VAPOR OPEN WALL SYSTEMS | A MATERIAL SUPPLIER'S PERSPECTIVE

NICK STONE • rk MILES

Efficiency Vermont - Better Buildings by Design - February 7, 2019

BACKGROUND

- Worked at, and owned insulation companies – 2011-2017
- BPI (Building Performance Institute) certified – 2012-2015
- Work with Efficiency Vermont to promote wall system products and types – 2017-present
- Work at rk Miles as a product specialist – 2013-present
- Constantly spending time with customers in the field working through wall design details

Product Availability and Support

The Four Key Elements
To Remember When Choosing a Wall System

How Costs of Material
Affect our Choices of Wall Design

A World of Information

Blueskin® VP100

VYCOR® enV-S™

A World of Information

A World of Information

A World of Information

A World of Information

A World of Information

A World of Information

THE INDEPENDENT LUMBERYARD

THE INDEPENDENT LUMBERYARD

PRODUCT AVAILABILITY

+

DISTRIBUTION

KNOWLEDGE

+

SUPPORT

Vapor Open Wall Systems

I. Typical 2x6 wall, mechanically-fastened WRB (Tyvek®), no airspace

II. V.O.A.T Wall

III. 3D WRB (HydroGap®) with polyiso foam on the exterior

IV. ZIP System® with ThermalBuck™ and ROCKWOOL™

V. Mechanically fastened WRB (Tyvek®) with strapping for airspace

Four Key Elements

I. Energy Efficiency

II. Install Complexity

III. When

IV. Moisture Management

I. Typical 2x6 Wall

Energy Efficiency

Is able to meet minimal energy code. Takes on thermal bridging through studs.

Install Complexity

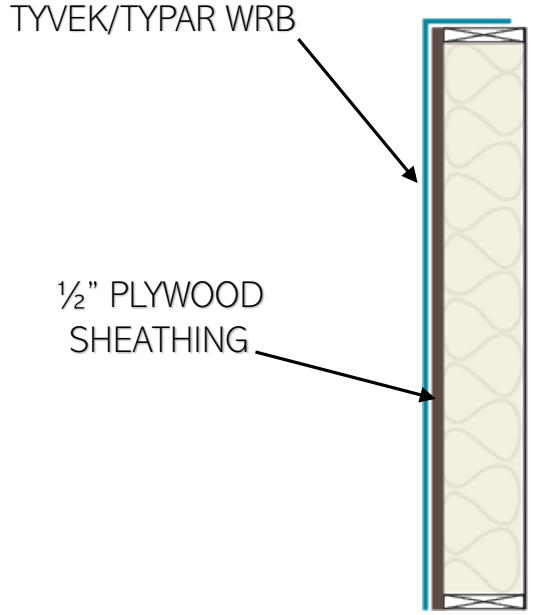
- Simple, straightforward install.
- Only two times around the house. Plywood, then WRB.

When

Used from new construction, to additions, to retrofit applications.

Moisture Management

System has a harder time releasing moisture to the exterior with the siding pressed up against it.



II. V.O.A.T. Wall

Energy Efficiency

Exceeds the energy code. Continuous insulation helps cancel the thermal bridging through the studs. Airtight.

