Energy Efficiency Case Study Locke Apartments

Thermal Imaging Comparison



These 3-storey Multi-Unit Residential Buildings (MURB) located in Cornwall, Ontario, are exactly the same with the exception of the building materials used in the construction. Legalett's part in this project was in the construction of Building 4 providing our GEO-Passive Frost-Protected Shallow Foundation Slab, ThermaSill PH Threshold Solution and ThermalWall PH External High Performance Wall Insulation.

Below summarizes the differences in construction between the buildings. View the Thermal Imaging Comparison photos on the next page.

Building 1 - Older Construction (~1998)

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High-Performance Building Envelope Solutions

- Poured Concrete Wall
- 1-1/2" under slab insulation
- 2 x 6 framing, 1/2" OSB with 6" fiberglass and 6mil poly
- Asphalt felt
- Masonry

Buildings 2 & 3 - Recent Construction (2003)

- ICF frost walls with Taper Top
- 1-1/2" underslab insulation
- 2 x 6 framing, ¹/₂" OSB with 6" fiberglass and 6mil poly
- House wrap
- Masonry

Building 4 - New Construction (2020)

- Legalett "GEO Passive Slab"
- 10" under slab insulation
- 10" vertical insulation at edge of slab including Legalett brick "Konsols"
- Legalett "ThermaSill PH" at doorways

- 2 x 6 framing, 1/2" OSB with 2" closed cell spray foam and 2" open cell spray foam.
- House Wrap
- 6" "ThermalWall PH" from Legalett
- Masonry

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Thermal Imaging Comparison - Locke Apartments Front Entrance Thermal Images

Building 1 - Older Construction





Building 2 & 3 - Recent Construction





Exposed concrete edge of slab has a large Red heat signature.

Parging and EPS over time has worn off* the face of the ICF at grade exposing the concrete in many areas between the ICF webs.

*This may be due to the use of weed whackers or shovels during snow removal.

Building 4 - New Construction Showing Legalett ThermaSill PH





ThermaSill PH Threshold Solution under the doorways has a barely visible blue heat signature.





Note: The time stamp on these images is not correct. The time the photos were taken was PM not AM.

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