

STEEL BUILDING SYSTEMS

ISSUE

Municipal Affairs has received complaints regarding the manufacture, sale, auctioneering, advertising and use of *steel building systems* without the required certification to CSA A660 standard for “Certification of Manufacturers of Steel Building Systems.” In particular, there are examples of *steel building systems* in rural areas where buildings are purported to be farm or agricultural buildings when in fact the purpose or use of these buildings is commercial or other use regulated by the National Building Code-2019 Alberta Edition (NBC(AE)).

This bulletin is to emphasize the importance of compliance to the CSA A660 standard by responsible persons under the *Safety Codes Act* including *manufacturers*, vendors and owners, as well as to provide guidance for safety codes officers and local authorities in applying the requirements of the NBC(AE) for *steel building systems*.

DISCUSSION

CSA A660 is referenced under Article 4.3.4.3. NBC(AE) and requires *steel building systems* to be manufactured by companies certified to the CSA A660 standard. *Steel building systems* sometimes referred to as pre-engineered buildings are not addressed the same as an individually engineered steel building.

Steel building systems are defined in the CSA A660 standard as, “an integrated assembly of manufactured steel primary structural components, secondary structural components of any material, and cladding of any material, specifically designed by the *manufacturer* to support and transfer loads and provide a complete or partial building shell.”

A *manufacturer* of steel building systems is defined as “a person or organization responsible for the **design and fabrication** of steel building systems, whether or not the design and/or fabrication is subcontracted.” The key being that the manufacturer does design and fabrication.

Not all “steel buildings” fall within the definition of a “*steel building system*” in accordance to CSA-A660.

Steel buildings comprising of a complete or partial building shell that do not fall within the definition of a “*steel building system*” (i.e. the manufacturer does not do the design) would be constructed in compliance to the NBC(AE).

As applicable to any professional involvement, compliance other than the design and fabrication of *steel building systems* would be administered through the Schedules of Professional Involvement.

Unless stated otherwise, all Code references in this STANDATA are to Division B of the National Building Code-2019 Alberta Edition.

Issuance of this STANDATA is authorized by
the Provincial Building Administrator

[Original Signed]
Paul Chang

The logo for the province of Alberta, featuring the word "Alberta" in a stylized, cursive font with a blue square at the end of the word.

The CSA A660 standard requires that the *manufacturers'* production facilities, staff and quality assurance systems be certified by an independent certification agency. The *manufacturer* will provide a "Certificate of Design and Manufacturing Conformance" signed and sealed by a registered professional for each building project. Complying with the CSA A660 standard ensures that the *manufacturer* has been audited to the following items:

- (a) personnel;
- (b) design and engineering;
- (c) materials control;
- (d) fabrication;
- (e) warehousing, packaging and shipping;
- (f) erection documentation; and
- (g) plant quality program.

Steel building systems under the NBC(AE)

The goal of public safety is paramount. This standard was developed to assist regulatory officials in reviewing building permit submissions incorporating *steel building systems*, and provide confidence to persons that the steel frame building has been designed in accordance with applicable safety codes and standards.

Sentence 4.3.4.3.(1) NBC(AE) requires certification of *manufacturers* of *steel building systems* to the CSA A660 standard. The requirement for certification was first included in the Alberta Building Code 2006 and applies to *steel building systems* that fall within the scope of NBC(AE) as described in Subsection 1.1.1. of Division A. Even though the NBC(AE) does not apply to some farm buildings as noted in Sentence 1.1.1.(5) of Division A, safety codes officers have a duty to confirm through the permitting and inspection process that such buildings are in compliance with the NBC(AE) and certified to the CSA A660 standard. The NBC(AE) reference and description for farm buildings that are exempt from the NBC(AE) are set out in this bulletin.

Manufacturers of steel building systems who are not certified to the CSA A660 standard are guilty of an offence under the Safety Codes Act and subject to enforcement and penalties. Penalties for an offence include a maximum of \$100,000 for a first offence to imprisonment for a term not exceeding 6 months and a maximum of \$500,000 for a second offence to imprisonment for a term not exceeding 12 months. Other responsible persons such as owners, professionals, designers, vendors and contractors may also be subject to the same enforcement and penalties.

How do I find out if a manufacturer is certified to CSA A660?

A list of certified manufacturers can be accessed through the web site of the Canadian Welding Bureau (CWB Group) at <https://www.cwbgroup.org/services/certified-directory-search> or under Certified Directory Search. Be advised that this list can change frequently as new companies are certified.

CODE REFERENCES

Sentence 4.3.4.3.(1) states:

4.3.4.3. Steel building systems

1) Steel building systems shall be manufactured by companies certified in accordance with the requirements of CSA A660, "Certification of Manufacturers of Steel Building Systems."

CSA-A660-10(Reaffirmed 2014) Certification of manufacturers of steel building systems states:

3 Definitions

Manufacturer — a person or organization responsible for the design and fabrication of steel building systems, whether or not the design and/or fabrication is subcontracted.

Steel building system — an integrated assembly of manufactured steel primary structural components, secondary structural components of any material, and cladding of any material, specifically designed by the manufacturer to support and transfer loads and provide a complete or partial building shell.

Sentence 1.1.1.1.(5) of Division A states:

5) This Code does not apply to

- a) a building of low human occupancy associated with the operation of the farm on which it is located, where the building is used for the
 - i) housing of livestock,
 - ii) storage or maintenance of equipment, or
 - iii) storage of materials or produce,

(see Note A-1.1.1.1.(5)(a)),

Note A-1.1.1.1.(5)(a) states:

A-1.1.1.1.(5)(a) Farm and acreage buildings. Farm and acreage buildings include, but are not limited to, produce storage facilities, livestock and poultry housing, milking centres, manure storage facilities, grain bins, silos, feed preparation centres, farm workshops, and horse riding, exercise and training facilities not used by the public. Farm buildings may be classed as low or high human occupancy, depending on the occupant load.

Examples of farm buildings likely to be classed as low human occupancy as defined in Article 1.2.1.2. of the National Farm Building Code of Canada are livestock and poultry housing, manure and machinery storage facilities, and horse exercise and training facilities where no bleachers or viewing areas are provided.

Examples of buildings that would be classed as other than low human occupancy include farm retail centres for feeds, horticultural and livestock produce, auction barns and show areas where bleachers or other public facilities are provided. Farm work centres where the number of workers frequently exceeds the limit for low human occupancy are also in this category.

It is possible to have areas of both high and low human occupancy in the same building, provided that the structural safety and fire separation requirements for high human occupancy are met in the part thus designated.

Disclaimer:

The information in this bulletin is not intended to provide professional design advice. If professional expertise is required with respect to a specific issue or circumstance, the services of a professional should be sought.