Install Complexity

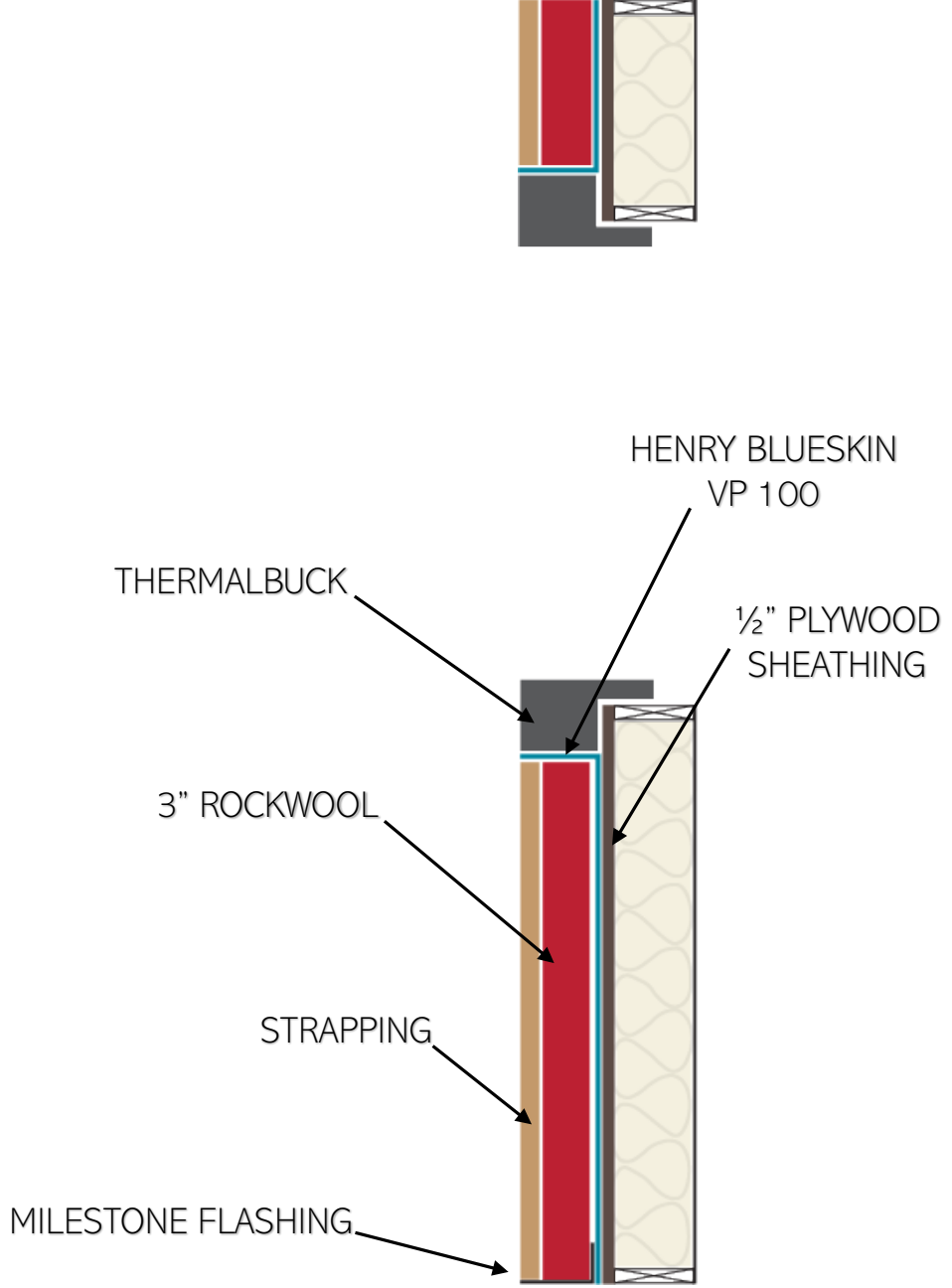
- Very complex - lots of components. All the newest building concepts combined into one idea.
- Six times around the house. Plywood, WRB, ThermalBuck,™ Exterior ROCKWOOL™ insulation (x2), and 5/8" strapping.

When

Best used with new construction and additions.

Moisture Management

Extremely effective.

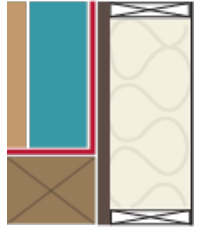


AFFORDABLE EFFICIENCY

Standard 2x6
Wall

V.O.A.T.
Wall

III. 3D WRB With Polyiso Foam



Energy Efficiency

Exceeds the energy code. Continuous insulation helps cancel thermal bridging.

