

### Bonding, stability, and mechanical performance

In the absence of cold joints or construction joints, the typical weak points of shotcrete can be fully avoided.

### Targeted vertical drainage

Water pressure is relieved before it contacts the wall by directing it into 600 mm wide flow channels.

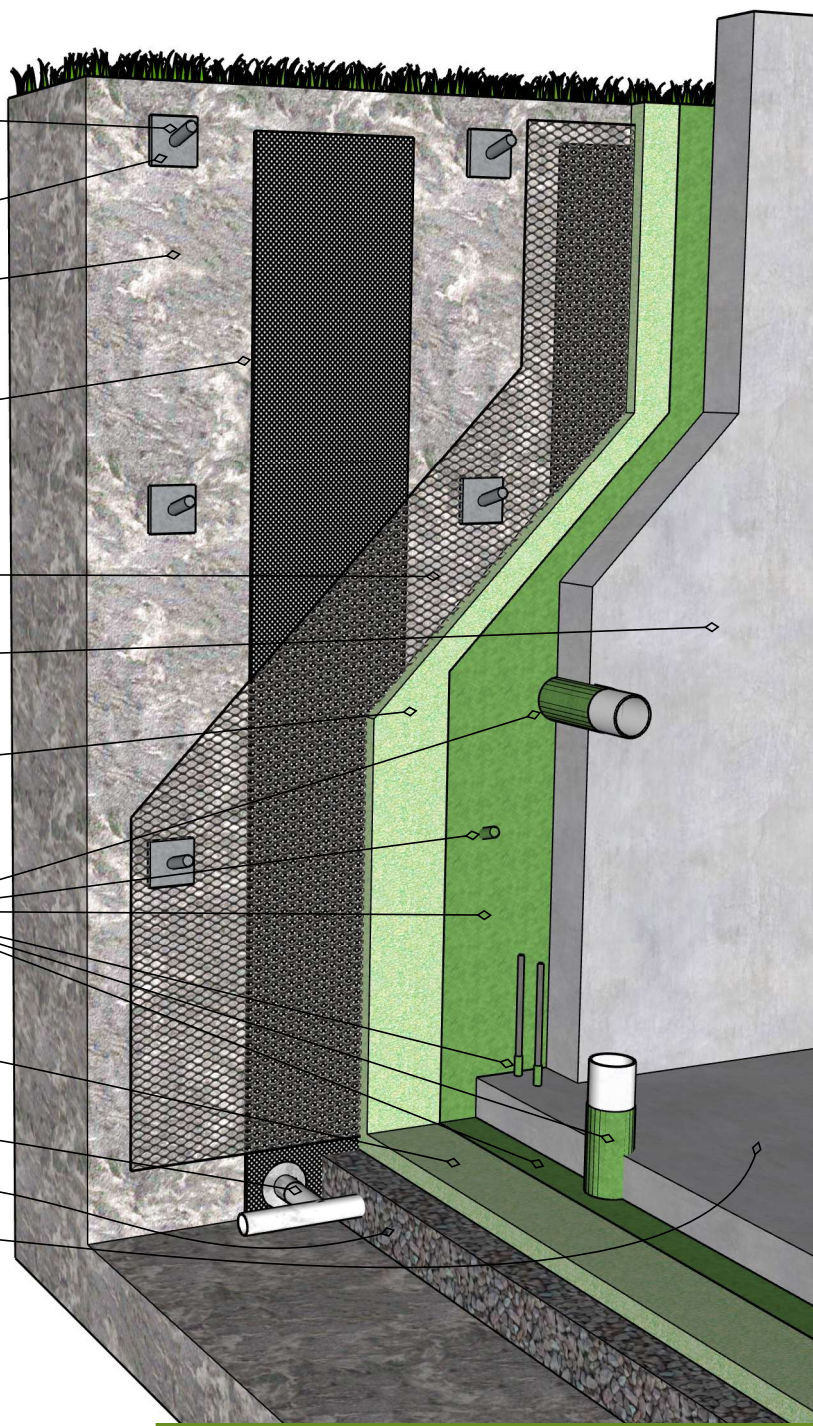
### Durability & maintenance

Inert to chlorides, sulfates, block radon.  
The structure is protected against corrosion and chemical attacks.

- Rock anchor 75 mm maximum from limit line of excavation to tip of anchor assembly  
The mesh must be cut around the steel plates
- Bearing plate assembly  
Typical anchor head spaced @ 1200 mm o.c.
- Rock substrate
- 600 mm wide panel of single side geocomposite sheet drain @ 1200 mm o.c. behind polyurethane (between rock support), applied to full face height lapped and connected for continuous vertical drainage to bottom outlet
- 6 mm galvanized steel wire mesh fixed on the rock  
Mechanically fixed 300 - 600 mm o.c. to maximize adhesion of the polyurethane foam
- concrete wall
- 75 mm (avg.) polyurethane foam **BOREAL NATURE ELITE** sprayed through the grid (insulation + vapour barrier + radon barrier + improves adhesion to substrate)
- 80 - 120 mils polyurea membrane **DURAFLEX F46** sprayed onto the polyurethane foam (waterproofing + seal around penetrations)
- 50 mm polyurethane foam **BOREAL NATURE ELITE** (insulation + vapour barrier + radon barrier + improves adhesion to substrate)
- Drainage pipe fixed to the drainage membrane
- Underslab gravel backfill (drainage and leveling)
- Concrete slab

### NOTE

- The thickness of the polyurethane foam may vary depending on the building's intended function or usage requirements
- Refer to the manufacturer's guideline for the installation of the drainage membrane.



+ please ensure compliance with local authority regulations concerning the R-values & the vapour barrier of the assemblies

### LEGEND

**PIERRE-LUC ST-LOUIS - Building Science Technician**

 **BOREAL NATURE ELITE**

 **DURAFLEX F46**

DATE

REV #

July 4<sup>th</sup>, 2025

REV-0

 **PROUDLY CANADIAN.**