



Formal Interpretations/ Interprétation formelle

This section lists questions that individuals have submitted about a particular standard. Each question has been reviewed and answered by the appropriate committee. If you would like to submit a question about a particular standard, please see the end notes in the preface of that standard.

Posted December 22, 2023

The following interpretation regarding Clause 4.4 of CSA Standard Z662:23, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110).

Question 1: Since the required valve spacing in Table 4.7 is not specified for all Class 1 locations, and all Classes for LVP pipelines, and Note 1 states that the company shall demonstrate the suitability of valve spacing as described in Clauses 4.4.4 and 4.4.7, if a valve is to be relocated with similar release volumes and the same controls are in place for its operation, can the valve be relocated as needed without further evaluation?

Answer 1: No

Question 2: If a valve, such as in all Class 1 locations or anywhere on an LVP pipeline, is to be relocated, must the demonstration as described in Clauses 4.4.4 and 4.4.7 be completed to confirm suitability of the revised valve spacing?

Answer 2: Yes

The following interpretation regarding Clause 10.11.4.3 of CSA Standard Z662:23, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110).

Question: Is Clause 10.11.4.3 a) i) supposed to read “All tests shall be in accordance with the procedures of ASME PCC-2, Article 401”?

Answer: Yes

The following interpretation regarding Clauses 6.3.4.2 and 8.1.7 of CSA Standard Z662:23, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110).

Question 1: Was the intent of the reference in Clause 6.3.4.2 to Clause 4.1.10 actually intended to refer to Clause 4.1.12?

Answer 1: Yes

Question 2: Was the intent of the reference in Clause 8.1.7 to Clause 4.1.10 actually intended to refer to Clause 4.1.12?

Answer 2: Yes



The following interpretation regarding Figure 1.1 and Table 4.2 of CSA Standard Z662:23, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110).

Question 1: In accordance with Figure 1.1, are all types of dense phase or liquid CO₂ stations (measuring, pressure regulating, pumping) excluded from the scope of CSA Z662?

Answer 1: Yes

Question 2: Table 4.2 provides location factors for CO₂ "stations" (see Note 3 to Table 4.2). Are these location factors intended to be used for dense phase or liquid CO₂ station design?

Answer 2: No

Question 3: Does metering (including piping, valves, measurement equipment and related instrumentation) installed for the purposes of leak-detection (in accordance Clause 10.3.4) meet the definition of a "measuring station" as shown in Figure 1.1?

Answer 3: Yes

Question 4: Does metering installed for the purposes of leak-detection, where this piping is installed as part of a dense phase or liquid CO₂ pipeline system, require the use of station isolation valves?

Answer 4: Yes

Question 5: Is the piping between the isolation valves, as part of a dense phase or liquid CO₂ pipeline system, surrounding metering for leak detection, within the CSA Z662 scope (as shown in Figure 1.1)?

Answer 5: No

The following interpretation regarding Clause 4.10 of CSA Standard Z662:23, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110).

Question 1: Clause 4.10 makes mention of requirements for "welded attachments" that are being welded directly to pipe. Would a welded lifting lug meet the definition of a "welded attachment" in this clause?

Answer 1: Yes

Question 2: Clause 4.10 states "Where welded attachments are required for pipelines designed to operate at hoop stress levels of more than 50% of the specified minimum yield strength of the pipe, such attachments shall be welded to a separate cylindrical member that completely encircles the pipe...".

If the lifting lug were to be welded on piping where design hoop stress levels exceed 50% of the SMYS of the pipe, would the lifting lug need to follow this requirement of being welded to a



separate cylindrical member? This is taking into consideration that a lifting lug will not be under additional stress during pipeline operations – it is only under stress during above-ground piping transportation and assembly.

Answer 2: Yes

The following interpretation regarding Clause 4.5.2 d) of CSA Standard Z662:23, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110).

Question 1: Where non-sour HVP station piping is designed by ASME B31.3, as allowed by Clause 4.14.3.8 d), do the requirements of Clause 4.5.2 d) apply?

Answer 1: No

Question 2: If the answer to question 1 is “Yes”, then in the case where drain piping is isolated by a root valve from process and piping internal pressure after root valve is near atmospheric, are threaded joints in these cases allowed?

Answer 2: N/A

Question 3: If the answer to question 1 is “Yes”, some piping flanges may not be practical such as cavity drain system of DIB/DBB ball valve or TRV of DIB-1 or equipment drains on pumps, compressors, or similar. In these cases, are threaded joints allowed?

Answer 3: N/A

The following interpretation regarding Clause 16.9.3.1 of CSA Standard Z662:23, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110).

Question 1: Clause 16.9.3.1 Partial-penetration welds states that partial-penetration welds are not allowed in sour service applications. When attaching scraper bars, either directly to a barred tee or welding them to a connecting plate/bar to help shorten the length of unsupported scraper bars in a larger size branch outlet, which are technically considered non-pressure-retaining attachments, does Clause 16.9.3.1 restrict the welding to a full-penetration design only?

Answer 1: No, Clause 16.9.3.1 is intended to be specific to butt welds.

Question 2: Does Clause 16.9.3.1 prohibit use of partial penetration welds for welds other than butt welds (e.g., fillets for scraper bar attachments).

