



WALLTITE®

Insulation/Air Barrier System

 **BASF**
The Chemical Company

**Raising Performance
To New Heights™**

7,000 people dedicated to raising performance

Innovative products are at the source of BASF's success. New knowledge is acquired through collaborations with universities and research institutes, as well as joint ventures with high-tech companies and BASF.

Choosing WALLTITE is opting for a product backed by the resources and know-how of an international leader in the chemical sector. It's choosing a company that employs in Research and Development (R & D) 7,000 people and spends \$1.1 billion annually.

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Raising Performance To New Heights™

Recent years have seen an increase in energy costs, a rise in occupant demand for higher comfort and air quality standards, and trends in building and energy codes towards mandatory air barriers. This has caused architects and contractors to put more emphasis on overall building envelope performance.

WALLTITE is a polyurethane insulation/air barrier system intended for institutional, commercial, industrial and residential use. It provides a gap-free, airtight, monolithic envelope of low permeability that adheres tenaciously to virtually all surfaces, smooth or irregular.

BASF developed this engineered building envelope system based on the unique properties of Spray Polyurethane Foam (SPF) and other air barrier continuity components, namely primers and transition membranes on vertical walls.

BASF also developed a Polyurethane Insulating Adhesive (PIA) for the roofing market. The material has passed FM Global wind uplift tests and will adhere to almost all building materials, including non-nailable decks. Our PIA is totally water-blown and sets within 5-10 minutes with no Volatile Organic Compound (VOC) emissions.

To ensure BASF products remain the finest on the market, their performance is continuously raised to new levels through constant R & D.



WALLTITE[®] PRODUCT BENEFITS

Reduced energy consumption Ensures lower energy consumption, thus lower energy costs.

Comfort High insulation value combined with air barrier system continuity enables Heating, Ventilating and Air-Conditioning (HVAC) systems to perform to specification and keeps occupants more comfortable.

Airtightness Gap-free, airtight, monolithic envelope of low permeability that adheres tenaciously to virtually all surfaces, smooth or irregular.

Durability Added protection against premature building deterioration.

Structural strength Increased rack and shear resistance when sprayed onto gypsum board and vinyl siding and increased racking strength when sprayed on Oriented Strand Board (OSB).

Quality assurance Tests performed during every job ensure high quality installation, simplified design and supervision, efficient use of time and material and faster project completion.

Versatility Numerous applications in institutional, commercial, industrial and residential use.

Indoor air quality WALLTITE significantly improves the durability and climate control of a building.

Eco-efficiency According to eco-efficiency analysis, WALLTITE insulation/air barrier system has been proven to be more eco-efficient than conventional insulation/air barrier systems.



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WALLTITE[®]



WALLTITE®

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WHY CHOOSE WALLTITE?

WALLTITE substantially reduces both air leakage and the passage of moisture through the building envelope by:

- Achieving airtight continuity across all joints, seams, construction material changes and overlaps
- Eliminating convective air flow both through and around insulation
- Minimizing thermal bridging
- Controlling moisture transfer (under certain conditions)

The benefits:

- Lower energy consumption
- Lower energy costs
- Does not support fungal growth*
- Added protection against premature building deterioration
- Improved occupant comfort

* When tested to ASTM 1338-96, the samples of WALLTITE insulation material did not support fungal growth.

Taking Airtightness To New Heights

WALLTITE is an effective air barrier system listed under Canadian Construction Material Center (CCMC) 12840-R for insulation, CCMC 12877-R for air barrier material and CCMC 12932-R for air barrier system. In addition, it conforms to CAN/ULC-S705.1 and exceeds the requirements stated in section 5 of the 1995 National Building Code (NBC).

Increasing Structural Integrity with WALLTITE

WALLTITE polyurethane foam is airtight, structurally sound, durable and repairable. While providing flexibility to allow for the differential in thermal expansion and contraction of materials, it adds rigidity to walls and allows them to better withstand wind, mechanical and stack effect pressures without damage or displacement.

Testing conducted by the National Association of Home Builders Research Center showed that Spray Polyurethane Foam (SPF) insulation between wood and steel stud wall panels increased rack and shear **two to three** times when sprayed onto gypsum board and vinyl siding and increased racking strength **50%** when sprayed on Oriented Strand Board (OSB).

Raising Performance at Lower Costs

WALLTITE can be applied over an exceptionally large area in a single workday with unsurpassed sealing performance. It's **five times** faster to apply than membrane and board stock, which facilitates on-site scheduling and results in exceptional cost efficiency.

Training for High Performance

BASF Canada Inc. trains contractors who use certified and approved applicators to install WALLTITE. Only these highly trained, experienced and qualified applicators are approved to install the BASF insulation/air barrier system. Extensive training, along with third party quality control inspections, ensures quality installation of all engineered building envelope products.

Meeting Higher Standards

Density, adhesion and cohesion tests are performed during every job. Inspectors examine the application to be sure that the foam has been applied properly and according to the Underwriters' Laboratories of Canada (ULC) standard. As a result, architects and building owners are assured of reduced liability risks, high quality installation, simplified design and supervision, efficient use of time and material and faster project completion.

New Heights of Eco-Efficiency

BASF adheres to sustainable development standards. Its eco-efficiency approach is designed to increase product value, optimize the use of resources and reduce environmental impact.

