

Helping Make
Buildings Better™

BASF WALLTITE®

Insulation/Air Barrier System



Increasing energy costs, occupant demand for higher comfort and air quality standards, and a trend in State Building and Energy Codes towards mandatory air barriers, are causing architects and concerned contractors to pay more attention to overall building envelope performance. Applying WALLTITE® will help to create a total air barrier system.

Product Description

BASF WALLTITE is a zero ozone depleting, spray applied polyurethane foam system incorporating BASF ZONE3® technology and intended for industrial/commercial air barrier applications. Available in regular and cold temperature grades, the BASF WALLTITE system is designed for application from 45°F to 110°F. The foam is produced from two liquid components, BASF WALLTITE U.S. Resin and 8000a Isocyanate, which are combined on site by ABAA certified applicators using a 1:1 by volume proportioner. The foam is colored for easy identification.

Certification

BASF WALLTITE U.S. is listed under the Air Barrier Association of America (ABAA) list of approved "fluid applied" air barrier materials and systems.

Processing Recommendations

Primary heater temperature
120°F (49°C)

Hose heater temperature
110°F (43°C)

Mixing pressure
850 lb/in² (5865 kPa) min.

Air Leakage and Vapor Permeance

Air Leakage Results

As per the technical guide for Air Barrier Systems for exterior walls of low-rise buildings, Master Format Section: 01795 Prepared by CCMC, NRC and ABAA guide specification.

Material Result

L/s/m² @ 75 Pa <0.001

Vapor Permeance

Perm/inch 1.4 @ 1 inch
1.0 @ 1.5 inches

As the WVP value is less than the maximum 60 ng/Pa-s-m² (i.e. when installed with a 38 mm thickness on a substrate such as wood sheathing or concrete block), as permitted in Article 9.25.1.2 of the Canadian National Building Code 1995, the wall assembly must conform to Table 9.25.1.2. When WALLTITE is installed on a substrate as the sole wall insulation, such as concrete block, it may also qualify as the designated vapor barrier if the installed thickness meets sentence 9.25.4.2 (1) or 5.5.1.2 (1) and most U.S. state building codes.

General Application Instructions

BASF WALLTITE, properly applied, will produce high quality polyurethane foam. Regular grade system must not be applied below 70°F (18°C). Cold temperature grade system must not be applied below 45°F (5°C). Spraying on lower temperature surfaces may result in poor adhesion between the foam and the substrate.

BASF WALLTITE is to be installed only by Air Barrier Association of America (ABAA) approved applicators.

BASF WALLTITE U.S. has been formulated to meet the air barrier and insulation requirements of industrial/commercial buildings in a single step.

For more information about applicator certification and training programs visit the (ABAA) Air Barrier Association of America website www.airbarrier.org. Visit www.basf.com/spray or contact a BASF Authorized representative.

Typical Properties of WALLTITE® U.S.

Liquid Component Properties

		WALLTITE U.S. Resin	8000a Isocyanate
Viscosity cps	@ 77°F (25°C)	700 ± 50	200 ± 30
Specific Gravity	@ 77°F (25°C)	1.24	1.22
Flash Point	°F (°C)	>392 (>200)	>392 (>200)
Ratio	(by volume)	1 part	1 part

Machine Parameters

Primary Heater Setting	°F (°C)	120 (49)	120 (49)
Hose Heater Setting	°F (°C)	110 (43)	
Hydraulic Pressure	lb/in ² (kPa)	>850 (5865)	

Quality Control Reactivity Profile

The following data was generated from tests conducted by BASF Corporation Laboratories under the following conditions:

Ambient Temperature:	73°F (23°C)
Substrate:	Cardboard
Substrate temperature:	73°F (23°C)

Grade (WALLTITE U.S.): Regular Cold temperature

Cream time sec.	<1	<1
Gel time sec.	1.5 ± 0.25	1.1 ± 0.25
Tack Free time sec.	3.5 ± 0.5	2.3 ± 0.5
Rise time sec.	4.5 ± 0.5	2.6 ± 0.5
Density (core) lb/ft ³ (kg/m ³)	2.05 ± 0.15 (32.8 ± 2.4)	2.05 ± 0.15 (32.8 ± 2.4)

Test Results

The following data was generated at an independent laboratory. The samples were conditioned under test method ASTM D-618 (88 hr @ 73°F (23°C), 50% RH).

