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CSA A23.3:24
National Standard of Canada

Design of concrete structures

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Preface

This is the eighth edition of CSA A23.3, *Design of concrete structures.* It supersedes the previous editions published in 2019, 2014, 2004, 1994, 1984, 1977 (metric), and 1973 (imperial).

This Standard is intended for use in the design of concrete structures for buildings in conjunction with CSA A23.1/CSA A23.2 and CSA A23.4.

Changes in this edition include the following:

a) new notation and definitions have been added/revised to reflect new and revised requirements;
b) new provisions for higher strength reinforcement have been added throughout this Standard;
c) clarification concerning the use of this Standard for shotcrete have been provided in Clauses 3, 4, and 5;
d) Clause 7 now distinguishes between different types of headed bars;
e) Clause 8 contains new specifications for the various grades of reinforcement now permitted by the Standard;
f) Clause 9 has an updated expression for the effective moment of inertia used to calculate deflection;
g) Clause 10 now distinguishes between two different types of spirals for calculating maximum factored axial load resistance, has a more conservative limit for when slenderness effects may be ignored, and clarifies how slenderness is to be evaluated;
h) Clause 11 has revised shear resistance expressions to account for higher strength reinforcement, clarifies the shear reduction at bar cut-off locations, has a revised expression for diagonal crushing due to combined shear and torsion, and has a new requirement for biaxial shear;
i) Clause 12 has been revised to reflect provisions for higher strength reinforcement. Provisions to determine the development length of headed bars have been added, and the development length equation for hooked bars has been updated. Provisions for calculating the compression development and splice lengths of deformed bars have been modified. Additional requirements for the mechanical and adhesive anchorage of reinforcement have been introduced and requirements for post-installed reinforcement have been added;
j) Clause 13 two-way shear provisions have been updated to include size effect in the expression for shear resistance and additional provisions for headed reinforcement. New shear reinforcement provisions at slab edges have also been included. Slab deflection provisions have been revised to reflect changes made to the deflection provisions in Clause 9;
k) Clause 14 has updated requirements for transfer of vertical loads through floors, minimum wall thickness, and slenderness considerations. Clarification is provided on which requirements from Clause 10 need to be applied to walls. Non-bearing walls have been eliminated;
l) Clause 16 has been revised to include the following changes:
    i) stair flights and stair landings are no longer exempt from the requirement to manufacture and erect in accordance with CSA A23.4;
    ii) a new clause has been introduced limiting horizontal displacement of floor, roof, or wall elements at bearing connections; and
    iii) Clause 16.5 has been reorganized and updated into general, diaphragm, and vertical element structural integrity clauses, with the more stringent structural integrity provisions now applicable to structures of two or more storeys;
m) Clause 21 includes the following changes:
    i) reinforcement up to 500 MPa may be used for the SFRS and up to 600 MPa may be used for confinement reinforcement;
    ii) the *NBC* seismic categories are now used to quantify seismic hazard;