Answer 2: No

The following interpretation regarding Clause 10.3.2.1 and Table 4.9 of CSA Standard Z662:23, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110).



Question: For an operating pipeline, if it is found that the depth of cover is less than the requirements in Table 4.9, could it be determined to be acceptable, using Clause 10.3.2.1

Answer: Yes

The following interpretation regarding Clause 8.5.2.2 and Table C.1 of CSA Standard Z245.1:22, Steel pipe, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110).

Question: Clause 8.5.2.2 states that Charpy V-notch impact test shall be performed at -5 C or lower, Table C.1 (Informative) states that tests shall be performed at temperatures lower than -5 C. Does the verbiage in the main body of the standard take precedence over the verbiage in the informative Annex C?

Answer: Yes

The following interpretation regarding Clauses 7.2.5.2, 17.2, and 17.3 of CSA Standard Z245.1:22, Steel pipe, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110).

Question: Is cold flattening allowed for a round bar tension test specimen used for the elevated temperature transverse weld tension test?

Answer: Yes

The following interpretation regarding Clauses 5.5.3 and 12.10 of CSA Standard Z245.17:22, Cold bends, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110).

Question: In Clause 5.5.3: "For bends intended for sour service, relieving shall be required if the fiber strain exceeds 5%."

In Clause 12.10: "Bends with a fiber strain of 5% or greater shall be subject to a post-bend heat treatment in accordance with Clause 7.2."

If a cold bend exhibits a fiber strain of 5% exactly, should the bend be subjected to a post bend heat treatment?

Answer: Yes

The following interpretation regarding Clause 5.5 f) of CSA Standard Z245.15:22, Steel valves, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110).

Question: In accordance with CSA Z245.15 Clause 5.5 f), a sealant fitting shall be furnished with a vented cap. Is it the intent of Clause 5.5 f) that all sealant fittings have caps?

Answer: No. If caps are installed, they shall comply with Clause 5.5 f).



The following interpretation regarding Clause 5.2.1 of CSA Standard Z245.21:22, Plant-applied external polyethylene coating for steel pipe, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110).

Question 1: In accordance with CSA Z245.21:22, is the PE virgin resin manufacturer required to perform Table 3 property testing on every lot produced?

Answer 1: No

Question 2: Is the PE virgin resin manufacturer required to report CSA Z245.21:22 Table 3 properties on every certification document (COA) that is provided to the customer with each lot?

Answer 2: Yes

The following interpretation regarding Clause 6.1.1 of CSA Standard Z245.22:22, Plant-applied external polyurethane foam insulation coating for steel pipe, has been approved by the Members of the CSA Standards Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110).

Question: When reagent grade ($\geq 95\%$) cyclopentane (i.e., a single molecule chemical whose molecular and structural formula don't change regardless of manufacturer) is used as a blowing agent in the polyurethane foam insulation system, it is not required to re-qualify the insulation system if there is only a change in cyclopentane manufacturer providing the formulation of polyol/isocyanate and the amount of cyclopentane stay the same.

Answer: Agree.

Posted October 24, 2023

The following interpretation regarding Clause 12.8.3 of CSA N293:23, Fire protection for nuclear power plants, has been approved by the Members of the CSA Standards Technical Committee on *Fire Protection for Nuclear Power Plants (N293)*.

Question: Does implementing the incident action plan in which responders are operating in the hot zone (offensive operations, full team activation/participation) to rescue a casualty meet the 15 minute sustained intervention timeline required per CSA N293 clause 12.8.3?

Answer: No

Comments: Based on N293:23 Clause 5.2.1 Nuclear safety performance objectives, the response is "NO". Sustained intervention of the fire event should be achieved within 15 minutes. Having a casualty in hot zone and rescue operation in full swing does not negate the need to address the fire event. For example, under a fire event with casualty, if the typical firefighting means at the location is foam, sustained firefighting activity commenced within 15 minutes meets the intent of N293 (considering N293 nuclear safety performance objectives).

Although a primary search is part of the incident action plan, it does not override the need for sustained intervention to ensure nuclear safety. Primary search is a quick but thorough search for casualties or occupants in the incident area to obtain an all clear and par. The incident commander can make the call to announce that a primary search cannot be completed at this time if the



situation warrants it and move to the next step which is fire control. Fire control is application of extinguishing agent with sufficient manpower, equipment and product to control the fire and lead to extinguishment.

Posted August 29, 2023

The following interpretation regarding Table 17 of CSA Standard A23.1-14, Concrete materials and methods of concrete construction, has been approved by the Members of the CSA Standards Technical Committee on Concrete Materials and Construction.

Question: If we are casting a footing using formwork for the sides, our interpretation is that it is not cast against ground. Can we use the two ratios listed in Table 17 around the bar diameter and aggregate size?

Answer: YES, “Cast against and permanently exposed to earth” requires both conditions to be met.

The following interpretation regarding Table 17 of CSA Standard A23.1-14, Concrete materials and methods of concrete construction, has been approved by the Members of the CSA Standards Technical Committee on Concrete Materials and Construction.

Question 1: For buried footings, all faces shall have concrete cover of 75 mm even though the side and top faces are NOT cast directly against earth?

Answer 1: NO, cover requirements are relative to the exposure conditions of each surface of the element.

Question 2: Does the application of 75 mm concrete cover need to meet both “cast against earth” AND “permanently exposed to earth” conditions?

