

DON'T DRAIN IT, FREEZE IT

A new B.C. company is banking pipe freezing will be a big hit. Usually frozen pipes are associated with leaks and water damage, but pipe freezing is also a specialized procedure carried out to achieve repairs to pipe systems. An isolated section of pipe is frozen, using a refrigerant, and a freeze plug is created within the pipe so that work can be carried out downstream. Typically the work is carried out and the system is back up and running within a couple of hours.

Matt Farrell, owner of Nitro Pipe Freeze says, "Currently pipe systems are often being drained before maintenance and alterations can be carried out. By freezing the pipe to create an ice plug, a system can be worked on and then the plug can be defrosted and the water turned back on. By avoiding draining the building, shutdowns can be eliminated or, at the very least, down times can be greatly reduced. In a lot of cases systems can be left running where individual suites or branch lines can be isolated."

This means disruption to building occupants can be minimized and time and money can be saved. The process is environmentally friendly too.

By negating the need to drain systems, large quantities of water and toxic chemicals do not need to be poured into the sewer system. Traditionally in B.C. plumbers have been carrying out pipe freezing on smaller size pipes with refrigerant machines and pipe freezing kits. The method used by Nitro Pipe Freeze makes it possible to isolate much larger pipes including glycol and other chemicals making it ideal for high-rises, shopping malls and commercial properties.

This system is industry proven and has been used in Europe and around the world for more than 30 years. Utilizing liquid nitrogen, a small section of pipe is frozen to form a de-facto shut off valve. The ice is stress free, and with no outward expansion, there is no pressure on the pipe. This means that even plastic pipes can be isolated in this way.

Many older buildings do not have shut off valves to individual suites or they are

corroded. Nitro can freeze pipes from ½ inch diameter up to 10 inch.

When the work is completed, the ice is defrosted and the pipe returns to its original state. Once formed, the ice plug can withstand pressures in excess of the pressure rating of the pipe itself. This means that work can be carried out with confidence, no matter how much pressure is in the system.

Nitro has been busy establishing themselves with B.C.'s plumbing, HVAC and sprinkler contractors. Some recent jobs include:

- Multiple freezes at Vancouver Community College to replace sections of corroded pipe.
- Freezing ½ inch steel lines at the Fairmont, YVR in order to fit new ball



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valves to the a/c units in several rooms without disrupting the hotel guests.

- Isolating RPBA on a fire sprinkler system for Burnaby School Board-mains water and glycol.
- Freezing 10 inch steel pipe at the Richmond Olympic Oval so that new valves could be welded in place without having to drain the system and melt the NHL hockey rinks.
- Freezing base board heating pipes, in a strata building, so that new valves could be installed without a shut-down.
- Various pipe freezing at Vancouver area malls including: Pacific Centre, Oakridge, Metrotown and Richmond Malls.
- Isolating the air conditioning, at Science World, Vancouver, so the system could be left running while upgrades could be performed on the piping.
- Freezing ½ inch copper, in a high-rise condo, so a new diverter can be installed in the bathroom without turning the water to the building off.
- Isolating corroded hot water pipes at Terminal City Club strata, Vancouver.
- Isolating a leaking 3 inch chilled water pipe at Vancouver Convention Centre.

“Every day brings something new,” says Farrell. “We have been asked to freeze everything from ski-jumps at Cypress Mountain for VANOC during the Games, to dog semen for a veterinary clinic! At the moment, we are just focusing on pipes.” ❖