Install Complexity

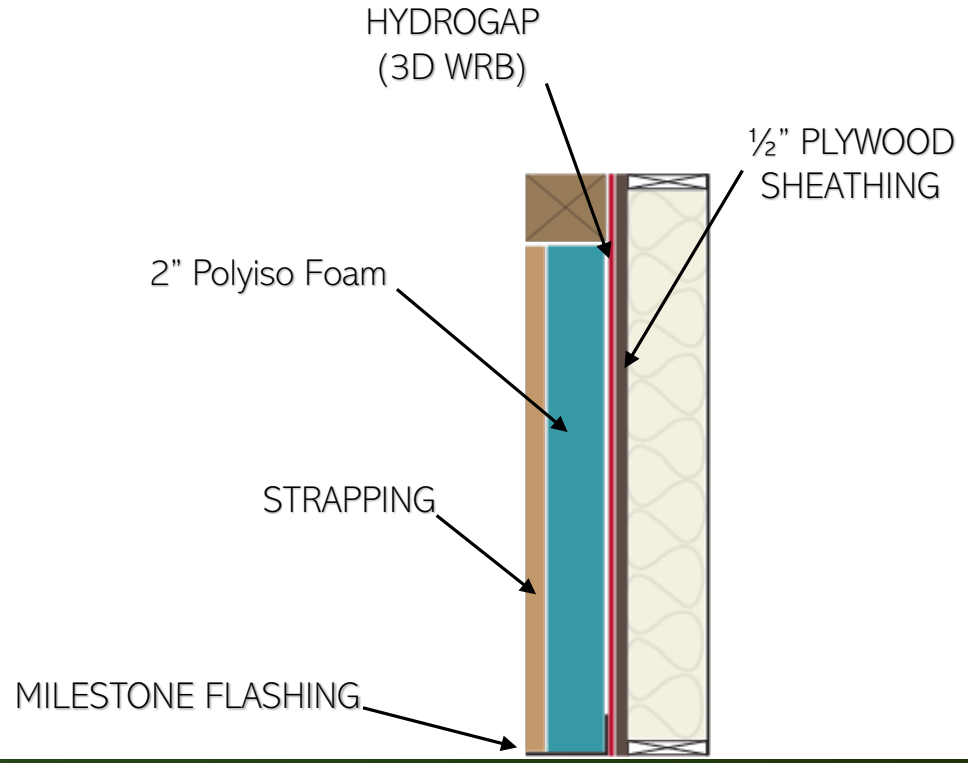
- Four times around the house. Plywood, WRB, exterior insulation, and ½" strapping.
- Medium complexity. Window stays on the same plane as your sheathing while adding exterior extension jambs. WRB is mechanically fastened and foam is installed. Does not have a very effective air barrier.

When

This can be used with any reside job, new construction, or additions.

Moisture Management

With the gapping of the 3D WRB gives it increased drying potential by having the drainage plane behind the foam insulation.



IV. ZIP System® with ROCKWOOL™ and ThermalBuck™

Energy Efficiency

Exceeds the energy code. Continuous insulation helps cancel the thermal bridging. Airtight WRB