Answer 2: YES

Posted August 10, 2023

The following interpretation regarding Clause 5.13 of CSA Standard B149.5-20, Propane fuel systems and containers on motor vehicles, has been approved by the Members of the CSA Standards Technical Committee on *Autogas/DME Transportation Technical Committee (U1004)*.

Question 1: Are the requirements for propane cylinders installed on recreational vehicles, while the recreational vehicle is located within a repair garage, within the scope of B149.5?

Answer 1: No. The CSA B149.5 code contains requirements for the container mounting. CSA B149.5 does not have requirements for servicing recreational vehicles. The servicing and maintaining of recreational vehicles requirements are noted in the CSA B149.2 code. CSA B149.2 Clause 15.12 is applicable to this question. The CSA B149.5



committee proposes to have a similar of CSA B149.2 Clause 5.11.9 within CSA B149.2 Clause 5.12.

Question 2: If so, do the requirements in 5.13 for propane-fuelled vehicles also apply to a recreational vehicle while it is located within a repair garage?

Answer 2: No, this question is not applicable.

Posted August 2, 2023

The following interpretation regarding Clause 5.8 g) of CSA Standard W59-18, Welded steel construction, has been approved by the Members of the CSA Standards Technical Committee on *Welding of Bridges, Buildings and Machinery (G156)*.

Question 1: Is a gap of 0.5 mm with the inner surface of the flanges acceptable?

Answer 1: No

Question 2: Is a gap of 0.25 mm with the inner surface of the flanges acceptable?

Answer 2: No

Question 3: Is a gap of 1 mm with the inner surface of the flanges acceptable?

Answer 3: No

Posted July 25, 2023

The following interpretation regarding Clause 4.3.3.2 e) of CSA Standard A770:16, Home inspection, has been approved by the Members of the CSA Standards Technical Committee on *Home Inspection (A138)*.

Question: Is the intent of Clause 4.3.3.2 (e) to only report items that are inoperative or not installed correctly as opposed to listing items that are functioning normally?

Answer: Yes

Posted July 7, 2023

The following interpretation regarding Clause 4.21.1 of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on *Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110)*.



Question 1: In order to determine if the odorant is readily detectable, and fulfill the Z662.4.21.1 requirement, is having an employee smell the gas our only way to meet the requirement in this clause?

Answer 1: No

The following interpretation regarding Clause 14.5.2 and I.5 (Pressure Testing) of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on *Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110)*.

Please note that RFI regarding Clause 14.5.2 and I.5 (Pressure Testing) was already approved and posted on Feb 22, 2023. However, it was an incorrect version and will be taken down from the CSA Standard Current Activities site.

Question 1: According to Clauses 14.5.2 and I.5, the minimum strength test pressure shall be increased in accordance with Equation 24 in para. 345.4.2 of ASME B31.3-2018. Is it the intent of the Z662 Standard, for pipelines designed and built to Annex I, that the allowable stresses for the purposes of equation 24 from B31.3, come from Table K-1 or K-1M?

Answer 1: Yes, but only for materials that are listed, as defined in Clause I.3.1.2.

Question 2: Annex I was developed based upon ASME B31.3, Chapter IX (High Pressure Piping). Can the minimum strength test pressure be calculated based upon Equation 38 in para. K345.4.2 of ASME B31.3 with the allowable stresses from Table K-1?

Answer 2: No

Question 3: Shall design allowable stresses be used in accordance with Equation 24 in para. 345.4.2 of ASME B31.3 for unlisted materials in Clause 14 or Annex I, as applicable?

Answer 3: Yes

The following interpretation regarding Clauses 4.3.4 Class location end boundaries of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on *Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110)*.

Question 1:

Can the company choose which dwelling unit is used to set the end boundary that results in the minimum length for Class 3 location?

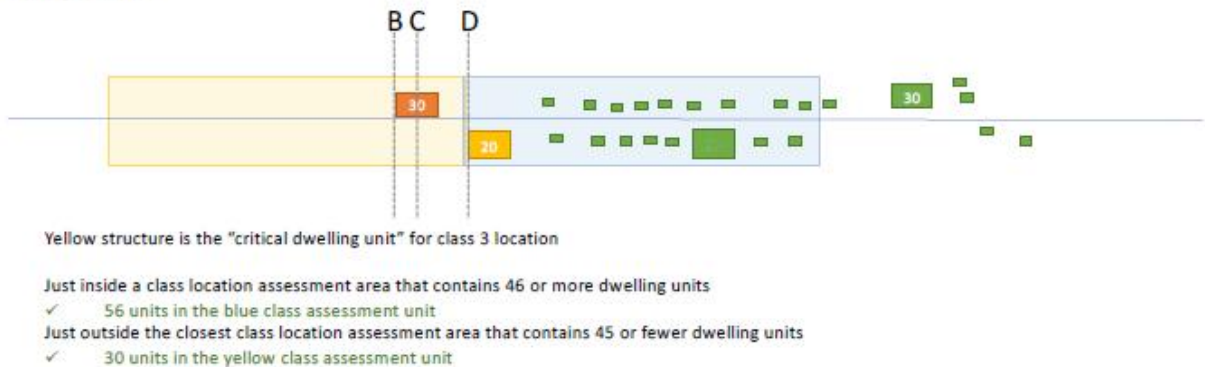
Answer 1: No, the criteria establishes which dwelling unit to use, see Clause 4.3.4.5.

