

SHOP DRAWING TRANSMITTAL



Project: Turnbull School Music Room Addition Project No: 1705
Date: December 21, 2018
To: TALCO Building Innovations Ltd.
Attn: Farah Bano (fbano@tal-co.com)
From: Michelle Cataldo

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Shop Drawing Submittal: Division 07 – Thermal and Moisture
Submitted by: BASF
Drawing Title: WALLTITE Technical Product Data Sheets
Revision No. N/A
Dated: December 18, 2018

Comments:

Reviewed as noted.
Apply min 75 mm thick on foundation walls.

WALLTITE® v.3

Spray Polyurethane Foam Insulation/Air Barrier

DESCRIPTION:

WALLTITE v.3 is a purple, closed cell, medium density, spray applied polyurethane foam insulation and air barrier. Available in three reactivity grades: WALLTITE v.3 regular, WALLTITE v.3 Fast Grade (WALLTITE v.3 F), and WALLTITE v.3 Cold Temperature (WALLTITE v.3 CT). Unless specified, all references to WALLTITE v.3 in this Technical Product Data sheet refer to all three grades of WALLTITE v.3.

USES:

Intended for residential, commercial, industrial and institutional building applications where insulation is required. It can be used above or below grade, for interior or exterior building envelope applications including; exterior, cavity and foundation walls, between steel or wood framing, under floor slabs, in cantilevered areas and in specialized applications.

FEATURES AND BENEFITS

- **Superior Thermal Resistance** - The LTRR value of WALLTITE v.3 is higher than traditional insulation products resulting in reduced conductive heat loss and lower energy consumption.
- **Excellent Air Sealing Ability** - WALLTITE v.3 is a closed cell insulation that expands while being installed creating an effective air barrier, reducing air leakage, resulting in improved comfort and energy savings.
- **Quality Installation** – Licensing of installers is required by the CAN/ULC S705.2-05 Installation Standard, and WALLTITE v.3 is installed by applicators that are licensed through BASF Canada's Quality Assurance and Training Program – RAISING PERFORMANCE TO NEW HEIGHTS® (QATP) and certified by the engineering firm Morrison Hershfield.
- **Durability** - WALLTITE v.3 can be installed and left without any cladding for up to 6 months.
- **Experience** – With over 25 years experience in spray polyurethane foam insulation, BASF Canada is well equipped to understand the challenges of the Canadian climate. Consumers can rest assured that they are working with the leading spray foam manufacturer in both residential and commercial construction.

APPROVALS AND CREDENTIALS:

- **CCMC 13588-L – Spray-Applied Rigid Polyurethane Foam Insulation**
- **CCMC 13659-R – Air Barrier System for Exterior wall**
- Conforms to **CAN/ULC S 705.1-01 (including Amendments 1 and 2)** as referenced in the National Building Code of Canada and provincial codes.
- **Zero ODP** - WALLTITE v.3 utilizes zero ozone depleting blowing agents.
- **EcoLogo™ Certified** - WALLTITE v.3 is certified by EcoLogo, an independent third party, as meeting the criteria for Thermal Insulation CCD-016, confirming a minimum recycled content of 5% by weight of finished product.
- **GreenGuard Certified** - WALLTITE v.3 meets the stringent requirements of GREENGUARD Children & SchoolsSM, thus ensuring occupant safety through improved indoor air quality.
- **Eco-efficiency analysis**, life cycle assessment showing benefits of WALLTITE v.3 compared to conventional insulation air barrier systems, approved by NSF, a not-for-profit, non-governmental organization and the world leader in standards development, product certification, education, and risk-management for public health and safety.



Certified EcoLogo™
Thermal Insulation CCD-016



TYPICAL PHYSICAL PROPERTIES*

The following test data is from an independent laboratory and is in compliance with the product standard.

Property	Value Metric (Imperial)	Test Method
Density (Core)	28.9 kg/m ³ (1.80 lb/ft ³)	ASTM D1622
Compressive Strength	201 kPa (29.2 psi)	ASTM D1621
Tensile Strength	325 kPa (47.1 psi)	ASTM D1623
Open Cell Content	6.0%	ASTM D2856
Water Absorption	0.6 % by volume	ASTM D2842
Water Vapour Permeance 25mm sample 50mm sample	51 ng/Pa·s·m ² (0.85 Perms) 41 ng/Pa·s·m ² (0.68 Perms)	ASTM E96
Dimensional Stability	Volume Change (%) after 28 days 0.2 @ -20°C (-29°F) 8.9 @ 70°C (158°F) @ 97± 3% RH 1.7 @ 80°C (176°F)	
Flame Spread Classification**	Flame Spread <500	CAN/ULC-S102 Including -S127
Time to Occupancy***	24 Hours	CAN/ULC-S774
Hot Surface Performance	Passed when exposed to 93°C for 96 hours	ASTM C411
Fungi Resistance	After 28 day incubation – no fungal growth exhibited	ASTM C1338

