

This is a sample Energy Usage Comparison for the Chicago, IL area. If you would like an Energy Usage Comparison prepared for your project and area, please click on the link "Request Customized Energy Usage Comparison For Your Location" on the previous screen.



Customer Name: John Smith Architectural Inc.

Project Name: Chicago Building

Project Location: Chicago, IL

Weather Data Location: Chicago, IL

Date: 4/7/2006

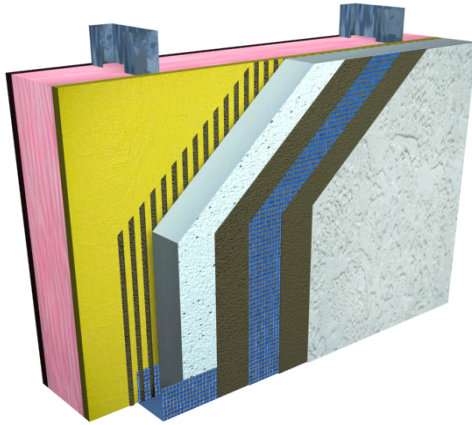


Energy Consumption Report

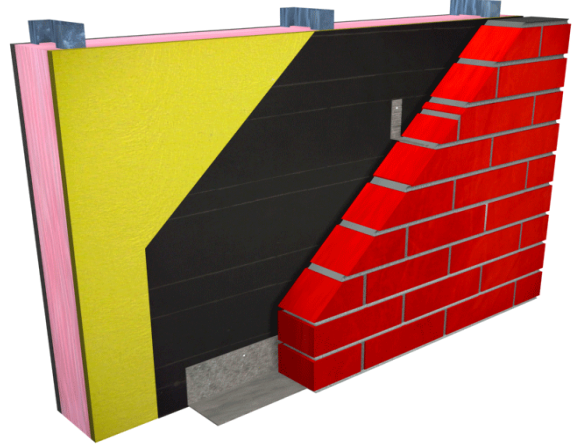
Building Specifications



Dryvit EIF System vs Brick



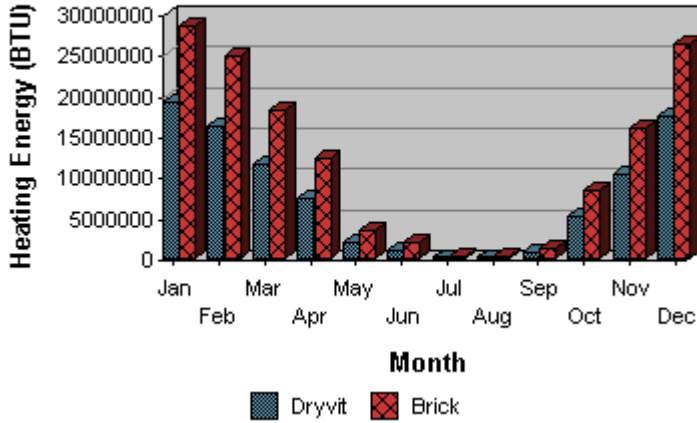
1. Interior Drywall
2. 3 5/8" Metal Studs @ 16 inch O.C.
3. R-11 Fiberglass Batts
4. DensGlass Gold Sheathing
5. 2 inch EPS Insulation Board
6. Dryvit Reinforced Base Coat
7. Dryvit Finish



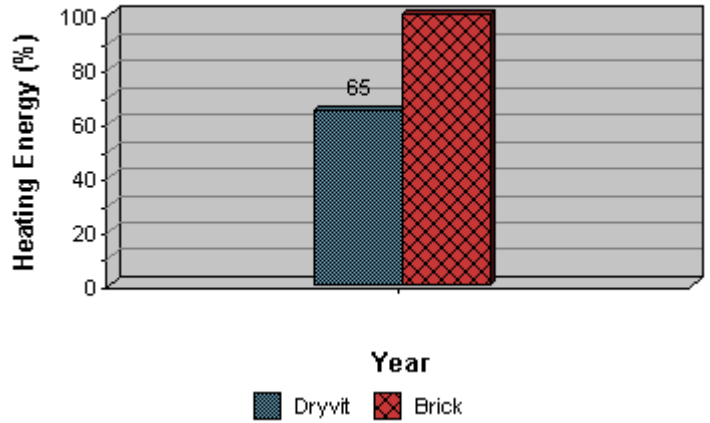
1. Interior Drywall
2. 3 5/8" Metal Studs @ 16 inch O.C.
3. R-11 Fiberglass Batts
4. DensGlass Gold Sheathing
5. #15 Felt
6. 4 inch Brick

