



**Summary of Substantive Changes
between
the 2014 and 2016 editions of
ANSI LC 1 • CSA 6.26, “Fuel gas piping systems using corrugated
stainless steel tubing”**

Presented to the IAPMO Standards Review Committee on November 7, 2016

General: The changes to this standard might have an impact on currently listed products. The substantive changes are:

- Removed text specifying system pressure requirements for inclusion of a gas pressure regulator (see Section 4.3)
- Changed the requirement for compliance of manually operated gas valves from specifying individual standards to general statement for compliance with a nationally recognized standard (see Section 4.4)
- Removed the reference to non-metallic coating material to expand the requirements for flame spread and smoke density reporting to include allocating materials; removed the requirement to include information on acceptable regulator make and model number; and, added a limitation for CSST routing directly into metallic appliances and a new requirement to include instructions for the removal of arc-resistant covering (see Section 4.7)
- Added an additional requirement to mark tubing with the standard designation and edition standard (see Section 4.8)
- Clarified the need for CSST with an arc resistant jacket covering system intended for use in place of the direct bonding in Annex B to comply with the installation requirements in Section 4.7 (see Section 5.16.1)
- Clarified and updated the guidelines for the direct bonding of CSST gas piping systems (see Annex B)

Section 4.3, Gas pressure regulators: Removed text specifying system pressure requirements for inclusion of a gas pressure regulator as follows:

4.3

~~*A piping system for use at gas pressures exceeding 0.5 psi (3.45 kPa), but intended to serve equipment rated for 0.5 psi (3.45 kPa) maximum, shall include a gas pressure regulator to limit the downstream supply pressure to 0.5 psi (3.45 kPa), and the installation instructions for the piping system shall specify that such a regulator shall be installed (see Clause 4.7 m). Gas pressure regulators supplied by the manufacturer for use with CSST systems shall comply with a nationally recognized standard for pressure regulators.*~~

~~*For system pressures up to 5 psi (34.5 kPa), the regulator shall either incorporate construction which will “lock up” under no-flow conditions to prevent downstream pressure in excess of 5 psi (34.5 kPa) or the regulator must be installed with an overpressure protection device.*~~



Section 4.4, Manually operated gas valves: Changed the requirement for compliance of manually operated gas valves from specifying individual standards to general statement for compliance with a nationally recognized standard as follows:

~~A manually operated gas valve supplied as part of a gas piping system shall comply with the Standard for Manually Operated Metallic Gas Valves for Use in Gas Piping Systems Up to 125 psig, ANSI/ASME B16.33, or with IAS U.S. Requirements for Manually Operated Gas Valve for Use in House Piping Systems, No. 3-88, or with Canadian standards for Lever Operated Non-Lubricated Gas Shut-Off Valves, CGA 3.16, Lever Operated Pressure-Lubricated Plug-Type Gas Shut-Off Valves, CGA 3.11, or Manually Operated Gas Valves for Use on Gas Piping, CGA CR91-002; and shall have a pressure rating of not less than 5 psi (34.5 kPa), or shall comply with the standard for Manually Operated Gas Valves for Appliances, Appliance Connector Valves and Hose-End Valves, Z21.15 • CGA 9.1, for pressures less than 0.5 psi (3.45 kPa). Valves complying with IAS U. S. Requirement 3-88 or CGA CR91-02, and not complying with ASME B16.33 or CGA 3.11, shall be limited to indoor installations.~~

Manually operated gas valves supplied by the manufacturer for use with CSST systems shall comply with a nationally recognized standard.

Section 4.7, Instructions: Removed the reference to non-metallic coating material to expand the requirements for flame spread and smoke density reporting to include allocating materials; removed the requirement to include information on acceptable regulator make and model number; and, added a limitation for CSST routing directly into metallic appliances and a new requirement to include instructions for the removal of arc-resistant covering as follows:

Included in the instructions shall be statements to the effect that:

a) A warning to the installer that...

k) Flame spread and smoke density ratings for ~~non-metallic~~ coating materials as determined by the Test Method for Surface Burning Characteristics of Building Materials, ASTM E84, test procedures (see listed in Clause 4.1.7). For a flame spread ratings greater than 25 for flame spread and/or a smoke density rating greater than 50 for smoke density, the instructions shall include a statement that the installer shall meet local building codes with respect to flame spread and smoke density regulations ~~for non-metallic materials~~.

m) The instructions shall include information on acceptable regulators, including ~~regulator make, model number,~~ size required and any special installation requirements. The regulator(s) specified shall be listed by a nationally recognized testing agency as complying with Clause 4.3, Gas pressure regulators, of this Standard.

q) CSST shall not be directly routed into a metallic gas appliance enclosure utilizing a metallic vent that penetrates a roofline. The CSST connection shall be made outside of the metallic gas appliance enclosure to a section of rigid metallic pipe, stub-out, or termination fittings.

r) For CSST with an arc-resistant jacket or covering system, the manufacturer shall provide instructions stating the maximum permissible amount of jacket removal. For excessive jacket removal or mechanical damage to the jacket, the manufacturer shall provide instructions for the repair or replacement.



Section 4.8, Marking: Added additional requirement to mark tubing with the standard designation and edition as follows:

4.8.2

Tubing shall bear a permanent marking of the following:

a) rated pressure of 5 lb/in² or 25 lb/in² (34.5 kPa or 172.5 kPa);

b) the Equivalent Hydraulic Diameter (EHD) (see Clause 5.10.3);

c) the words "FUEL GAS"; and

d) identification with the following marking:

"ANSI LC 1 • CSA 6.26(-year)".

Section 5.16.1, General: Clarified the need for CSST with an arc resistant jacket covering system intended for use in place of the direct bonding in Annex B to comply with the installation requirements in Section 4.7 as follows:

5.16.1.2

Tubing which has an arc resistant jacket or covering system (henceforth referred to as the "jacket") as ~~an~~ a manufacturer's alternate to the direct-bonding means method (as described in Annex B, Instructions for the direct (electrical) bonding of CSST piping systems) shall comply with the following tests and with ~~Part I: Construction section 1.8 Clause 4.7,~~ Instructions, including compliance with local or model codes including the Canadian Electrical Code, Part I, C22.1, or the National Electrical Code, NFPA 70, where applicable.

Annex B, Instructions for the direct (electrical) bonding of CSST piping systems: Clarified and updated the guidelines for the direct bonding of CSST gas piping systems.