Question 2: From the diagrams provided, is the yellow 20 unit building the dwelling unit that sets the end boundary for the class 3 location as per Clause 4.3.4.5?

Diagram 1



Diagram 2



Answer 2: Yes

The following interpretation regarding Clause 15.2 n) of CSA Standard Z245.1:22, Steel pipe, has been approved by the Members of the CSA Standards Technical Committee on *Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110)*.

Question 1: For pipe 60.3 mm OD or larger, where the specified hydrostatic test pressure is calculated in accordance with Clause 9.4.2, are the marking requirements of Clause 15.2.n) applicable?

Answer 1: Yes, if the hydrostatic test pressure exceeds the minimum pressure required by Clause 9.4.1.



Question 2: For pipe 60.3 mm OD or larger, where the specified hydrostatic test pressure is calculated in accordance with Clause 9.4.2, can such specified hydrostatic test pressure be stenciled for Marking?

Answer 2: Yes, if the hydrostatic test pressure exceeds the minimum pressure required by Clause 9.4.1.

Question 3: For pipe 60.3 mm OD or larger, where the specified hydrostatic test pressure exceeds the minimum test pressure required by Clause 9.4.1, but is calculated by Clause 9.4.2, shall the hydrostatic test pressure stenciled be the pressure calculated by Clause 9.4.1 or by Clause 9.4.2?

Answer 3: Z245.1:22 does not currently specify which hydrostatic test pressure must be stenciled.

The following interpretation regarding Clauses 7.6.1, 7.7.1.2, and Figure 7.6 of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on *Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110)*.

Question: Does a procedure qualification test joint completed on a 16” diameter pipe by two welders require the full circumference to pass nondestructive examination when the welding parameters used are from half the circumference, and testing is performed from a half circumference as permitted in Figure 7.6 d) (Testing was performed and parameters recorded on the half circumference that passed nondestructive examination)?

Answer: No

The following interpretation regarding Clause 6.1.2.3 of CSA Standard CSA Z245.30:22, Field-applied external coatings for steel pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on *Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110)*.

Question 1: Can the preparation of the test samples (Clause 6.1.2.3) for the applicator’s qualification testing be completed on an actual production pipe or pipeline components?

Answer 1: Yes

Question 2: Upon successful production testing of Table 6, 7, 8 applicator qualification and coating quality test and an updated certificate, is applicator qualification considered proof of full requalification of applicators?

Answer 2: Yes



The following interpretation regarding Clause 5.3.5 of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on *Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110)*.

Question: Can we use stainless steel material for buried pipeline if economically is feasible?

Answer: Yes, see Clause 5.1.3.

The following interpretation regarding Clause 4.5.2 d) Threaded joints of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on *Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110)*.

Question 1: Are threaded joints as referred to in Clause 4.5.2 only meant to apply to the threaded connections where the seal is provided by the thread flanks of the mating threads?

Answer 1: Yes

Question 2: Are other connections, such as hammer union fittings, that seal through a metal to metal surface, which have a threaded nut that is used to provide the compression to the sealing surfaces, subject to the requirements of Clause 4.5.2?

Answer 2: No

The following interpretation regarding Clause 10.5.4.3 of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on *Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110)*.

Question 1: Are natural gas **transmission** pipeline facilities, valve interconnect or stations, considered locations where **warning signs** shall be posted, per Clause 10.5.4.3?

Answer 1: Yes

Question 2: Could natural gas at a **transmission** pipeline facility, valve interconnect or station, be a hazard?

Answer 2: Yes



Question 3: Is the intent of a warning sign in Clause 10.5.4.3 to alert “all persons”, including visitors, general-public, and emergency responders, and not just company employees and contractors?

Answer 3: Yes

Posted July 7, 2023

The following interpretation regarding Clauses 5.6 & 4.1 / 4.1 Respectively of CSA Standard B181.0 and B181.1 / B181.2, Definitions, general requirements, and methods of testing for thermoplastic nonpressure piping/ Acrylonitrile-butadiene-styrene (ABS) drain, waste, and vent pipe and pipe fittings/ Polyvinylchloride (PVC) and chlorinated polyvinylchloride (CPVC) drain, waste, and vent pipe and pipe fittings, has been approved by the Members of the CSA Standards Technical Committee on *Plastic Non-Pressure Piping (B218)*.

Question: Do you agree with the interpretation that CSA B181.0, B181.1, and B181.2 do not include provisions related to Backwater valves which prevents the use of thermoplastic materials other than ABS (for B181.1) or PVC or CPVC (for B181.2) for the non Solvent Welded components that are not connected to the piping system?

Answer: Yes

Posted June 14, 2023

The following interpretation regarding A23.2 – 25C – Clause 7.1.2 of CSA Standard A23.1/2, Concrete materials and methods of concrete construction/Test methods and standard practices for concrete, has been approved by the Members of the CSA Standards Technical Committee on *Concrete Materials and Construction (A152)*.