APPLY MIN 75mm THICKNESS ON FOUNDATION WALLS

LONG-TERM THERMAL RESISTANCE****

Test Method: CAN/ULC-S770-03

Thickness mm (inches)	R Value ft ² ·hr·°F / BTU	RSI m ² ·K/W
50.0 (1.97)	12.2	2.14
50.8 (2.00)	12.4	2.17
63.5 (2.50)	15.8	2.78
75.0 (2.95)	18.9	3.33
76.2 (3.00)	19.2	3.38
88.9 (3.50)	22.7	4.00
100.0 (3.94)	25.8	4.55
102.0 (4.00)	26.2	4.62
127.0 (5.00)	33.0	5.82
152.4 (6.00)	40.3	7.11
177.8 (7.00)	47.7	8.42
203.2 (8.00)	55.0	9.69

SHOP DRAWING REVIEW

- REVIEWED
- REVIEWED AS NOTED
- REVISE AND RESUBMIT



*This review is for the sole purpose of ascertaining conformance with the general design concept for architectural features only, and does not in any way constitute review of the design of engineering elements which form part of the Contract Documents prepared by others. This review shall not mean that the Architect approves the detail design inherent in the shop drawings. This responsibility shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes, or to techniques of construction and installation and for co-ordination for the work of all trades.

By: Michelle Cataldo Date: Dec. 21, 2018
HOBIN ARCHITECTURE INCORPORATED

*These physical property values are typical for this material as applied at our development facility under controlled conditions. WALLTITE v.3 performance and actual physical properties will vary with differences in application (i.e. ambient conditions, process equipment and settings, material throughput, etc.). As a result, these published properties should be used as guidelines solely for the purpose of evaluation. Physical property specifications should be determined from actual production material.

**Numerical flame spread ratings are not intended to reflect hazards presented by this or any products made from this material under actual fire conditions. WALLTITE v.3 should not be left exposed and must be protected by a thermal barrier.

***The volatile organic compound (VOC) emissions under consideration were measured with an assumed room ventilation rate of 0.3 air changes per hour as per the NBC requirements for new construction.

****The Long-Term Thermal Resistance values are the design value used for WALLTITE v.3 as per CAN/ULC-S705.1, paragraph 5.5.8.2.

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Warning! These products can be used to prepare a variety of polyurethane products. Polyurethanes are organic materials and must be considered combustible.

ADHESION TESTS

An independent laboratory certified by the Standards Council of Canada (SCC) verified WALLTITE v.3 over different substrates. For more information please refer to our technical binder or call a BASF representative.

AIR BARRIER TESTING RESULTS

As per the Technical Guide for Air Barrier Systems for Exterior Walls of Low-Rise Buildings, Masterformat Section: 07272 prepared by CCMC, NRC

Property	Value Metric (Imperial)	Test Method
Material Result @ 25.4 mm	≤ 0.02 l/s/m ² @ 75Pa	NRC/IRC/CCMC MasterFormat Section 07 27 09.02
System Result	0.0054 l/s/m ² @ 75Pa	NRC/IRC/CCMC MasterFormat Section 07 27 09.01

WALLTITE v.3 meets the requirements of Appendix D of CCMC Technical Guide "ABS Durability Criteria for Foam Plastic Insulation" Masterformat Section 07272 with respect to air permeance reduction and thermal resistance retention after heat aging and accelerated weathering.

1. The air permeance after heat aging and after weathering shall be maintained within 110% of the original value. Result: Pass
2. The heat aged and weathered samples shall show 90% retention of the original conditioned thermal resistance. Result: Pass

WATER VAPOUR PERMEANCE WALLTITE V.3

When **WALLTITE v.3** is installed in an exterior insulating sheathing-type application, the water vapour permeance (WVP) value requires that the wall assembly complies with Table 9.25.1.2., Subsection 9.25.4., and Article 9.13.3.3. of the NBC 2005.

"Tests ASTM E96-05", done on **WALLTITE v.3** by an independent laboratory approved by the Standards Council of Canada.

