



COUNCIL ORDER No. 0015463

BEFORE THE PLUMBING SUB- COUNCIL

On May 12, 2016

IN THE MATTER OF the *Safety Codes Act*, Revised Statutes of Alberta 2000, Chapter S-1.

AND IN THE MATTER OF the Order dated February 22, 2016 issued by an Accredited Municipality (Respondent) against a Plumbing and Heating company (Appellant).

UPON REVIEWING the Order **AND UPON HEARING** the Appellant and the Respondent; **THIS COUNCIL ORDERS THAT** the Order is **VARIED**.

FROM:

You are hereby ordered to remove and replace the “Shark Bite Fitting” installed underground at a residential location with a fitting that is approved as per Sentence 2.3.3.12.(1)(2) of Division B in The National Plumbing Code of Canada 2010 Prior to March 31, 2016.

TO:

You are hereby ordered to remove and replace the “Push Fit/Shark Bite Fitting” installed underground at a residential location with a fitting that is approved as per Sentence 2.3.3.12.(1)(2) of Division B in The National Plumbing Code of Canada 2010 Prior to July 7, 2016.

Issue:

1. The Appeal concerns the installation of a fitting installed underground at a residential location within a municipality.

Appearances and Preliminary, Evidentiary or Procedural Matters:

2. Appearing for the Appellant, the Appeal Panel heard from the President and CEO of the Plumbing & Heating Company.
3. Appearing for the Respondent, the Appeal Panel heard from a Plumbing SCO, Inspection

Services Manager, and a Senior SCO, for the accredited municipality.

4. At the commencement of the hearing, the Appellant and Respondent confirmed there were no objections to any members of the hearing panel, and that the Safety Codes Council (Council) in general and the Appeal Panel in particular had jurisdiction to hear and decide the appeal.
5. The Chair then explained the process to be followed in hearing this appeal, and read out a list of the written material before the panel, consisting of the documents listed below in The Record, paragraph 6 as items a) to h). The Appellant and Respondent confirmed that there were no objections to any of the written material submitted to the Appeal Panel prior to the hearing.

The Record:

6. The Appeal Panel considered, or had available for reference, the following documentation:
 - a) Request for Stay of Order (page 1)
 - b) Notice of Appeal (pages 2 to 7)
 - c) Acknowledgement Letter Dated March 16,2016 (page 8)
 - d) Stay of Order Letter Dated March 21, 2016 (page 9)
 - e) Appeal Hearing Brief Preparation Guide (page 10)
 - f) Written Notice of Appeal Dated April 6, 2016 (pages 11 to 12)
 - g) Brief of the Appellant (page 25 to 26)
 - h) Brief of the Respondent (page 150 to 205)
 - i) Exhibit 1, Appellant (page 1 to 21)

Provisions of the Safety Codes Act:

7. The *Safety Codes Act* (S-1, RSA 2000), as amended provides, *inter alia*:

Part 1 Responsibilities

Owners, care and control

5 The owner of any thing, process or activity to which this Act applies shall ensure that it meets the requirements of this Act, that the thing is maintained as required by the regulations and that when the process or activity is undertaken it is done in a safe manner.

Part 5 Orders, Appeals

Council considers appeal

52(2) The Council may by order

- (a) Confirm, revoke or vary an order, suspension or cancellation appealed to it and as a term of its order may issue a written variance with respect to any thing, process or activity related to the subject-matter of the order if in its opinion the variance provides approximately equivalent or greater safety performance with respect to persons and property as that provided for by this Act.

Provisions of the National Plumbing Code 2010 (NPC 2010):

8. The National Plumbing Code 2010 provides, *inter alia*:

**Division B
Part 2 Plumbing Systems**

**2.2. Materials and Equipment
2.2.7. Non-Ferrous Pipe and Fittings**

2.2.7.4. Copper Tube

- 1) Copper tube shall conform to
 - a) ASTM B 88, “Seamless Copper Water Tube,” or
 - b) ASTM B 306, “Copper Drainage Tube (DWV).”
- 2) Except as provided in Sentence (3), the use of copper tube shall conform to Table 2.2.7.4.
- 3) Copper tube shall not be used for the *fixture drain* or the portion of the *vent pipe* below the *flood level rim* of a flush-valve-operated urinal.

**Table 2.2.7.4.
Permitted Use of Copper Tube and Pipe
Forming Part of Sentence 2.2.7.4.(2)**

Type of Copper Tube or Pipe	Plumbing Purposes							
	Water Service Pipe	Water Distribution System		Building Sewer	Drainage System		Venting System	
		Under-ground	Above-ground		Under-ground	Above-ground	Under-ground	Above-ground
K & L hard temper	N	N	P	P	P	P	P	P
K & L soft temper	P	P	P	N	N	N	N	N
M hard temper	N	N	P	N	N	P	N	P
M soft temper	N	N	N	N	N	N	N	N
DWV	N	N	N	N	N	P	N	P

P = Permitted N = Not Permitted

2.3 Piping

2.3.3. Joints and Connections

2.3.3.12. Copper Joints Used Underground

- 1) Except as provided in Sentence (2), joints in copper tubes installed underground shall be made with either flared or compression fittings, or be brazed using a brazing alloy within the American Welding Society’s AWS-BCuP range.
- 2) Compression fittings shall not be used underground under a *building*.

