

To All OIRCA Members:

Supporting Rooftop Gas Piping

Roofing contractors regularly confront rooftop gas-line piping on re-roofing projects; not so much on new construction as they are generally installed after the roofer has left the site. While often considered a nuisance, they must be treated with respect when working around them.

During a re-roofing project any changes made to gas piping whether they are being disconnected or reconnected, removed and replaced or in any way changed from their original position, that work must be completed by a licenced pipe fitter.

Working around gas piping requires specific cautions especially during roof replacement operations:

- Gas lines should be inspected before work begins
- If gas lines appear to be in poor condition have them checked for leaks
- When gas lines interfere with roofing work have them disconnected
- Be careful when installing ramps over gas lines. Most roofing operations require hot work and if a gas line leaks or breaks there could be an explosion
- Do not use open flame torches around gas pipes
- Never allow smoking near gas pipes
- Make sure gas pipes are (temporarily) supported properly

The design and installation of rooftop gas piping is legislated in the ***Natural Gas and Propane Installation Code (CSA B149.1-15)*** which is enforced by the Technical Standards and Safety Authority (TSSA). Included in that document are the specifications for supporting gas piping.

The code states that *“piping may be supported with treated wood blocks or material having at least equivalent characteristics as wood blocks and protection against outdoor exposure”*. Support spacing for piping NPS (nominal pipe size) 1 and greater shall comply with the table below and support shall also be provided for every threaded fitting. Piping less than NPS 1 shall be supported every 4 feet (1.2 m)*.

Where gas pipe supports, wood blocking or prefabricated plastic, sit directly on the roofing membrane, it is customary to install some sort of cushion over the membrane and under the support. Wood blocking in particular may have sharp corners or splinters that can damage the membrane. A layer of extruded polystyrene insulation, a membrane protection layer/slip sheet made of the same material as the roofing membrane or a specialized protection mat or roof walkway pad are options to consider. When in doubt consult the membrane manufacturer for their recommendations.

The code also states that *“piping shall be mounted, braced, and supported to provide for expansion, contraction, jarring, vibration, and settling, and shall be protected against either damage or breakage due to strain, wear, and mechanical impact”*. Annex G in the code addresses piping expansion and flexibility for gas piping to rooftop units and provides specifications for thermal expansion control. It also states *“Suitable pipe supports are commercially available to permit the free movement of piping when it expands and contracts”*.

The roofing contractor is not responsible for any aspect of gas pipe design. Concerns in this regard should be directed to the project’s engineer or mechanical contractor.

Spacing of Supports for Piping

NPS	Maximum spacing of supports ft (m)
½ or less – horizontal*	6 (2)
¾ - 1 – horizontal*	8 (2.5)
1 ¼ - 2 ½ - horizontal	10 (3)
3 – 4	15 (5)
5 -8	20 (6)
10 or larger – horizontal	25 (8)

*** TSSA has informed the OIRCA that the more stringent spacing of 4 feet will be enforced.**

When working on re-roofing projects where gas piping is present make sure that your Job Safety Analysis (JSA) identifies the hazards associated with natural gas. Be sure to address how you plan to eliminate this type of hazard or significantly reduce the risk of injury.

Share the JSA with your workers and have an Emergency Response Plan in place. Consider delivering a Tool Box Talk to your crew before starting the work.

The roofing contractor is responsible to provide proper support to existing gas piping on a re-roofing job. Be sure to follow the requirements of CSA B149.1-15 or consult with the project’s design authority.