Substrate	Substrate Thickness	WVP Substrate	WVP Substrate + 25.0mm (0.98 in) of WALLTITE v.3	WVP Substrate + 50.0mm (1.97 in) of WALLTITE v.3	WVP Substrate + 75.0mm (2.98 in) of WALLTITE v.3
OSB board	12.7 mm (0.5 in)	85	14	-	-
Plywood board	12.7 mm (0.5 in)	78	7	-	-
DensGlass®	12.7 mm (0.5 in)	1524	59	53	36
Concrete	25.4 mm (1.0 in)	63	13	-	-

- All Water Vapour Permeance Values are in ng/Pa•s•m²

COLOUR

Initial surface colour is purple. This is expected to change upon exposure to UV (sunlight) to a grey or rusty brown and eventually yellow. The colour of the core may vary based on application thickness and the number of passes and time between passes.

APPLICATION

WALLTITE v.3 must be installed in accordance with the CAN/ULC-S705.2 standard and the QATP manual by applicators licensed through the QATP and certified by Morrison Hershfield. Before applying, ensure ambient temperature is:

WALLTITE v.3	10°C to 40°C (50°F to 104°F)
WALLTITE v.3 F	0°C to 20°C (32°F to 68°F)
WALLTITE v.3 CT	-10°C to 10°C (14°F to 50°F)

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WALLTITE® v.3

Do not apply WALLTITE v.3 in excess of 50 mm (two inches) depth per pass due to the product's exothermic effect. After spraying a pass, cooling time must be allowed for the dissipation of heat before spraying another pass. Not allowing adequate cooling time raises the risk of scorching and/or fire and affects product mileage.

- WALLTITE v.3 regular grade: after applying the first pass, wait at least 10 minutes before applying a second pass. If a depth of more than 100mm (4") is required, wait at least 1 hour before spraying a third pass. If a fourth pass is required, wait at least one hour before applying it. A maximum of four passes to a total depth of 200mm (8") can be applied in a twelve hour period.
- WALLTITE v.3 F: after applying the first pass, wait at least 10 minutes before applying a second pass. If a depth of more than 100mm (4") is required, wait at least 2 hours before spraying a third pass. A maximum of three passes to a total depth of 150mm (6") can be applied in a twelve hour period.
- WALLTITE v.3 CT: after applying the first pass, wait at least 1 hour before applying the second pass. A maximum of two passes to a total depth of 100mm (4") can be applied in a twelve hour period.

For application information, please consult the *BASF Canada Application guidelines for WALLTITE v.3 Insulation / Air Barrier Material*.

SYSTEM ACCESSORIES

Typical accessories include transition membranes, though wall flashings and other components. Refer to the WALLTITE v.3 Technical binder for more information.

SHORT FORM SPECIFICATION (visit www.walltite.com for a more detailed specification)

Insulation/ Air Barrier Material and Air Barrier System: Closed cell, spray applied polyurethane foam, medium density, ccSPF meeting the requirements of CAN / ULC-S705.1-01 (including Amendments 1 and 2) . Certified by EcoLogo as containing a minimum of 5% recycled content by mass of finished product. GREENGUARD Indoor Air Quality Certified® by the GREENGUARD Environmental Institute under the GREENGUARD for Children & SchoolsSM product certification program. Eco-efficiency, life cycle analysis approved by NSF. Product to utilize Zero ODS (Ozone Depleting Substance) blowing agent.

Product: WALLTITE® v.3 by BASF

QUALITY ASSURANCE PARAMETERS AND REACTIVITY

All Measurements taken at ambient temperatures of 23 °C, using Graco Reactor E30 and Fusion AP 5252 chamber

	WALLTITE v.3	WALLTITE v.3 F	WALLTITE v.3 CT
Hose and Primary Temperatures - °C(°F)	49 (120)	49 (120)	49 (120)
Pressure – Bar (psi)	83 (1200)	83 (1200)	83 (1200)
Gel Time (seconds)	1.85 ± 0.25	1.75 ± 0.25	1.70 ± 0.30

PACKAGING AND STORAGE RECOMMENDATION

WALLTITE v.3 is sold to licensed contractors in drums, totes or bulk tankers. It consists of two components: WALLTITE v.3 Resin and Elastospray 8000A Isocyanate.

