

## INFORMATION BULLETIN

### Code Requirements for Propane Fuel Tanks

An information bulletin was jointly developed by Alberta Municipal Affairs and Housing's Safety Services Branch and ABSA in 2007. The purpose of this bulletin is to ensure the propane industry, including vendors, conversion/inspection stations and owners of propane-fuelled vehicles, are aware of the requirements within the CSA-B149.5-20 and CSA-B51-19 codes for propane fuel tanks.

This information bulletin is to be used in conjunction with the "NOTICE for Code Requirements for Propane Fuel Tanks" in February 2021 by Municipal Affairs, Corporate and Technical Support Division.

The purpose of this bulletin is to ensure the propane industry, including vendors, conversion/inspection stations and owners of propane-fuelled vehicles, are aware of the requirements within the CSA-B149.05:20 and CSA-B51:19 Codes for propane fuel tanks.

### **CAN/CSA-B149.5:20**

The CAN/CSA-B149.5:20 is the Installation Code for Propane Fuel Systems and Containers on Motor Vehicles. This Code applies to

- a) the installation, servicing and repair of propane fuel system components and containers on motor vehicles for the provision of motive power; and
- b) the installation of containers on motor vehicles such as recreational vehicles, outdoor food services units, and wash-mobiles when propane is to be used for fuel purposes (other than motive power).

The Code requires that fuel tanks comply with the CSA-B51:19 Code.

- Propane conversion/inspection stations are reminded that when installing or inspecting tanks, it is their responsibility to ensure compliance to the CSA-B149.5:20 Code with careful attention to the followings:

5.4.9 Tank mounting brackets, complete with a resilient material to be installed between the supports or clamping bands and the container so that there is no direct metal-to-metal contact, shall be provided by the tank manufacturer.

5.4.10 Tanks shall be installed on a vehicle with the brackets supplied by the tank manufacturer and in accordance with the manufacturer's installation instructions. Welding shall not be used as a means of attaching a tank bracket to a vehicle.

## CSA-B51:19

The CSA-B51:19 is the Boiler, Pressure Vessel, and Pressure Piping Code. This Code, including Annex G, applies to the design and construction of automotive propane vessels. Annex G is a mandatory part of the Code providing specific requirements for automotive propane tanks.

- Annex G requirements include:
  - a) Corrosion allowance, such as the minimum corrosion allowance required for vessels mounted outside of the interior of a vehicle .The difference in wall thickness between the two cases shall be considered a corrosion allowance;
  - b) Vessel openings, except for fittings specifically required by CSA B149.5:20 to have an internal excess flow valve, valves, gauges, and other fittings with openings greater than the diameter of a #54 drill shall be protected from shearing off and releasing the contents of the vessel;
  - c) Manifold vessels, such as the crush test requirements for manifold tanks;
  - d) Brackets, such as those attached to all vessels shall be designed for the loads specified in CSA B149.5:20;
  - e) Valve guards, such as the design of the valve guards to withstand a direct impact load for bed-mounted, chassis-mounted and under-mounted tanks;
  - f) Vessel appurtenances shall be made of corrosion-resistant materials compatible with the vessel; and
  - g) Nameplates, such as the mounting requirements for nameplates.

Note: Text from Annex G (a), (b) and (f) above is included in CSA B149.5:20 and is intended to be removed from the next edition of CSA B51Code

- If the manufacturer's nameplate does not specify that the tank complies with Annex G (e.g., with 'B51 ANX G' or 'B51 ANX G/CT' stamped on nameplate) it is the responsibility of the conversion/inspection station to obtain documentation from the vendor or the tank manufacturer verifying total compliance to the CSA B51Code, including Annex G.

- New or reconditioned propane tanks that are externally mounted on any motor vehicles and converted after April 1, 2006, must be in compliance with the requirements specified in Annex G. This includes any tank that has been in service and is being reinstalled, or installed on another motor vehicle.
- When a tank is removed from an existing propane vehicle and the tank does not comply with Annex G, it shall be scrapped. The liquid contents of all scrapped tanks must be removed by flaring or transferring the propane to another container. Once the propane is removed from a tank being scrapped, all valves, gauges, and fittings should be removed, and the manufacturer's nameplate must be removed or destroyed.

As authorized by the Government of Alberta, ABSA is responsible for the administration and delivery of safety programs related to boilers, pressure vessels and pressure piping systems in the province of Alberta. The requirements of CSA B51 Annex G were adopted by regulation under the Safety Codes Act on April 1, 2006. However, the Crush Test requirement for manifold tanks was introduced under CSA B51-97 Appendix (I) and has been in effect since January 1, 1998.

If you would like more information related to these codes, please contact gas discipline of Alberta Municipal Affairs by calling (780) 644-1010 or toll free 1 (866) 421-6920. You can also call ABSA at (780) 437-9100.

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