

2021 Virginia Construction Code

CHAPTER 22 STEEL

SECTION 2205 STRUCTURAL STEEL

2205.1 General.

The design, fabrication and erection of *structural steel elements* in buildings, structures and portions thereof shall be in accordance with [AISC 360](#).

2205.2 Seismic design.

Where required, the seismic design, fabrication and erection of buildings, structures and portions thereof shall be in accordance with [Section 2205.2.1](#) or [2205.2.2](#), as applicable.

2205.2.1 Structural steel seismic force-resisting systems.

The design, detailing, fabrication and erection of structural steel *seismic force-resisting systems* shall be in accordance with the provisions of [Section 2205.2.1.1](#) or [2205.2.1.2](#), as applicable.

2205.2.1.1 Seismic Design Category B or C.

Structures assigned to *Seismic Design Category B* or *C* shall be of any construction permitted in [Section 2205](#). Where a response modification coefficient, *R*, in accordance with [ASCE 7](#), Table 12.2-1, is used for the design of structures assigned to *Seismic Design Category B* or *C*, the structures shall be designed and detailed in accordance with the requirements of [AISC 341](#). [Beam-to-column moment connections in special moment frames and intermediate moment frames shall be prequalified in accordance with AISC 341, Section K1, qualified by testing in accordance with AISC 341, Section K2, or shall be prequalified in accordance with AISC 358.](#)

Exception: The response modification coefficient, *R*, designated for “Steel systems not specifically detailed for seismic resistance, excluding cantilever column systems” in [ASCE 7](#), Table 12.2-1, shall be permitted for systems designed and detailed in accordance with [AISC 360](#), and need not be designed and detailed in accordance with [AISC 341](#).

2205.2.1.2 Seismic Design Category D, E or F.

Structures assigned to *Seismic Design Category D*, *E* or *F* shall be designed and detailed in accordance with [AISC 341](#), except as permitted in [ASCE 7](#), Table 15.4-1. [Beam-to-column moment connections in special moment frames and intermediate moment frames shall be prequalified in accordance with AISC 341, Section K1, qualified by testing in accordance with AISC 341, Section K2, or shall be prequalified in accordance with AISC 358.](#)

2205.2.2 Structural steel elements.

The design, detailing, fabrication and erection of *structural steel elements* in *seismic force-resisting systems* other than those covered in [Section 2205.2.1](#), including struts, *collectors*, chords and foundation elements, shall be in accordance with [AISC 341](#) where either of the following applies:

1. The structure is assigned to *Seismic Design Category D*, *E* or *F*, except as permitted in [ASCE 7](#), Table 15.4-1.
2. A response modification coefficient, *R*, greater than 3 in accordance with [ASCE 7](#), Table 12.2-1, is used for the design of the structure assigned to *Seismic Design Category B* or *C*.