Position of the Parties

Appellant

From the Appellant's submissions and testimony the Appellant's position may be summarized as follows:

- 9.** The Appellant submitted new written documentation identified as Exhibit 1, Appellant in the Record. The Respondent was given the opportunity to review the document and had no objection to it being entered into the Record.
- 10.** The Plumbing and Heating Company is a third generation business. They have also do some work in another province. The President and CEO for the Appellant has been a journeyman plumber since 1982 and became full owner of the company in 1989.
- 11.** The Appellant believes Sharkbite/Push Fit fittings are acceptable for use in residential applications.
- 12.** The Appeal Panel was referred to page 167 of the Respondent submission in which IAPMO Research and Testing Inc. confirms Push Fit Fittings are in compliance with the Uniform Plumbing Code (UPC), the National Plumbing Code (NPC) and the International Plumbing Code (IPC).
- 13.** Push Fit fittings are approved for use underground as acknowledged in the Respondent's submission.
- 14.** The Panel Members were referred to the e-mail (page 190 of the Record) the Appellant sent to a representative of a manufacturing company asking if he could use their "push fit fitting on type K soft or rolled copper underground", and the March 24, 2016 reply (pages 188 and 189 of the Record) advising that "push-fit fittings can be used with...copper tubing, hard drawn Type K, L and M and annealed Type M" among other materials.
- 15.** Most underground supply water distribution systems are type K or L.
- 16.** Referring to Appellant Exhibit 1, the President and CEO walked the Appeal Panel through the 21 page submission confirming the underground piping installed by the Municipality in approximately 1953 was most likely ¾" type K copper. The documents also identify details of the job, including proposed installation, material and pricing and the final invoice. Also included in the documents submitted are a photograph of the installation, a sketch of the location of the tie-in, and photographs of the in-shop shelving including the push fit bin.
- 17.** Beginning on page 15 of Appellant Exhibit 1, is information downloaded from the web regarding Copper Tube & Fittings. The Panel Members were referred specifically to page 16 stating, "compression fittings have become the most popular choice for underground copper water services in recent years, because of their high strength and ease of installation."

18. The permit and work order also form part of the documentation.
19. The Appeal Panel was referred to photographs on pages 20 and 21 showing the amount of rebar and concrete above the installation.
20. Finally, the documentation contains a statement from the homeowner, confirming his satisfaction with the work done.
21. Water piping has advanced greatly over the years and the ¾” push fit tee should be approved as installed.

Respondent

From the Respondent's submissions and testimony, the Respondent's position may be summarized as follows:

22. The Respondent referred the Appeal Panel to pages 150 through 158 of their written submission, containing the Permit Application and Inspections.
23. The Appeal Panel was then referred to pages 160 through 162 of the written submission, setting out the relevant code provisions in the 2010 National Plumbing Code (NPC).
24. The Respondent acknowledged that while Sharkbite/Push Fit fittings are approved to be used underground and behind walls without access panels, information from the Sharkbite website (page 183 and 184) confirms Sharkbite fittings “can only be used with hard drawn Copper, Types K, L, and M.”
25. The Appeal Panel was referred to the 2010 NPC, Table 2.2.7.4 (page 161 of the Respondent submission) confirming neither Types K, L or M hard temper copper tube or pipe are permitted for use in underground water distribution systems. Only Types K and L soft temper copper tube or pipe are permitted in underground water distribution systems.
26. The Appeal Panel was asked to note the e-mail communication between the Appellant and Respondent beginning August 26, 2015 (pages 162 through 181), detailing the use of Sharkbite/Push Fit fittings underground.
27. The Respondent pointed out in early communication the Appellant referred to a Sharkbite fitting and only later said it was a Push Fit fitting. Neither Sharkbite nor Push Fit fittings are approved for use with soft or rolled copper.
28. While acknowledging the photo included with Exhibit 1 – Appellant, the project was backfilled prior to the safety codes officer having the opportunity to inspect the installation.
29. In response to a question from the Appeal Panel, the Respondent confirmed their understanding that Sharkbite is simply a brand name of a Push Fit type fitting.

30. The Respondent summarized their presentation by acknowledging that while they recognize that Sharkbite/Push Fit fittings can be used underground and behind walls without an access panel, they can only be used with hard drawn copper, and according to the NPC, only soft temper copper is permitted for use underground.

Reasons for Decision (Findings of Fact and Law):

The Appeal Panel makes the following findings:

31. The issue before the Appeal Panel is an underground installation in part of a bathroom addition to an existing house.
32. As part of this addition the Appellant installed a Sharkbite or Push Fit tee fitting to provide water service to the bathroom.
33. Evidence submitted to the Appeal Panel confirms this type of fitting is approved for use underground and behind walls without access panels.
34. Evidence submitted to the Appeal Panel also confirms this type of fitting may only be used with hard drawn copper, types K, L and M. Such fittings may not be used with soft or rolled copper.
35. Evidence found on page 178 of the Respondent submission confirms that while Push Fit Fittings may be used underground, they must “be installed in accordance with the manufacturer’s instructions...and the National Plumbing Code of Canada.”
36. The National Plumbing Code does not permit the use of hard temper copper underground as part of a water distribution system. Only K and L soft temper copper tube or pipe is permitted for use as part of an underground water distribution system.
37. Therefore, the use of a Sharkbite or Push Fit fitting as part of the installation in question is not permitted and must be removed and replaced with a fitting that is approved as per sentence 2.3.3.12 (1) (2) of Division B of the 2010 NPC.

Dated at Edmonton, Alberta this 26 day of May 2016

Chair, Plumbing Sub-Council Appeal Panel