Install Complexity

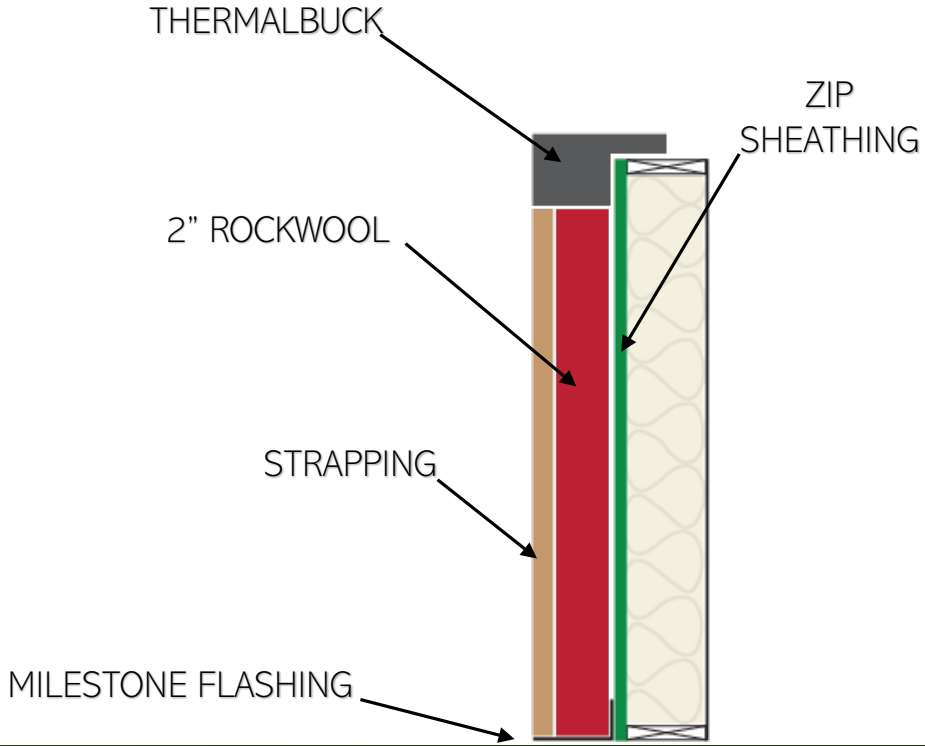
- Four times around building. ZIP System,® ThermalBuck,™ exterior ROCKWOOL™ insulation, and ½" strapping.
- Medium/high. With use of insulated buck the window is able to stay on same plane as the siding. Drainable insulation. Air space.

When

Best used for new construction, additions, or full reside jobs.

Moisture Management

Extremely effective.



V. Tyvek® With Strapping

Energy Efficiency

Can meet minimal energy code. Takes on thermal bridging through studs. Very similar to the typical wall.

Install Complexity

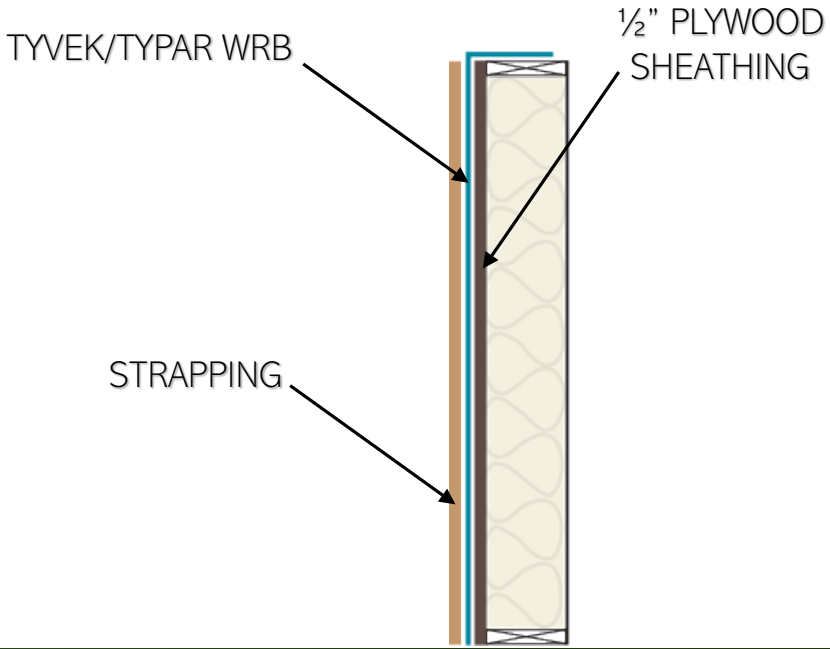
- Three times around the building. Sheathing, mechanically fastened 2D WRB, and ½" strapping.
- Straightforward install with added exterior extension jambs for windows.

When

This can be used with any reside job, new construction, or additions.

Moisture Management

Due to the exterior air space it provides great outward drying potential.



