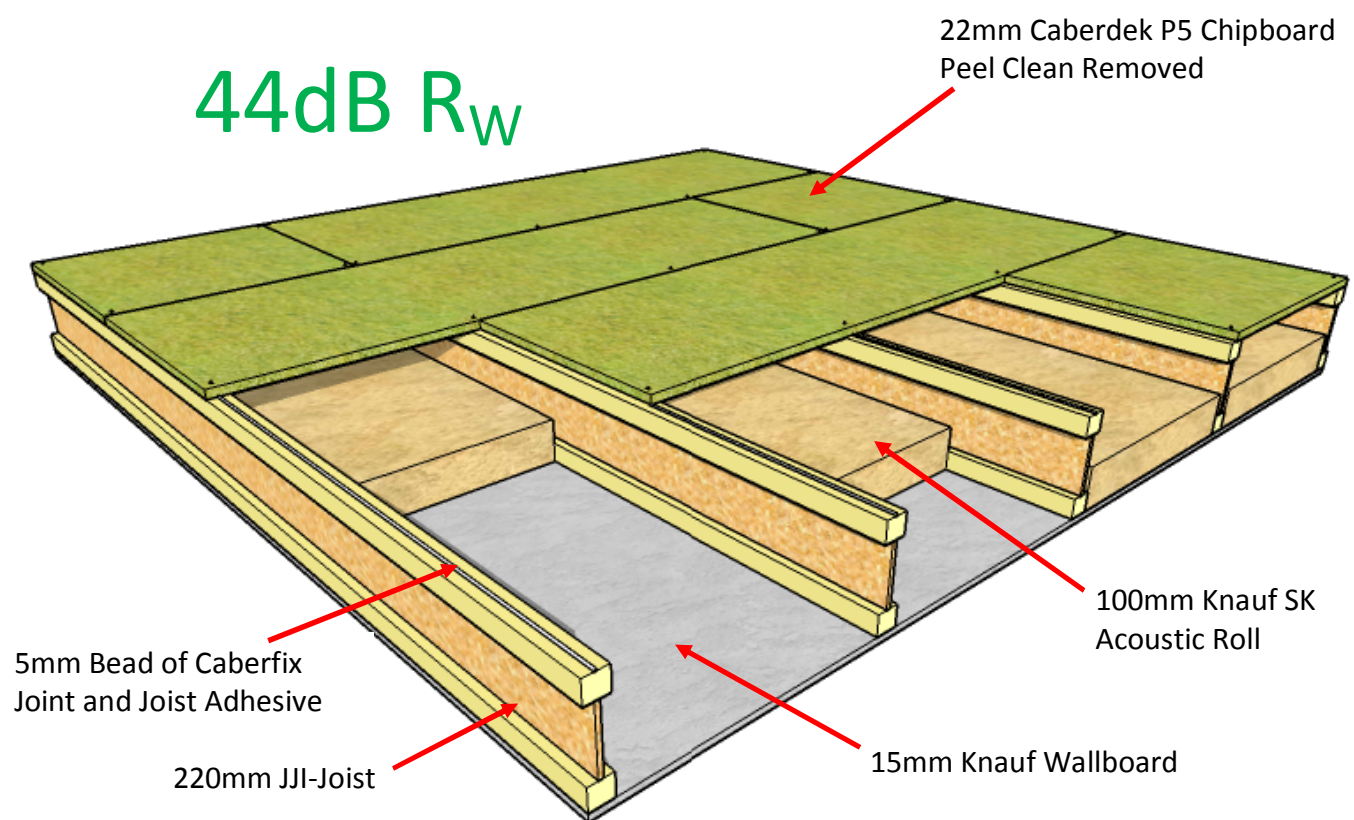
44dB  $R_w$  Acoustic Performance of 220mm JJI-Joist Floor



**James Jones  
& SONS LIMITED**  
TIMBER SYSTEMS DIVISION

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**James Jones & Sons Ltd Timber Systems Division** in conjunction with Norbord Ltd and Knauf Drywall present the **220mm JJI-Joist solution** for intermediate floors within dwellings in accordance with the October 2010 acoustic performance targets of the Building (Scotland) Regulations Section 5: Noise.



