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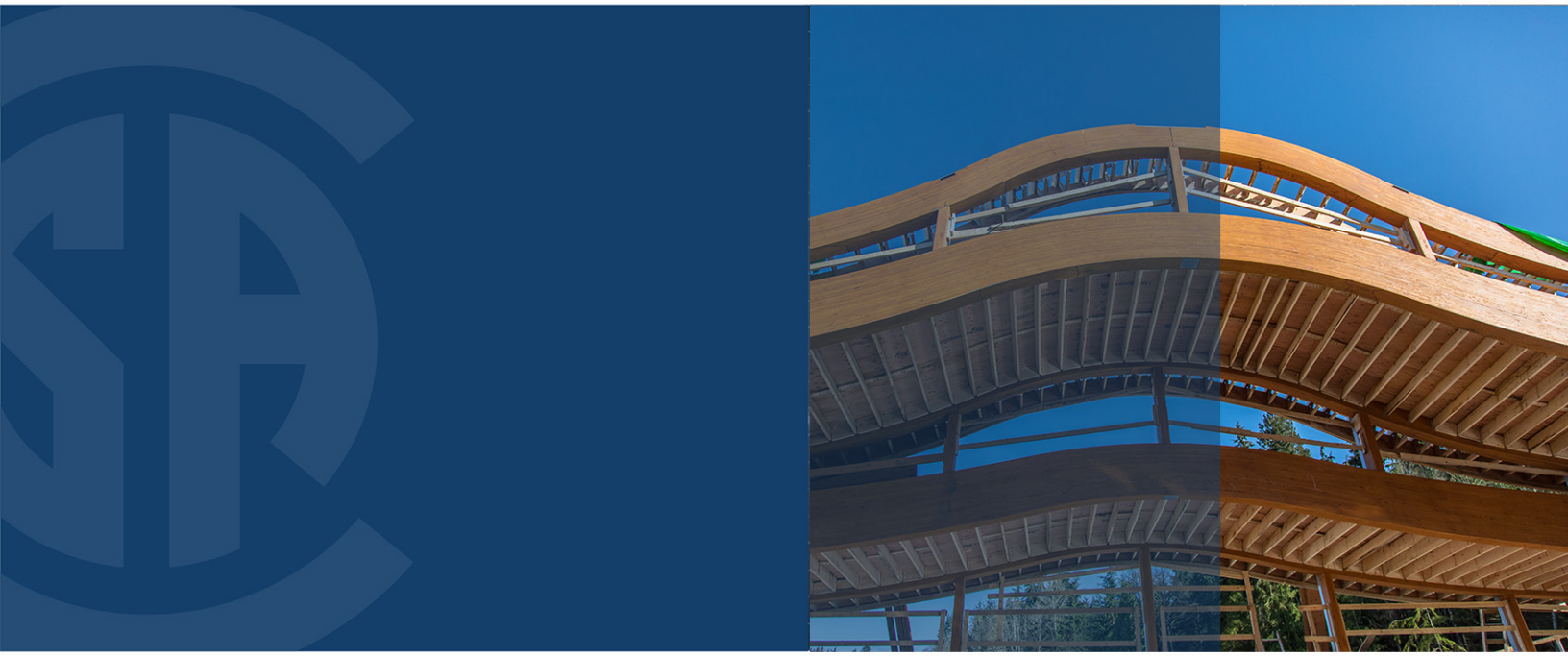
CSA O86:24
National Standard of Canada

Engineering design in wood



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Preface

This is the twelfth edition of CSA O86, *Engineering design in wood*. It is presented in limit states design (LSD) format and supersedes the previous editions published in 2019, 2014, 2009, 2001, 1994, 1989, 1984, 1980, 1976, 1970, and 1959, including their Supplements.

Editions of CSA O86 published in 1959, 1970, 1976, 1980, and 1984 were all developed using working stress design (WSD) theory. The last WSD version, CSA CAN3-O86-M84, *Engineering design in wood (working stress design)*, existed concurrently with the first (1984) and second (1989) LSD versions, *Engineering design in wood (limit states design)*. The WSD version was withdrawn upon publication of the 1994 LSD edition.

Three LSD editions were published in 1984, 1989, and 1994 with the CSA designation O86.1. Supplements to each of these editions were published in 1987, 1993, and 1998, respectively. Although the 2001 edition was also based on the LSD method, the O86 designation was reinstated.

Primary changes in this edition include the following:

- revisions to Clause 5.4.2 to include creep in the deflection calculation, and the deletion of Clause 5.4.3;
- revisions to the lateral stability provisions for built-up beams in Clause 6.5.3.2.4 and for glulam in Clauses 7.5.6.3 to 7.5.6.6;
- addition of a new Clause 8.2 on mechanically laminated timber (MLT), including prefabricated dowel-laminated timber (DLT) and nail-laminated timber (NLT);
- revisions to Clause 11.9 for the design of cross-laminated timber (CLT) shearwalls and diaphragms for platform-type construction;
- addition of a new Clause 12.12 and the associated Clause 17.6 on self-tapping screws;
- addition of a new Clause 13 and the associated Clauses 17.7, A.13, and B.11 on timber-concrete-composite (TCC) floors; and
- as a result of the addition of TCC floors, the relocation of Clauses 13 to 16 in CSA O86:19 to Clauses 14 to 17 in CSA O86:24.

Other significant changes include the following:

- addition of a new definition for “specified modulus of elasticity” (Clause 3.1);
- clarification of the calculation of the K_D factor for non-uniform and multi-directional loads (Clause 5.3.2.3);
- addition of a design provision for built-up compression members with piece-to-piece nailing (Clause 6.5.5.4.3);
- revisions to Clause 7.5.6.6.1 for the application of the K_L and K_{Zbg} factors for glulam bending moment resistance;
- revisions to shear-load coefficient, C_v, for glulam shear resistance (Clause 7.5.7.6);
- modification of Table 9.3 to add specified capacities for W24 rated oriented strand board (OSB);
- editorial changes to all clauses, especially the terminology and figures in Clause 12;
- revisions to the measurement of shear depth at connections (Clause 12.2.1.6);
- revisions to the spacing perpendicular to grain, S_Q, for bolt and dowel connections (Table 12.16);
- addition of the requirements for fabricators of metal plate connected wood trusses to be certified in accordance with CSA S349 (Clause 12.8);
- revisions to Figure 12.16 for inclined wood members with nail connections;
- correction to the unit of the lateral slip resistance, y_s, for lag screw lateral deformation (Clause A.12.6.5.4);