Question: CSA A23.2 contains various concrete tests and the procedures required to correctly complete each of these tests. With respect to the standard field test for concrete these include:

- A23.2-1C Sampling plastic concrete
- A23.2-3C Making and curing concrete compression and flexural test specimens
- A23.2-4C Air content of plastic concrete by the pressure method
- A23.2-5C Slump of concrete
- A23.2-6C Density and yield of plastic concrete
- A23.2-7C Air content of plastic concrete by the volumetric method
- A23.2-9C Compressive strength of cylindrical concrete specimens
- A23.2-17C Temperature of freshly mixed hydraulic cement concrete
- A23.2-19C Slump flow of concrete

Within each these test methods are contained specific testing procedures and reporting requirements.



CSA A23.1 clause 4.4 Quality Control states the following:

4.4 Quality Control

4.4.2 Concrete acceptance

4.4.2.1.2

Sampling, testing, and inspection of concrete for acceptance purposes shall be carried out in accordance with CSA A23.2-25C.”

4.4.2.1.3

Concrete testing used as the basis for acceptance shall comply with all aspects of the applicable CSA A23.2 field and laboratory test methods and standard practices.

Acceptance of the concrete shall be subject to the procedures and criteria in CSA A23.2-25C.

Based on the above clauses, all concrete testing used to determine acceptance of the concrete must be carried out in accordance with and comply with all aspects of the applicable CSA A23.2-25C test methods.

CSA A23.2-25C Standard Practice for sampling, testing, and inspection of concrete for acceptance purposes makes the following statements:

6 Reporting

Unless otherwise agreed, test results shall be provided to the owner, contractor, and concrete supplier within five working days of completion of the test. Both field and laboratory test reports shall include all information required by the applicable test methods of CSA A23.2.

7 Acceptance testing of concrete

7.1 Concrete acceptance

7.1.1 General

Concrete testing used as the basis for acceptance shall comply with all aspects of the applicable CSA A23.2 field and laboratory test methods and standard practices.

Acceptance of the concrete shall be subject to the responsibilities in Clause 4 of CSA A23.1. Acceptance tests are summarized in Table 1.

7.1.2 Non-compliant test specimens

If any test specimen shows distinct evidence of improper sampling, making, curing, transporting, demoulding, handling, curing, or testing, the test specimen shall be disregarded and declared invalid. The test results of the remaining test specimen(s) shall be considered the test result.

Based the interrelated clauses contained in CSA A23.1 & A23.2, is it correct that a concrete test which has “NOT” followed all aspects of the associated CSA A23.2 field and laboratory test method, including following the test procedures and reporting requirements, must be “disregarded and declared invalid” and as such “cannot” be used “as a basis for acceptance”?

Answer: Yes

- The Technical Committee intended that results from an invalid test specimen should also not to be used for the rejection of concrete.
- Where there has been a deviation from the test procedure or the sample deemed non-compliant for the reasons in A23.2-25C, Clause 7.1.2, the test result can still provide useful information to the owner.
- It is recommended that any results obtained from invalid test specimens be not included for use in statistical analysis.

Posted June 5, 2023

The following interpretation regarding Section 13.2 of CSA Standard S16:19, Design of steel structures, has been approved by the Members of the CSA Standards Technical Committee on *Steel Structures for Buildings (A263)*.

Question: For the axial tension design of long-length threaded rods connected together with turnbuckles or coupler nuts, used as x-bracing in steel buildings or holdown rods in timber buildings, should the capacity be the lower of the yield strength per 13.2.(a)(i) and the tensile strength per 13.2.(a)(iii) with A_n and A_g being taken as the tensile stress area of the rod or can yielding be excluded?

Answer: The axial tensile resistance of all-threaded and long-threaded structural steel rods connected with appropriate coupling nuts or turnbuckles so as to prevent thread stripping and subjected to static loading may be determined in accordance with Clause 13.2 (a) of S16:19, taking both A_n and A_g to be the tensile stress area as specified in the standard to which the threaded rods are manufactured.

S16 requirements reflect primarily the knowledge gained from research on steel structures and practical experience in steel construction. With respect to the design of steel rods used in structures of other materials, applications of S16 requirements are conditional because supplementary rules and requirements may be necessary in accordance with Clause 1.3 (b) of S16:19.

Posted April 19, 2023

The following interpretation regarding Clause 11.2.1 Pressure testing for digesters, of CSA Standard CSA/ANSI B149.6:20 has been approved by the Members of the CSA Technical Committee on *Fuels and Appliances Strategic Steering Committee [JB117]*

Question 1: The specification states that the test is to be concluded when the temperature is within ± 0.2 °C or ± 33 °F. The two temperature ranges provided are not equivalent. Similarly, the tolerance of the temperature measuring equipment is stated to be ± 0.1 °C or ± 32 °F, these are also not equivalent.

Answer 1: Agree



Note: The degree Celsius is correct, but not Fahrenheit

The following interpretation regarding Clause 8.6.5 Buried Piping, of CSA Standard CSA/ANSI B149.6:20 has been approved by the Members of the CSA Technical Committee on *Fuels and Appliances Strategic Steering Committee [JB117]*

Question 1: Should buried HDPE gas collection piping ranging in sizes from 12” to 24” and encircling 11-acre anaerobic lagoons be subject to section 8.6.5 regarding steel casings?

Answer 1: Yes

The following interpretation regarding Annex D/5.3.2 under "Flare (waste gas burner) controls, of CSA Standard CSA/ANSI B149.6:20 has been approved by the Members of the CSA Technical Committee on *Fuels and Appliances Strategic Steering Committee [JB117]*

Question 1: Are actuated louvers on a flare considered mechanical means of ventilation suitable for a mechanical pre-purge of an enclosed flare stack on their own?