Heating Consumption

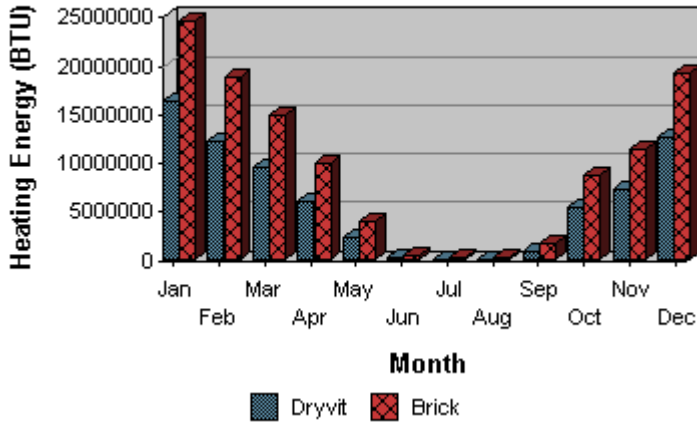
Chicago Illinois - Heating Energy Consumption
Dryvit vs Brick (Cold Year)



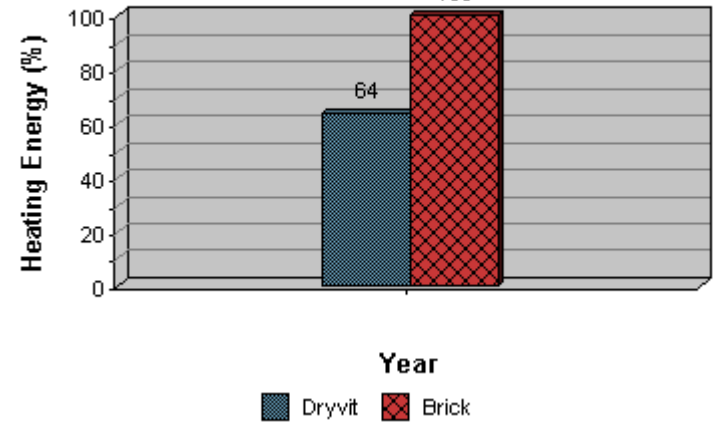
Chicago Illinois - Heating Energy Consumption
Dryvit vs Brick (Cold Year)



Chicago Illinois - Heating Energy Consumption
Dryvit vs Brick (Hot Year)

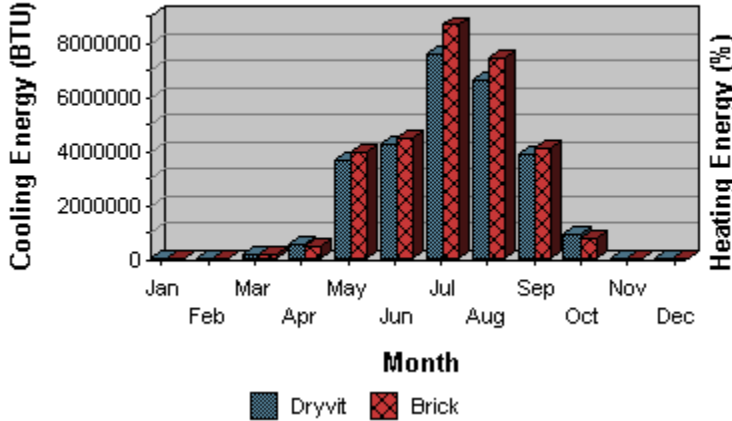


Chicago Illinois - Heating Energy Consumption
Dryvit vs Brick (Hot Year)