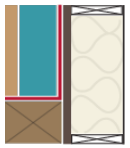
AFFORDABLE EFFICIENCY

Standard 2x6
Wall

V.O.A.T.
Wall

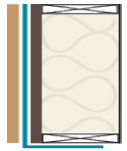
AFFORDABLE EFFICIENCY

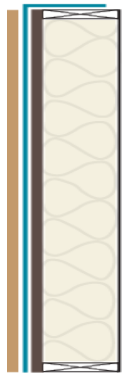
3D WRB With Foam



ZIP With ROCKWOOL + T.B

Tyvek With Strapping





INITIAL COST = Total costs of building materials and labor

ENERGY USE = How much energy does the building use over time

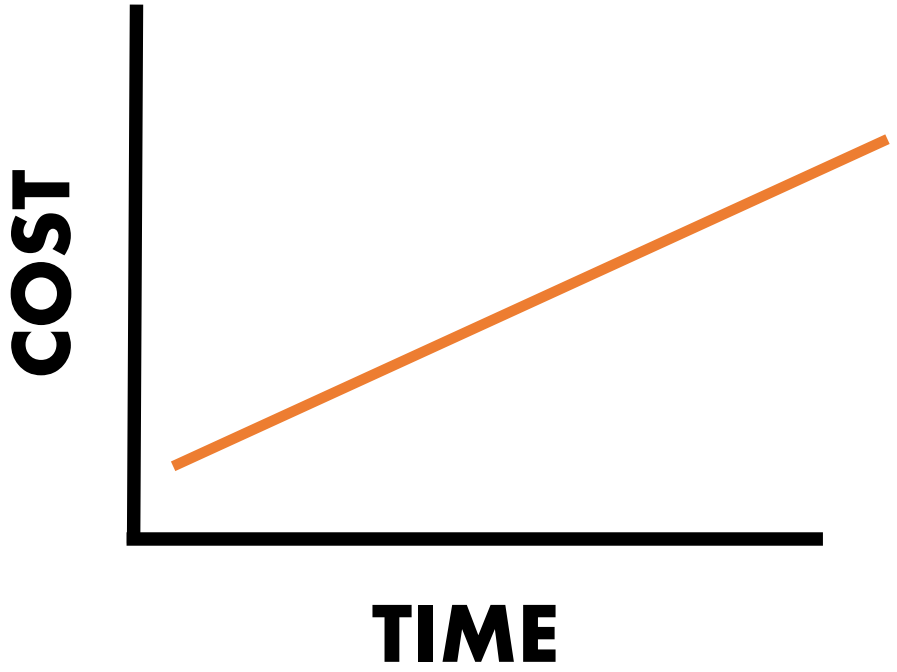
ANNUAL MAINTENANCE = How well does the building hold up over time