Answer 1: No

The following interpretation regarding Clause 8 Piping and tubing systems and fitting in digester gas systems - 8.1.2, of CSA Standard CSA/ANSI B149.6:20 has been approved by the Members of the CSA Technical Committee on *Fuels and Appliances Strategic Steering Committee [JB117]*

Question 1: Should buried HDPE gas collection piping ranging in sizes from 12” to 24” and encircling 11-acre anaerobic lagoons be subject to section 8.1.2 regarding a minimum pipe slope of 2%?

Answer 1: Yes

Posted April 18, 2023

The following interpretation regarding all standards under the Z21/83 and CSA Gas Technical Committees, as listed below, has been approved by the Members of the CSA Technical Committees on *Gas Appliances and Related Accessories [JB101]* and *Performance & Installation of Gas Burning Appliances & Related Accessories [U101]*.

Question: Do you agree that natural gas containing up to and including 5% of Hydrogen is covered by testing with Test Gas A?



Answer: Yes

Standard #	Title
CAN1-1.16	Recreational Vehicle Cooking Gas Appliances
CAN1-11.4	Portable-Type Gas Camp Refrigerators
CAN1-2.20	Gas-Fired Brooders
CAN1-3.1	Industrial and Commercial Gas Fired Package Boilers
CAN1-6.2	Draft Hoods
CGA 2.29	Hand-Held Torches for Fuel Gas
CGA 3.4	Industrial and Commercial Gas-Fired Conversion Burners
CGA 5.2	Gas-Fired Waterless Toilets
CSA 2.15	Gas-Fired Domestic Lighting Appliances
CSA 2.17	Gas-Fired Appliances for Use at High Altitudes
CSA 3.11	Lever Operated Pressure Lubricated Plug Type Gas Shut-Off Valves
CSA 3.16	Lever Operated Non-Lubricated Gas Shut-Off Valves
CSA 3.8	Gas-fired Equipment for Drying Farm Crops
CSA 6.18	Service Regulators for Natural Gas
CSA 6.19	Residential Carbon Monoxide Alarming Devices
CSA 8.1	Elastomeric Composite Hose and Hose Couplings For Conducting Propane and Natural Gas
CSA 8.3	Thermoplastic Hose and Hose Couplings for Conducting Propane and Natural Gas
CSA 9.4	Standard for manually operated metallic gas valves for use on piping systems up to 5 psig
LC 1/CSA 6.26	Fuel Gas Piping Systems Using Corrugated Stainless Steel Tubing
LC 2	Direct Gas-Fired Circulating Heaters for Agricultural Animal Confinement Buildings
LC 4/CSA 6.32	Press-Connect Metallic Fittings for Use in Fuel Gas Distribution Systems
LC 6	Natural Gas Operated Diaphragm Pumps
LC 7	Pipe Joint Sealing Compounds and Materials
Z21.1/CSA 1.1	Household Cooking Gas Appliances
Z21.10.1/CSA 4.1	Gas Water Heaters, Volume I, Storage Water Heaters with Input Ratings of 75,000 Btu Per Hour or Less
Z21.10.3/CSA 4.3	Gas Water Heaters, Volume III, Storage Water Heaters with Input Ratings Above 75,000 Btu Per Hour, Circulating and Instantaneous
Z21.101/CSA 8.5	Gas Hose Connectors for Portable and Moveable Gas Appliances
Z21.103	Unvented Portable Type Gas Camp Heaters for Indoor and Outdoor Use
Z21.104/CSA 9.2	Manual and automatic gas selector devices for use with gas-fired appliances
Z21.11.2	Gas-Fired Room Heaters, Volume II, Unvented Room Heaters