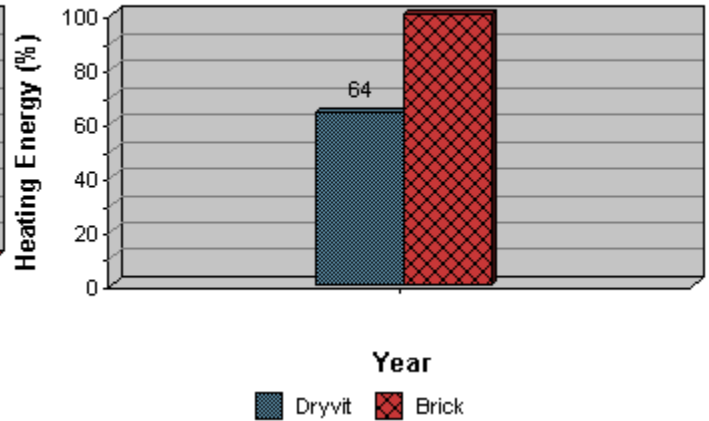


Cooling Consumption

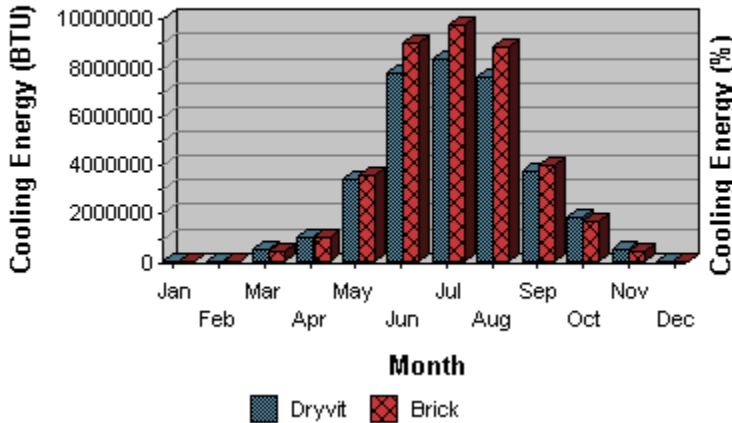
Chicago Illinois - Cooling Energy Consumption
Dryvit vs Brick (Cold Year)



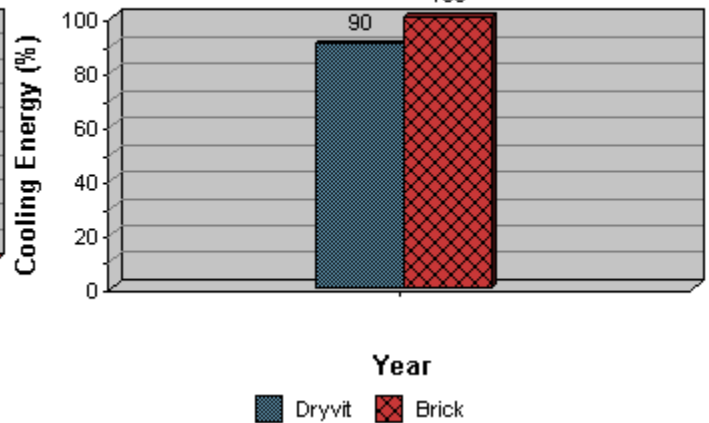
Chicago Illinois - Heating Energy Consumption
Dryvit vs Brick (Hot Year)



Chicago Illinois - Cooling Energy Consumption
Dryvit vs Brick (Hot Year)



Chicago Illinois - Cooling Energy Consumption
Dryvit vs Brick (Hot Year)



Research Methodology

The DRYVIT Wall Wizard™ employs the current state-of-the-art assessment tools for building envelope systems. In Figure [1], the complex interaction between materials, exterior and interior environments, transport mechanisms and building envelope systems are displayed. Exact description of the building system and sub-systems were obtained by performing a series of laboratory tests. Most of these tests at both material and system level were performed at ORNL, and some sub-contracted out (U of Waterloo).

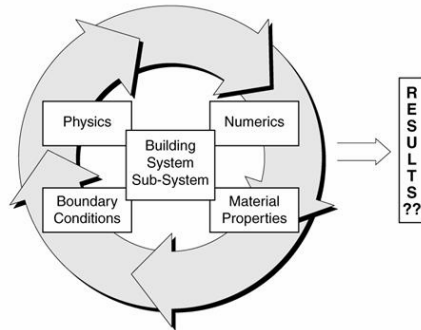


Figure 1

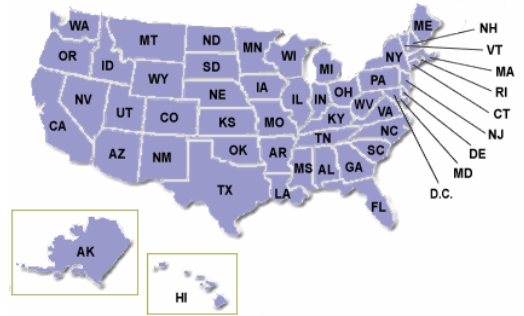


Figure 2

Recent developments in moisture engineering have allowed the Oak Ridge National Laboratory, and specifically, Dr. Karagiozis to undertake the research and development of a user friendly tool to evaluate the various individual performances of walls in different climate settings. DRYVIT Inc. contracted the Oak Ridge National Laboratory, Buildings Technology Section, to develop a wall selection procedure to assist architects and building engineers. Based on a series of simulations the DRYVIT Wall Wizard™ tool was developed. Guarded Hot-Box tests (Figure 2) were performed on DRYVIT full scale walls at ORNL to evaluate the thermal performance of the wall. This was then later introduced into the ORNL energy simulation model as an input. These inputs were used to generate simulations for a prototype building comparing the energy use of a building clad with 2 inches of a Dryvit Exterior Insulation and Finish System, with the same building faced with 4 inch brick. ASHRAE SPC 160P criteria was used in conjunction with actual weather data for each named city. 30 years of weather history was analyzed for each city and the 10% coldest and 10% hottest years used for the simulations. Analyses were performed for over 200 cities in North America (USA and Canada).




OAK RIDGE NATIONAL LABORATORY



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