WALLTITE®

Insulation/Air Barrier System

Raising Performance To New Heights™

WALLTITE is a spray applied polyurethane foam system intended for various insulation/air barrier applications. Available in regular and cold temperature grades, the WALLTITE system is designed for application from -10°C to +40°C (14°F to 104°F). The foam is produced from two liquid components, WALLTITE Resin and Lupranate 17 Isocyanate, which are combined on site using a 1:1 by volume proportioner. The foam is blue in colour.

Liquid component properties

	Resin	Isocyanate
Viscosity mPa•s @ 25°C (77°F)	100 ± 30	200 ± 30
Specific Gravity @ 25°C (77°F)	1.15	1.22
Flash Point °C (°F)	>200 (>392)	>200 (>392)
Ratio (by volume)	100	100

Quality control machine parameters

	°C	°F
Primary Heater		
- Resin	49	120
- Iso	49	120
Hose Heater	49	120
Mixing pressure in bar (psi)	59 to 83	850 to 1,200

Temperature used in the laboratory

Ambient temperature	23	73
Substrate (Cardboard)	23	73

Quality control reactivity profile

WALLTITE: Regular grade

Cream time (sec.)	≤ 1
Gel time (sec.)	1.5 ± 0.25
Tack free time (sec.)	3.5 ± 0.5
Rise time (sec.)	4.5 ± 0.5
Density (core) kg/m³ (lb/ft³)	31.2 ± 0.8 (1.95 ± 0.05)

WALLTITE CT: Cold temperature grade

Cream time (sec.)	≤ 1
Gel time (sec.)	1.1 ± 0.25
Tack free time (sec.)	2.3 ± 0.5
Rise time (sec.)	2.6 ± 0.5
Density (core) kg/m³ (lb/ft³)	34.4 ± 0.8 (2.15 ± 0.05)

Test Results (in accordance with CAN/ULC-S705.1)
The following data (tested at an independent laboratory) was submitted to obtain the CCMC #12840-R. The samples were conditioned under test method ASTM D618 (88hr @ 23°C (73°F), 50% RH)

Density (core)

(ASTM D-1622):		
kg/m³ (lb/ft³)	30.4	(1.90)

Compressive strength

(ASTM D-1621): Parallel to rise (10% compression)		
kPa (psi)	222	(32)

Tensile strength

(ASTM D-1623):		
kPa (psi)	337	(49)

Open cell content

(ASTM D-2856): %	< 1

Water absorption

(ASTM D-2842): % by volume	2.5

Dimensional stability

(ASTM D-2126): % volume change after 28 days	
-20°C (-4°F)	-0.047
100°C (212°F)	8.45
70°C (158°F), 90±3% RH	7.64

Thermal resistance*

(ASTM C-518):	
After 2 days at 23°C (73°F)	
[m²•°C/W]/25mm	1.46
[ft²•hr•°F/Btu]/in	8.29
After 90 days at 23°C (73°F), 50% RH	
[m²•°C/W]/25mm	1.14
[ft²•hr•°F/Btu]/in	6.47

Thermal conductivity

(ASTM C-518):	
After 2 days at 23°C (73°F)	
W/m•°C	0.017
Btu•in/ft²•hr•°F	0.118
After 90 days at 23°C (73°F), 50% RH	
W/m•°C	0.023
Btu•in/ft²•hr•°F	0.159

Water vapour permeance – without the skins

(ASTM E-96): ng/Pa•s•m²	125

Flame spread classification**

For a thickness of 50mm (2 inches)	
(CAN/ULC-S102 including -S127)	375
Smoke Determined	288

Emissions during aging volatile organic compound (VOC)

Below detection limit after 24 hours when tested to CAN/ULC-S774

Service temperature

°C	(°F)
-40 to +80	(-40 to +176)

* 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 from CCMC 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.

WALLTITE® by BASF – The Chemical Company

BASF
The Chemical Company

Certification

WALLTITE is listed under:

- **CCMC 12840-R** for insulation
- **CCMC 12877-R** for air barrier material
- **CCMC 12932-R** for air barrier system

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WALLTITE®

Insulation/Air Barrier System

Applications

Air Leakage Results

As per the technical guide for: Air Barrier Systems for exterior walls of low-rise buildings, Master Format Section: 07272 Prepared by CCMC, NRC

Material result

L/s/m² at 75 Pa	0.000418

System result

L/s/m² at 75 Pa	0.0054

WALLTITE exceeds the requirements stated in section 5 of the 1995 National Building Code (NBC).
WALLTITE also conforms to CAN/ULC-S705.1 and must be applied by certified contractors as per CAN/ULC-S705.2.

Vapour Permeance

When the product is installed in an exterior insulative sheathing-type application, the low water vapour permeance (WVP) value requires that the wall assembly conform to table 9.25.1.2. and Subsection 9.25.4. and Article 9.13.3.3. of the NBC 1995.

Tests done by an independant laboratory:

Substrate	WVP of the substrate	WVP of substrate + 25 mm (1 inch) WALLTITE 30.4 kg/m³ (1.90 lb/ft³)
	ng/Pa•s•m²	ng/Pa•s•m²
1⅜" Concrete slab	9.8	2.8
½" O.S.B.	49.0	33.0
½" Plywood, int. grade	75.9	36.9
½" Gypsum, int. grade	1,656.0	90.7
¼" Cardboard	—	76.3
2" Concrete block	—	59.0

General Application Instructions

WALLTITE, properly applied, will produce a high quality polyurethane foam. Regular grade system must be applied between +5°C to +40°C (41°F to 104°F). Cold temperature grade system must be applied between -10°C to +5°C (14°F to 41°F). Spraying on lower temperature surfaces may result in poor adhesion between the foam and the substrate.

Machine parameters (field)

Primary heater temperature	32°C to 49°C (90°F to 120°F)
Hose heater temperature	32°C to 49°C (90°F to 120°F)
Mixing pressure	59 to 83 bar (850 to 1,200 psi)

Storage Recommendations

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

	Isocyanate	Resin
Shelf Life	12 months	6 months
Temperature	16°C - 27°C (60°F - 80°F)	16°C - 23°C (60°F - 73°F)

Health, Safety and Toxicity Considerations

Handling recommendations:
Isocyanate – Lupranate 17

- 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 minor spills, absorb using sand or absorbing material (no sawdust)
- For more severe spills, contact BASF Canada at 1-800-454-2673, or any agency specialized in chemical damage control (e.g. CANUTEC at 613-996-6666)
- For more information, please consult the MSDS

Resin WALLTITE

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, overalls, eye protection, safety shoes, hard hats and a properly fitting breathing apparatus supplying fresh air **must** be worn by the installers (and others working within 10 meters of the installer) at all times while spraying.*** Persons with known respiratory allergies must avoid exposure to the Isocyanate component. If inhalation of the 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.

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

Drum Description

Isocyanate: Red 250 kg (551 lb), steel drum
Resin: Blue 220 kg (485 lb), 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.

*** As per the standard CAN/ULC-S705.2-05

BASF Canada
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