Z21.11.3	Gas-Fired Room Heaters, Volume III, Propane-Fired Portable Emergency Use Heater Systems
Z21.12	Draft Hoods
Z21.13/CSA 4.9	Gas-Fired Low Pressure Steam and Hot Water Boilers
Z21.15/CSA 9.1	Manually Operated Gas Valves for Appliances, Appliance Connector Valves and Hose End Valves
Z21.17/CSA 2.7	Domestic Gas Conversion Burners
Z21.18/CSA 6.3	Gas Appliance Pressure Regulators
Z21.19/CSA 1.4	Refrigerators Using Gas Fuel
<u>Z23551-4</u>	Safety and control devices for gas burners and gas-burning appliances — Particular requirements — Part 4: Valve-proving systems for automatic shut-off valves
<u>Z23550</u>	Safety and control devices for gas and/or oil burners and appliances - General requirements
Z21.20/CSA 2.22 No.60730-2-5/UL 60730-2-5 (2120)	Automatic Electrical Controls for Household and Similar Use - Part 2-5: Particular Requirements for Automatic Electrical Burner Control Systems
Z21.21/CSA 6.5	Automatic Valves for Gas Appliances
Z21.22/CSA4.4	Relief Valves for Hot Water Supply Systems
Z21.23/CAN1-6.6	Gas Appliance Thermostats
Z21.24/CSA 6.10	Connectors for Gas Appliances
Z21.35/CSA 6.8	Pilot Gas Filters
Z21.40.1/CGA 2.91	Gas-Fired Heat Activated Air Conditioning and Heat Pump Appliances
Z21.40.2/CGA 2.92	Air-conditioning and Heat Pump Appliances (Internal Combustion)
Z21.40.4/CGA 2.94	Performance Testing and Rating of Gas-Fired Air Conditioning and Heat Pump Appliances
Z21.41/CSA 6.9	Quick Disconnect Devices for Use with Gas Fuel Appliances
Z21.42	Gas-Fired Illuminating Appliances
Z21.47/CSA 2.3	Gas-Fired Central Furnaces
Z21.5.1/CSA 7.1	Clothes Dryers, Volume I, Type 1 Clothes Dryers
Z21.5.2/CSA 7.2	Clothes Dryers, Volume II, Type 2 Clothes Dryers
Z21.50/CSA 2.22	Vented Decorative Gas Appliances
Z21.54/CSA 8.4	Gas Hose Connectors for Portable Outdoor Gas-Fired Appliances
Z21.56/CSA 4.7	Gas-Fired Pool Heaters
Z21.57	Recreational Vehicle Cooking Gas Appliances
Z21.58/CSA 1.6	Outdoor Cooking Gas Appliances
Z21.60/CSA 2.26	Decorative Gas Appliances for Installation in Solid-Fuel Burning Fireplaces
Z21.63/CSA 11.3	Portable Type Gas Camp Heaters
Z21.66/CSA 6.14	Automatic Vent Damper Devices for Use with Gas-Fired Appliances
Z21.69/CSA 6.16	Connectors for Movable Gas Appliances



Z21.71	Automatic Intermittent Pilot Ignition Systems for Field Installation
Z21.72/CSA 11.2	Portable Type Gas Camp Stoves
Z21.73/CSA 11.1	Portable Type Gas Camp Lights
Z21.74	Portable Refrigerators
Z21.75/CSA 6.27	Connectors for Outdoor Gas Appliances and Manufactured Homes
Z21.76	Gas-Fired Unvented Catalytic Room Heaters for Use with Propane Gas
Z21.77/CSA 6.23	Manually-Operated Piezo-Electric Spark Gas Ignition Systems and Components
Z21.78/CSA 6.20	Combination Gas Controls for Gas Appliances
Z21.79/CGA 6.21	Gas Appliance Sediment Traps
Z21.8	Installation of Domestic Conversion Burners
Z21.80/ CSA 6.22	Line Pressure Regulators
Z21.81/CSA 6.25	Cylinder Connection Devices
Z21.84	Manually Lighted, Natural Gas Decorative Gas Appliances for Installation in Solid Fuel Burning Fireplaces
Z21.86/CSA 2.32	Vented Gas-Fired Space Heating Appliances
Z21.87/CSA 4.6	Automatic Gas Shutoff Devices for Hot Water Supply Systems
Z21.88/CSA 2.33	Vented Gas Fireplace Heaters
Z21.89/CSA 1.18	Outdoor Cooking Specialty Gas Appliances
Z21.90/CSA 6.24	Gas Convenience Outlets and Optional Enclosures
Z21.91	Ventless Firebox Enclosures for Gas-Fired Unvented Decorative Room Heaters
Z21.92/CSA 6.29	Manually Operated Electric Gas Ignition Systems and Components
Z21.93/CSA 6.30	Excess Flow Valves for Natural Gas and Propane Gas with Pressures up to 5 psig
Z21.94/CSA 6.31	Automatic Flammable Vapor Sensor Systems and Components
Z21.96/CSA 11.6	Portable Water Heaters for Outdoor Use
Z21.97/CSA 2.41	Outdoor Decorative Gas Appliances
Z21.98/CSA 4.10	Non-Metallic Dip Tubes for Use in Hot Water Heaters
Z83.11/CSA 1.8	Gas Food Service Equipment
Z83.18	Recirculating Direct Gas-Fired Heating and Forced Ventilation Appliances for Commercial and Industrial Applications
Z83.19/CSA 2.35	Gas-Fired High Intensity Infrared Heaters
Z83.20/CSA 2.34	Gas-Fired Tubular and Low Intensity Infrared Heaters
Z83.21/CSA C22.2 No. 168	Commercial Dishwasher
Z83.25/CSA 3.19	Direct Gas-Fired Process Air Heaters
Z83.26/CSA 2.37	Gas-Fired Outdoor Infrared Patio Heaters
Z83.4/CSA 3.7	Non-Recirculating Direct Gas-Fired Heating and Forced Ventilation Appliances for Commercial and Industrial Application



Z83.7/CSA 2.14	Gas-Fired Construction Heaters
Z83.8/CSA 2.6	Gas Unit Heaters, Gas Packaged Heaters, Gas Utility Heaters, and Gas-Fired Duct Furnaces
13.1	Combined Heat and Power Appliances

Posted April 6, 2023

The following interpretation regarding Clause 12.4.1.3 and Figure 12 of CSA Standard CSA N285.0-17 with Update No. 1, General requirements for pressure-retaining systems and components in CANDU nuclear power plants, has been approved by the Members of the CSA Standards Technical Committee on *CANDU Nuclear Power Plant Pressure-Retaining Systems and Components (Z953)*.