Eco-efficiency analysis looks at the entire life cycle of a product, beginning with extraction of raw materials through to the disposal or recycling of the product. An "ecological fingerprint" provides a picture of the environmental effect of a product in six categories:

- Materials consumption
- Energy consumption
- Emissions to air, soil, and water
- Risk potential for misuse
- Toxicity potential
- Land use

Each of these categories embraces a wealth of detailed information, some of which comes from BASF's in-house records and some from public databases. According to this data, WALLTITE has been proven more eco-efficient than conventional insulation/air barrier systems.

BASF is also a member of the Canadian and US Green Building Council and supports the Leadership in Energy and Environmental Design (LEED) concept.


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RAISING QUALITY STANDARDS

BASF Canada, along with its suppliers and customers, actively participates in continuous improvement initiatives. The plant located at 10 Constellation Court, Toronto, Ontario, meets the requirements of ISO 9001:2000 for design, blending, repackaging, storage and delivery of chemicals for polyurethane.



Testing

WALLTITE air barrier system specimens have successfully met the Polyurethane durability test of appendix D of the “CCMC Technical Guide for Air Barrier Systems for Exterior Walls of Low-Rise Buildings”, that specifies the two following limiting criteria:

1. Air permeance test after weathering and heat aging – Requirements: $\leq 110\%$ of original value;
2. Thermal resistance after heat aging of weathered samples – Requirements: 90% retention from original value.

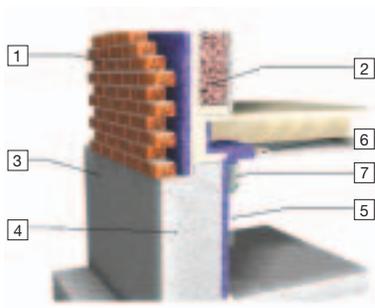
The ageing for the present project consisted of an exposure to environmental conditions (weathering) for a period of **six consecutive months** (mid-January to mid-July).



WOOD FRAMING

Typical lower section - architectural masonry

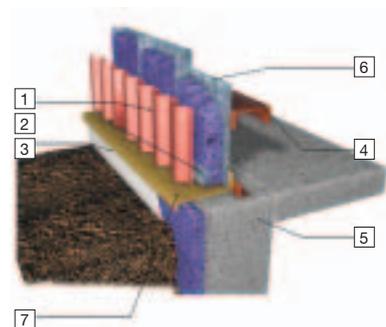
1. Architectural masonry
2. Insulation (i.e. WALLTITE)
3. Cement parging
4. Concrete foundation
5. Vapour barrier**
6. Furring
7. Gypsum board



METAL FACING

Lower section

1. Metal facing
2. Z bar
3. Cement parging
4. Steel structure
5. Concrete foundation
6. Interior metal liner
7. Flashing

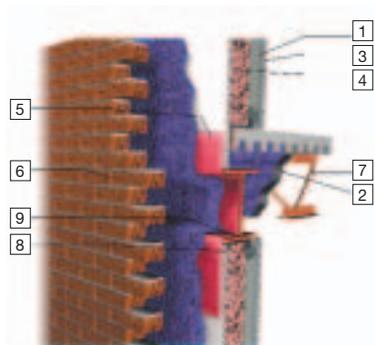


RAISING THE LEVEL OF APPLICATIONS

GYPSUM BOARD

Floor/wall assembly

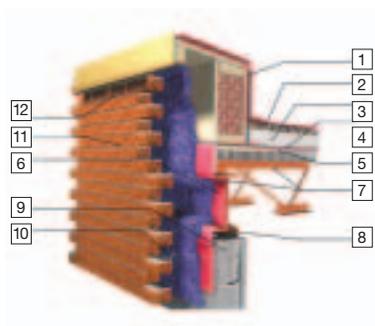
1. Type 1 vapour barrier**
2. Fireproofing
3. Gypsum board
4. Exterior gypsum board
5. Transition membrane
6. Architectural masonry
7. Metal framing
8. Insulation (i.e. WALLTITE)
9. Steel structure



MASONRY

Upper section

1. Waterproofing membrane
2. Fiber board
3. Roofing insulation
4. Vapour barrier
5. Gypsum board
6. Transition membrane
7. Steel structure
8. Plate cushion
9. Concrete block
10. Masonry tie
11. Architectural masonry
12. Air vent



** Under certain conditions, WALLTITE's properties allow it to be the vapour barrier. Please refer to our technical binder and the local building authorities.

In institutional, commercial and industrial buildings, WALLTITE can be sprayed onto walls and every crack, gap, void and hole where the various components in the air barrier system can't achieve continuity, thus creating a seamless insulation/air barrier system.

In residential buildings, it can be sprayed between studs, onto walls of basements, crawl spaces, and on the floors of attics. It can be sprayed onto the exterior wall to create a continuously sealed and insulated building envelope.

- Wood framing
- Metal facing (primer recommended)
- Gypsum board
- Masonry



The Chemical Company

BASF AG is located in Ludwigshafen, Germany, and is the world's leading chemical company with sales of over \$50 billion in 2004, and a workforce of about 82,000 people worldwide. BASF Corporation, headquartered in New Jersey, is the North American affiliate of BASF AG. In North America, we employ about 10,000 people with sales of approximately \$11 billion in 2004.

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