

# BASF Walltite

## Medium Density Foam Insulation System

### Technical Advantages

Vs.

*fibrous insulation installed between studs*

#### **Product Description**

Walltite is a spray applied polyurethane foam that performs the functions of insulation, air barrier, vapour barrier and air barrier system. Walltite can be applied between framing members and over sheathing boards.

*Fibrous insulation batts are fit in-between studs and a polyethylene vapour barrier is installed.*

#### **Thermal Performance**

The measure of an insulations thermal performance is currently "R Value". To retain as much of the R-value possible it is critical that insulation is installed to eliminate convective air currents. Insulation must be installed in intimate contact with the substrate and with no gaps between boards to achieve this. A spray-applied product is inherently more capable of making intimate contact with the substrate versus board or batt insulation.

Walltite has a long term thermal resistance (LTTR) as follows; 1 inch= R6.3, 2inches = R 13.1, 3 inches = R20.4, 4 inches = R29.2. CCMC suggests a conservative value of R6 per inch. Walltite adheres tenaciously to all typical construction substrates and readily conforms to irregular surfaces such as concrete block walls. Convective air movement is eliminated and the maximum R-value is retained.

*Fibrous insulation has an R-value of R 3.5 to 4.3/inch. To eliminate the potential for convective air movement the substrate may need to be prepared and care taken to ensure that the insulation and vapour barrier membrane are installed with no gaps.*

*To obtain R20 using fibrous insulation a thickness of 5 to 6 inches is required vs. 3.0 inches of Walltite.*

**The higher thermal performance of Walltite can allow the use of 2X4 framing in place of 2 X 6** resulting in reduced construction costs, increased floor space as well as shorter brick ties, doorjamb and other related materials.

#### **Racking Strength**

The racking strength of an exterior wall contributes to the structural integrity and durability of the structure. Walltite, with its excellent adhesion, dimensional stability and high compressive strength enable it to increase the racking strength of walls. Walltite applied between studs increases the racking strength of walls by 2 to 3 times with gypsum sheathing and by 50% with OSB sheathing.

*Batt insulation and polyethylene do not increase the strength of walls.*

For more information regarding the products included in this document please contact  
Building Resource Inc.

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#### Air Barrier System Performance

Air barrier systems are a combination of products installed to resist the flow of air through building walls. Many materials are excellent air barrier materials but only a few have actually been tested as systems. A **system** test involves building actual walls that include penetrations, openings, brick ties and other conditions similar to those found in buildings. A **material** test involves the testing of a small section of product without any connections or details.

Walltite has undergone extensive testing as an **air barrier system** as described in the CCMC report 12932-R. This testing was designed to replicate all of the conditions found in real world construction. The air leakage rate of Walltite (25.4mm thickness) through this rigorous testing is 0.0054 L/(s.m<sup>2</sup>) at 75Pa ΔP or less than 1/10 of the most stringent code requirement.

*Batt insulation is not an effective air barrier. Performance relies on the quality of the installation, detailing and the continuity of the polyethylene vapour barrier. These systems are not listed by CCMC as air barrier systems.*

#### Exposure

Walltite is close cell foam and is not affected by exposure to water or moisture. High compressive strength (32 psi) enables it to withstand mechanical abrasion and impact. The CCMC testing requires a high level of exposure to heat, wet dry cycling and lateral wind loading prior to being tested for air leakage. Walltite can be left exposed for up to 6 months allowing the cladding to be installed in suitable weather.

*Fibrous insulation left exposed is easily damaged and can become heavy when saturated with water.*

#### Installation

Installation of Walltite is typically 2 to 5 times faster than other systems. This can reduce project schedules by a significant number of weeks and can also help to close in a building permitting interior construction to proceed.

*Typical systems require a minimum of 3 steps and, when installed properly, a great deal of detailing.*

#### Quality Assurance

Licensed and experienced installers trained by BASF install Walltite. Qualified third party inspection is available through Morrison Hershfield. The entire inspection and training system is audited by CCMC and is part of the CCMC approvals for Walltite.

*The installation of other products is not controlled or regulated making them vulnerable to poor application.*

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#### **Brick Ties**

Walltite coats and seals around brick ties and other penetrations very effectively.

*Other systems rely on mastic, tapes and detailing to produce a seal around brick ties.*

#### **Fire Resistance**

Walltite is a combustibles and must be installed in accordance with the code. The NBC and OBC require a layer of drywall or equivalent be applied over any foam plastic insulation on the interior of a building. Walltite is a thermosetting material making it more stable to heat vs. a thermoplastic material such as XPS or EPS. **Thermoplastic** insulation will flow under exposure to heat and or fire. **Thermosetting** materials, like Walltite urethane or common polyisocyanurate insulation, do not flow under exposure to heat.

*Fibrous insulations are typically non-combustible.*

#### **Thickness tolerance**

Walltite is applied by qualified applicators and can be sprayed within an acceptable thickness tolerance. Walltite can be touched up or shaved if required to meet the required thickness.

*Batt insulation is manufactured to a specific thickness however; it will vary in thickness once applied depending on handling and the installation conditions. Most batt insulation has poor recovery if compressed and thickness can vary significantly once installed.*

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