Question 1: For a calandria tube that, in accordance with the Standard N285.0-17, is a "material" or "tubular product welded with filler material" and using Figure 12, does the clause 12.4.1.3 b) requiring a design drawing to be registered apply?

Answer 1: No

Question 2: For a calandria tube that, in accordance with the Standard N285.0-17, is a "material" or "tubular product welded with filler material" and using Figure 12, does the clause 12.4.1.3 i) requiring a check of pressure boundary integrity dimensions imply the critical dimensions of the drawing?

Answer 2: Yes

Question 3: For a calandria tube that, in accordance with the Standard N285.0-17, is as a "material" or "tubular product welded with filler material" and using Figure 12, do the pressure tests required by clause 12.4.1.3 m) include any tests other than those associated with the material specification requirements?

Answer 3: No

Question 4: For a calandria tube that, in accordance with the Standard N285.0-17, is a "material" or "tubular product welded with filler material" and using Figure 12, does the clause 12.4.1.3 n) requiring reconciliation statements apply?

Answer 4: No

Posted April 6, 2023

The following interpretation regarding Clause 6 of CSA N285.6.8 (2005 through 2017), Martensitic stainless steel for fuel-channel end fittings, has been approved by the



Members of the CSA Standards Technical Committee on *CANDU Nuclear Power Plant Pressure-Retaining Systems and Components (Z953)*.

Question: If the material is reheat treated, are the test results obtained prior to the reheat treatment valid for evaluating against the Clause 6.2.1 and 6.3.1 criteria?

Answer: No

Posted Feb 22, 2023

The following interpretation regarding Section 27.8 of CSA Standard S16:19, Design of steel structures, has been approved by the Members of the CSA Standards Technical Committee on *Steel Structures for Buildings (A263)*.

Question: Can it be assumed that the usage of Type D (ductile) buckling restrained braced frame, $R_d = 4.0$, $R_o = 1.2$ — appearing in section 27.8 of CSA-S16 including all referenced clauses and recommendations therein indicated— in the analysis and design of an SFRS warrant at least a 10% or less probability of collapse for All-Importance All-Occupancy type of buildings in Canada against the 2% percent probability of exceedance earthquake hazard stated in the National Building Code of Canada? If yes, please kindly indicate technical reference that could sufficiently explain the adoption of the values R_d and R_o proposed.

Answer: Typically, R-factors in S16 have been established in collaboration with the Standing Committee of Earthquake Design. There are technical papers that specifically provide background information for the R-factors specified for some systems but not for others. In any case, Standard S16 does not include a list of reference papers or bibliography.

Posted Feb 22, 2023

The following interpretation regarding Clause 7.2.7 of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on *Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110)*.

Question 1: When using an ASME section IX welding procedure per Clause 7.2.4 or 7.2.5 that has 2 or more PQRs covering multiple thicknesses, is the maximum carbon equivalent value for the welding procedure the highest base metal PQR CE value plus 0.05?

Answer 1: Yes



The following interpretation regarding Figure 7.2, Note 5 a) of CSA Standard Z662:19, Oil and gas pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on *Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110)*.

Question 1: The standard specifies in Figure 7.2, Note 5 a) that where butt-welding items of unequal thicknesses and unequal SMYS's, the tensile strength of the deposited weld metal shall be at least equal to that of the item having the higher SMYS.

Answer 1: Agree

Question 2: Figure 7.2, Note 5 a) does not consider whether the item with the higher SMYS is the thinner or the thicker item.

Answer 2: Agree

Question 3: The standard does not specifically address butt-welding items of **equal** thickness and unequal specified minimum yield strengths.

Answer 3: Agree

Question 4: Is it the intent of Figure 7.2, Note 5 a) that when joining items of **equal** thickness, the tensile strength of the deposited weld metal be equal to that of the item having the higher SMYS?

Answer 4: No, Figure 7.2 does not address joining items of equal thickness

The following interpretation regarding Clause 15.2 b) of CSA Standard Z245.1:22, Steel pipe, has been approved by the Members of the CSA Standards Technical Committee on *Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110)*.

Question 1: Can a “:” colon or “-“ hyphen be used interchangeably at the option of the manufacturer for CSA Standard designation for the required markings and the certifications (e.g., MTRs), e.g., CSA Z245.1:22 or Z245.1-22?

Answer 1: Yes

Question 2: Can a “:” colon or “-“ hyphen be used interchangeably at the option of the manufacturer for other CSA Standard designations for additional markings and the certifications (e.g., MTRs), where specified in the purchase order, e.g., CSA Z662:19 or Z662-19?

Answer 2: Yes



The following interpretation regarding Clause 5.3.3 of CSA Standard CSA Z245.30:22, Field-applied external coatings for steel pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on *Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110)*.

Question: Does a change in the materials expiration date, require the applicators to be recertified under the new MQAP version?

Answer: No

The following interpretation regarding Clause 7.5.4.2 of CSA Standard CSA Z245.30:22, Field-applied external coatings for steel pipeline systems, has been approved by the Members of the CSA Standards Technical Committee on *Petroleum and Natural Gas Industry Pipeline Systems and Materials (K110)*.

Question: May a read-out from a calibrated voltmeter, integrated into the holiday detector to be verified, be used to meet the requirements of "verified and tested against a voltmeter..." as required by Clause 7.5.4.2?

Answer: No