COST ANALYSIS: Typical 2x6 Wall **$0.81/SF**

Initial cost **$**

Energy Use **$$$$$**

Annual Maintenance **$$$$$**

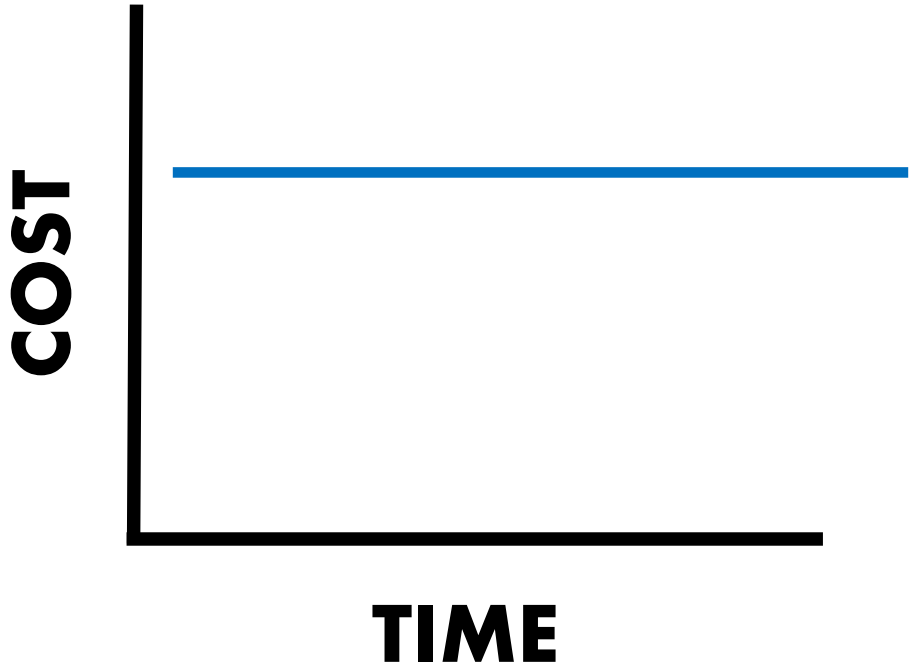


COST ANALYSIS: V.O.A.T. Wall **$5.55/SF**

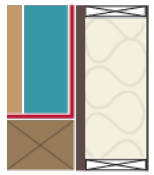
Initial cost **$$$$$**

Energy Use **$**

Annual Maintenance **$**



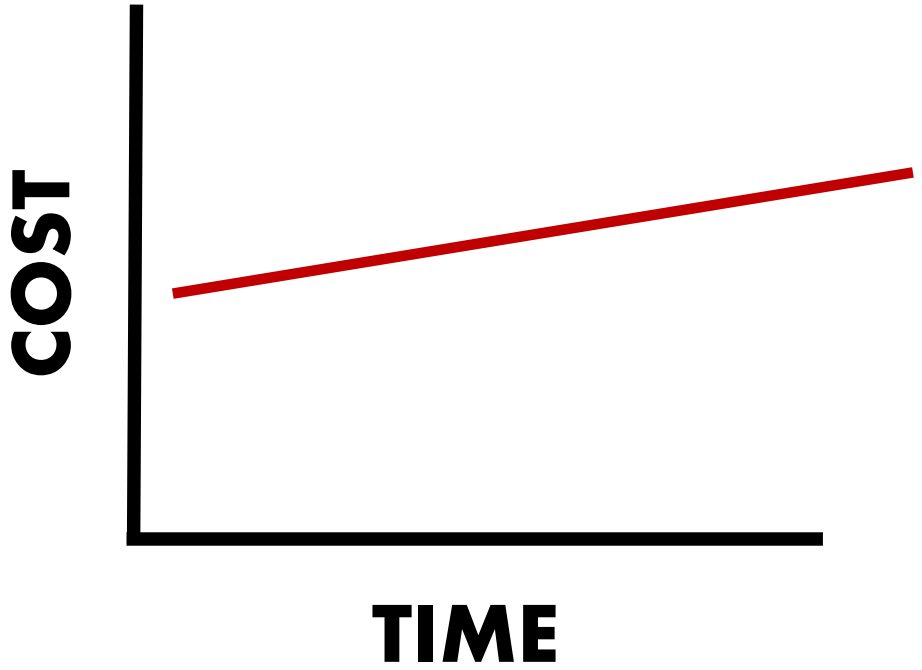
COST ANALYSIS: 3D WRB With Polyiso Foam **$2.22/SF**



