

DOUBLE CONTAINMENT

WHERE DO I START?



Why do we need Double Containment?
It's the law.

Canadian Environmental Protection Act, 1999 (CEPA)

In 2008, under CEPA, regulations concerning storage tank systems for petroleum-based products were introduced, requiring any associated underground piping transporting these products to be double contained if the storage tank meets the criteria outlined in the regulations.

- **SOR/2008-197** – Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations

National Fire Code of Canada (NFC)

The NFC states that all underground piping systems used for the transportation of flammable and combustible liquids must be double contained for buildings and facilities that fall under the jurisdiction of the code.

- **National Fire Code of Canada 2020, Section 4.5. Piping and Transfer Systems – 4.5.6.1. Construction**

Leak Detection

In addition to double contained underground piping, monitoring of the interstitial space (i.e. the space between the inner and outer pipe) is also required under these federal regulations/codes.

- **National Fire Code of Canada 2020, Table 4.4.1.2.-C – Leak Detection Testing and Monitoring of Underground Piping Systems**

Best Practice

Double containment piping systems provide safe transport of fluid in critical areas. Should a leak occur, People, Equipment, and Valuable Property will be protected from possible harm or damage. • Risk/Insurance • Personnel Safety • Environment

Where do we **NEED** Double Containment?

Federally Mandated Applications

- Chemical Plants • Laboratories
- Fuel Systems for Emergency Generators

- Healthcare/Hospital Use • Laboratories
- Public areas (Museums, Libraries, Theaters, and Restaurants)

Best Practice Applications

- High-Tech & Data Storage Environments (Network & Server Rooms etc.)
- Historical Sites • Residential Buildings • and more...

How do we **DESIGN** Double Containment?

1 Material Selection

- Chemical Compatibility
- Pressure
- Temperature



2 Thermal Expansion and Contraction

3 System Layout

Accommodate for size of components



How do we **MONITOR** Double Containment?

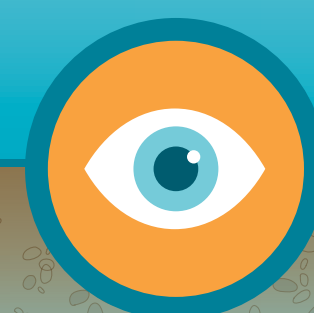
Is my system **ABOVE**

OR

BELOW ground?

ABOVE GROUND APPLICATION: Best Practice

- Visual leak detection • Electronic leak detection



BELOW GROUND APPLICATION*: Federally Mandated

- Visual leak detection • Electronic leak detection



I'm ready to specify
Double Containment!

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