<p>Density: (core) (ASTM D-1622) lb/ft³ (kg/m³)</p> <p>2.0 (32.8)</p>	<p>Dimensional Stability: (ASTM D-2126) aged 28 days 158°F (70°C), 97±3% RH</p> <p>8</p>
<p>Compressive Strength: (ASTM D-1621) lb/in² (kPa) @ yield, parallel to rise</p> <p>28 (193)</p>	<p>Thermal Resistance*: (ASTM C-518) Btu • in/ft² • hr • °F (R)</p> <p>Initial 0.150 (6.7) After 28 days at 158°F (70°C), 50% RH 0.17 (5.9) * Design "R" = 6.0</p>
<p>Tensile Strength: (ASTM D-1623) lb/in² (kPa)</p> <p>48 (330)</p>	<p>Water Vapor Permeance: (ASTM E-96) Perm/inch</p> <p>1.4 @ 1 inch 1.0 @ 1.5 inches</p>
<p>Closed Cell Content: (ASTM D-2856) %</p> <p>> 90</p>	<p>Flame Spread Classification**: For a thickness of 2 in. (50 mm) ASTM E-84 < 25 Smoke Determined <= 400</p>
<p>Water Absorption: (ASTM D-2842) % by volume</p> <p>2.1</p>	

* The oven aged thermal resistance is used for comparative purposes and does not yield a design value for long term thermal performance. The assigned thermal resistance is 1.05 RSI per 25 mm or R6 per inch.

** Numerical flame spread ratings are not intended to reflect hazards presented by this or any other material under actual fire conditions.

Health, Safety and Toxicity Considerations

Handling Recommendations

8000a Isocyanate

- Use personal protective equipment (see MSDS)
- Avoid all contact with skin and eyes
- Do not inhale the vapors
- Do not store in a humid environment
- In case of minor spills, absorb using sand or absorbing material (no sawdust)
- For more severe spills, contact BASF, or any agency specialized in chemical damage control e.g. Chemtrec 800 424-9300, BASF 800-832-HELP(4357)
- For more information please consult the MSDS

WALLTITE® U.S. Resin

Resin contains a low-boiling blowing agent

- Use personal protective equipment (see MSDS)
- Before opening, unscrew the bung slowly to release the gas pressure in the drums
- Avoid all contact with skin
- For more information please consult the MSDS

Application Safety

While spraying, always work with adequate ventilation. Protective gloves and face mask are strongly recommended. When atmospheric levels may exceed the occupational exposure limit (PEL or TLV) approved air purifying respirators equipped with an organic vapor sorbent and particulate filter can be used as long as appropriate precautions and change out schedules are in place. Consult MSDS. Persons with known respiratory allergies must avoid exposure to the Isocyanate component. If inhalation of the vapors occurs, remove the person from the working area to breathe fresh air and if breathing is still difficult call a physician. Avoid contact with eyes, skin and clothing. In case of eye contact, immediately flush with large amount of water for at least 15 minutes and call a physician immediately. In case of skin contact, wash area with soap and water. Wash soiled clothing before reuse.

Do not apply mixed components in excess of two inches (50 mm) per pass due to exotherm of the reaction. Allow passes to thoroughly cool before applying successive passes.

Thermal Barrier (Combustible Warning):

Polyurethane products manufactured or products from these chemicals may present a serious fire hazard if improperly used or allowed to remain exposed or unprotected. The character and magnitude of any such hazard will depend on a broad range of factors, which are controlled or influenced by the manufacturer, applicator or production process. Each person, firm or corporation engaged in the manufacture, production, application, installation or use of any polyurethane materials should carefully determine whether there is a potential fire hazard associated with such specified usage, and utilize all appropriate precautionary and safety measures as outlined in Local, State and Federal regulations governing the manufacture of products or the construction and/or renovation of commercial or residential structures. Interior applications must include the use of an approved thermal barrier.

Drum Description

<i>Isocyanate:</i>	Black 551 lb (250 kg.), steel drum
<i>Resin:</i>	Blue 500 lb (227 kg.), steel drum

Fire Hazard

Fires involving either component may be extinguished with carbon dioxide, dry chemical, or an inert gas. Application of large quantities of chemical spray is recommended for spill fires. Personnel fighting the fire must be equipped with self-contained breathing apparatus.

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Storage Recommendations

Resin and Isocyanate must be stored in a dry location and away from sunlight and other sources of direct heat.

	Resin	Isocyanate
Shelf Life	4 months	6 months
Temperature	65°F - 85°F (13°C - 27°C)	65°F - 85°F (13°C - 27°C)

About BASF

BASF Corporation has been assessed and registered as meeting the requirements of ISO 9001 by ABS International Certification Services Inc. for blending, repackaging, storage and delivery of chemicals for polyurethane as well as for the design of chemical products for polyurethane.

WALLTITE® and ZONE3® are trademarks of BASF Corporation.

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