



RB14-035

SPAN TABLES FOR BUILT-UP FLOOR BEAMS

Reference: Alberta Building Code 2014 Sentence 9.23.4.2.(3) and Canadian Wood Council (CWC) Engineering Guide for Wood Frame Construction (2004 Edition)

Sentence 9.23.4.2.(3) "Spans for built-up wood and glue-laminated timber floor beams shall conform to the spans in Tables A-8 to A-11. (See Article 9.4.2.2.)"

CWC 6.3.3.1. "Proprietary wood I-joists, floor trusses and rim joists shall be designed and installed in accordance with the manufacturer's evaluation report."

Question:

Do manufactured joists spanning across beams designed using the above ABC 2014 references require to be simply supported or could they be allowed to be continuous?

Commentary | Relevant Facts:

The above references give the sizes and other specifications for built-up floor beams carrying floor joists. In the past, these beams usually carried solid wood joists (2 x 10's, 2 x 12's, etc.) supporting the wooden floor. The length of joists was subject to market availability and these joists were, except for very short multiple spans, simply supported.

The current construction practice is to use manufactured joists for most floor construction. Unlike traditional solid wood joists, these manufactured joists are available in very large lengths, and builders prefer to use them in continuous spans for both ease and speed of construction, and to control deflection.

However, such continuous joists also can cause extra loading in the intermediate support beams. This effect is especially pronounced in situations where the spans on each side of support beams are quite unequal in length.

Conclusion:

If an applicant wishes to use continuous joists to be carried by beams, the referenced ABC or CWC tables cannot be used. If beams are required to carry loading from continuous joists, such beams are required to be designed by a Professional Engineer registered in Alberta.

Chief Building Inspector

Regulation Bulletin General Policy Statement

Unless stated otherwise, the Code references in this Regulations Bulletin are to Division B of the Alberta Building Code 2014 (ABC 2014). Regulation Bulletins do not overrule the ABC 2014 nor constitute a relaxation of the Code. They serve to clarify the Code in areas where the latter is ambiguous or does not cover a specific topic. Regulation Bulletins are City of Calgary clarifications for staff use to enable consistency in the application of the Code. Regulation Bulletins should always be read in the context of the appropriate requirements of the Code.