



Building Services –Policy	
Subject: In-Floor Heating Systems	Policy No. BS19-003
Effective Date: December 5, 2019	Replaces: None
Approved by: Jacob Forget	Type of Policy: Internal & External

Scope

This document outlines the requirements when applying for a Building Permit, as well as the associated review, inspection and approval protocols for all new installation of hydronic heating systems.

Application:

The requirements below apply to all system that are designed as the primary heat source in a building.

Design Requirement

1. A professional engineer licensed to practice in the province of Ontario, or
2. An individual who holds one of the following qualifications:
 - a. HVAC House (part 9 only); or
 - b. Building Services; or
 - c. HRAI certified
3. Design and installation shall be in accordance with CAN/CSA-B214 or as per 6.2.1.1 for the appropriate circumstance

Submission Requirements

The plans and specifications submitted should include the following information:

1. The schematic arrangement of the system and the equipment specifications including, but not limited to, boilers, pumps, expansion tanks, zone controls, mixing valves and other system components.
2. Piping specifications, spacing, sizes, maximum loop lengths, and support details.
3. Floor plans showing a general layout of the piping loops required for each room or space and the location of the main headers, if applicable. (this can be provided by the contractor with a reference note on architectural plans)
4. Cross- sections through typical floor assemblies to show piping loop locations and the type of insulation to be provided.
5. Schedule 1 designer information



Inspection Requirements

1. Inspection must be requested and approved before covering
2. An Air/Pressure test will be required at the time of inspection on all in-floor systems. As per section 4.5.1 of the standard, the pressure test shall be tested with 420 kPa (60 psi) or 1.5 times the operating pressure for at least 1 hour.
3. All radiant under-floor systems shall have insulation installed on the underside of the tubing.
4. Each zone or radiant loop must have a method of system balancing
5. The inspector may at his discretion, request a conformity letter from the qualified installer.

Note: If a hydronic heating system is being installed as a secondary heat source and an inspection is requested, an inspection is to be conducted to verify that the pressure test is holding.

Changes in Heating Source after Permit Issuance:

In the event that the owner/contractor has decided to use in-floor heating in lieu of a forced air heating system without seeking our approval, the system may be approved as it was installed provided that a letter completed by a qualified individual is submitted to the Inspector which it confirms that the design and installation was completed in accordance with the CAN/CSA-B214 standard. An air test should be conducted regardless. Take note that an HRV is mandatory and must be balanced.