	WALLTITE v.3 Resin	Elastospray 8000A Isocyanate
Shelf Life	6 months	12 months
Storage Temperature Recommendations	15°C-25°C (59°F-77°F)	15°C-25°C (59°F-77°F)
Drum Mass	220 kg (485 lb)	250 kg (551 lb)
Drum description	Steel drum - purple	Steel drum - red

LIQUID COMPONENT PROPERTIES

	WALLTITE v.3 Resin	Elastospray 8000A Isocyanate
Viscosity – mPa·s @ 25°C (77 °F)	250 ± 50	200 ± 30
Specific Gravity @ 25°C (77°F)	1.20	1.22
Flash Point	>93°C (>200°F)	>200 °C (>390 °F)
Ratio (Parts by Volume)	100	100

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Revision Date: February 4, 2015

Page 4 of 6

HEALTH, SAFETY AND TOXICITY CONSIDERATIONS HANDLING RECOMMENDATIONS:

Always handle and apply WALLTITE v.3 in accordance with the BASF Canada QATP manual.

Do not apply WALLTITE v.3 in excess of 50 mm (two inches) per pass due to the product's exothermic effect. Allow appropriate cooling times between passes (see the Application section, above).

Elastospray 8000A Isocyanate

- Use personal protective equipment (see MSDS)
- Avoid all contact with skin and eyes
- Do not inhale the vapours
- Do not store in a humid environment
- In case of spills, absorb using sand or absorbing material (not sawdust)
- For larger spills, contact BASF Canada at 1-800-454-2673, or any agency specialized in chemical damage control (e.g. CANUTEC at 613-996-6666)

WALLTITE v.3 Resin

Contains a low boiling point 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

Installation Safety

At all times while spraying, properly fitting breathing apparatus supplying fresh air **must** be worn by the installers and others working within 10 meters (33 feet) of the installer. Protective gloves, overalls, eye protection, safety shoes and hard hats must also be worn while spraying. While spraying, always provide mechanical ventilation with a minimum 0.3 air changes per hour and continuing for 24 hours following installation. People with known respiratory allergies must avoid exposure to the isocyanate component. If inhalation of vapours 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.

Fire Hazard

Fires involving either component may be extinguished with carbon dioxide, dry chemical, or an inert gas. Personnel fighting the fire must be equipped with self-contained breathing apparatus.

PRECAUTIONS/LIMITATIONS

Do not install in locations where a non-combustible insulation is required. Keep minimum distances of 75 mm (3 in) from heat emitting devices. When installed inside a building protect foam in accordance with the building code requirements using a layer of drywall or a suitable thermal barrier.

WALLTITE v.3 and ENERTITE® 1-2-1™ using the same machine. These two materials are distinct products with distinct application processes that MUST be stringently observed.

Changing to ENERTITE 1-2-1

- Use a separate drum pump or wipe down pump shaft before putting into ENERTITE 1-2-1 drum.
- Mix ENERTITE 1-2-1 resin drum on high speed (800 rpm or level 3 on a Twistork) for a MINIMUM of 30 minutes prior to flushing.
- Constant mixing on low speed (400 rpm or level 1.5 on a Twistork) is required during flushing of resin.
- Flush WALLTITE v.3 from coupling block into pail until colour of resin has completely changed from purple to yellow cream. Do not mix resins for recycling purposes; this can result in chemical contamination. Flush resin to be disposed of according to local regulations.
- Spray out a test sample to ensure ENERTITE 1-2-1 meets density criteria. If good, continue to application techniques (refer to BASF Canada ENERTITE 1-2-1 Application Guide), otherwise continue flushing and test again.

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Page 5 of 6

Changing to WALLTITE v.3

- Flush ENERTITE 1-2-1 from coupling block into pail until colour of resin has completely changed from yellow cream to purple. Do not mix resins for recycling purposes; this can result in chemical contamination. Flush resin to be disposed of according to local regulations.
- Spray out a test sample to ensure WALLTITE v.3 meets minimum density criteria (refer to BASF Canada WALLTITE v.3 Application Guide). If good, continue with application, otherwise continue flushing and test again.

TECHNICAL ASSISTANCE

For more detailed information, call:

Eastern region:
Ontario, Quebec, Maritimes

Western region:
British Columbia, Alberta, Saskatchewan, Manitoba,
North Western Territories, Yukon, Nunavut
Toll-Free: 1-800-891-0671

BASF Canada Inc.: www.walltite.com

Toll-Free: 1-866-474-3538

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By: Michelle Cataldo Date: Dec. 21, 2018
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Page 6 of 6