## 220mm JJI-Joist Solution Advantages:

- Exceeds the acoustic performance target with an impressive 44dB  $R_w$
- 12% reduction in sound pressure level compared to current requirement
- Uses existing standard 220mm I-Joist depth
- No need for resilient metal bar systems
- Floor depth  $\approx$ 33mm shallower than new Generic Internal Construction
- Overall cost savings in floor zone materials and installation

## Section 5: Noise – The Building (Scotland) Regulations

The new airborne acoustic performance target for intermediate floors within dwellings, as detailed in section 5.2.1 of the *Technical Handbook for Domestic Buildings* is 43dB  $R_w$ .

Practical guidance on meeting this new acoustic target is provided in *Example Construction and Generic Internal Constructions*, Section 4.c, published August 2011 by the Buildings Standards Division. This has recently been updated to include a solution using I-Joists. This solution details a minimum 240mm I-Joist, quilt insulation and resilient bars, equating to a  $\approx 33$ mm increase in floor zone depth, increased cost of materials and greater installation times.

### 220mm JJI-Joist Solution

Key to the initiative behind the **220mm JJI-Joist solution** was the remit not to increase the depth of the floor zone away from the current solution; what's more the JJI-Joist solution exceeds the performance requirements of the *Technical Handbook for Domestic Buildings* with a recorded airborne sound performance of 44dB  $R_w$ . **This is a 12% reduction in sound pressure level.**

### Compare the solutions

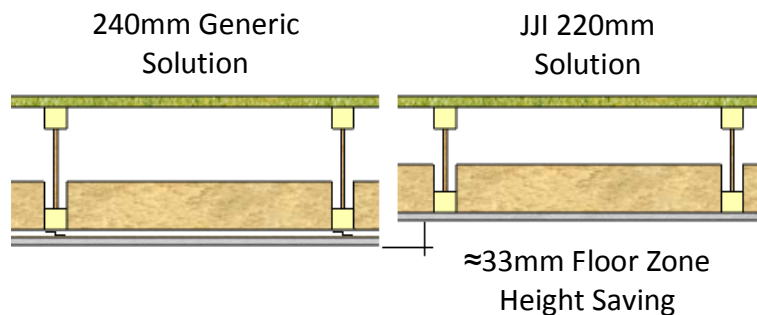
Wood based board  
minimum 11kg/m<sup>2</sup>

Minimum 240mm I-Joist

100mm mineral wool,  
density 10-60kg/m<sup>3</sup>

Resilient metal bar  
minimum 13mm depth

15mm gypsum based  
board minimum 10kg/m<sup>2</sup>



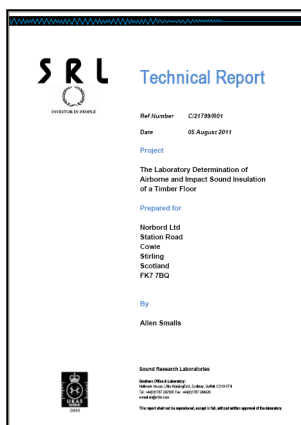
22mm Caberdek P5 Chipboard  
Peel Clean Removed

220mm JJI-Joist

100mm Knauf SK  
Acoustic Roll

15mm Knauf Wallboard

For further information, deck / ceiling fixing requirements and test data please refer to:  
*SRL Technical Report C/21799/R02 – 23 August 2011*



Whilst every effort was made to ensure the accuracy of this publication at the time of printing, James Jones & Sons cannot be held responsible for changes to the Building Regulations, NHBC Standards, etc.

For further information please refer to the latest edition of our Technical Manual.

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