Initial cost **$$$**

Energy Use **$$$**

Annual Maintenance **$$$**

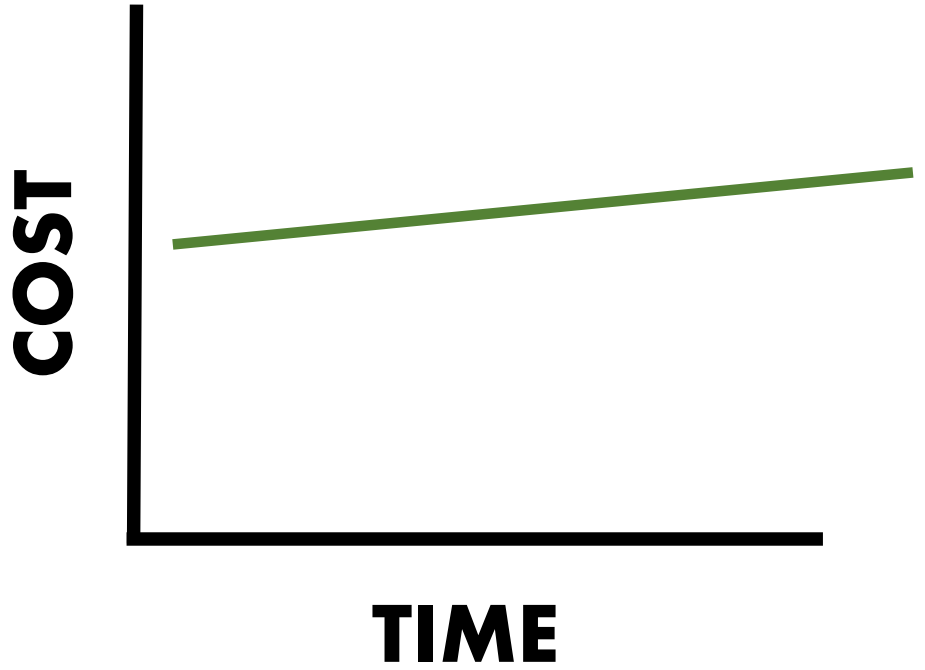


COST ANALYSIS: ZIP with ROCKWOOL and T.B. **$4.31/SF**

Initial cost **$$$$**

Energy Use **$$**

Annual Maintenance **$$**

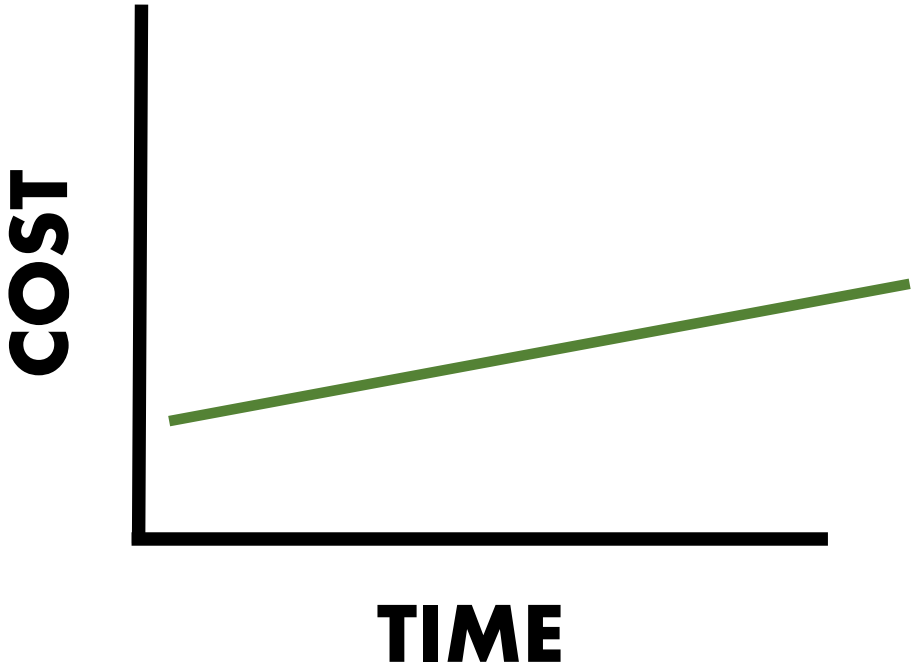


COST ANALYSIS: Tyvek with Strapping **$1.08/SF** **$0.81/SF** = **$0.27/SF**

Initial cost **$$**

Energy Use **$$$$$**

Annual Maintenance **$$**



IN SUMMARY

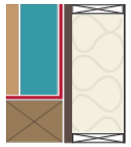
Standard 2x6 Wall

$0.81/SF

V.O.A.T. Wall

$5.55/SF

3D WRB With Foam

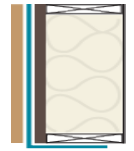


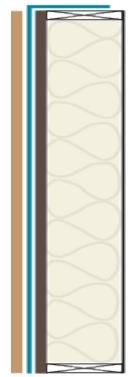
$2.22/SF

ZIP With ROCKWOOL + T.B

$4.31/SF

Tyvek With Strapping





$1.08/SF

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