

# Closed cell insulation



Flexible, elastomeric thermal insulation, black in color. It is furnished with a smooth skin on one side which forms the outer exposed insulation surface. It is manufactured without the use of CFC's, HCFC's, or HFC's. It is also formaldehyde-free, low VOCs, dust free, fiber free and resists mold and mildew.

## Factory mutual (FM) approvals

### Thermal conductivity

- 0.25 BTU=in./hr. ft<sup>2</sup> °F

### Water vapor transmission:

- 0.05 perm-inch

### Fire rating

- Will not contribute significantly to fire (simulated end use testing)

As tested by ASTM E 84 "Method of Test for Surface Burning Characteristics for Building Materials" and CAN/ULC S-102, has a flame-spread index of less than 25 and a smoke-developed index of less than 50.

**Note:** Numerical flammability ratings alone may not define the performance of products under actual fire conditions. They are provided only for use in the selection of products to meet limits specified.

## Uses

The recommended temperature usage range is -70 °F to 220 °F (-57 °C to 105 °C) according to method of application. With full adhesive coverage attachment, the surface to which it is applied may operate to a limit of 180°F (82 °C).

Conforms to NFPA 90A and NFPA 90B requirements.

## Resistance to moisture vapor flow

The closed-cell structure of the insulation prevents moisture from wicking and makes it an efficient insulation.

## Specification compliance

### Insulation developed to meet:

- ASTM C 534, Type II – Sheet Grade 1
- ASTM C 1534
- ASTM E 84
- NFPA 255
- UL 723
- CAN/ULC S-102
- UL 94 5V-A, V-0, File E55798
- NFPA 90A, 90B
- UL 181
- ASTM G21/C1338
- ASTM G22
- ASTM D 1056, 2B1
- MIL-P-15280J, FORM S
- MIL-C-3133C (MIL STD 670B), Grade SBE 3
- MEA 107-89M
- City of Los Angeles – RR 7642

## Physical data

### Physical properties

### Test methods

Physical properties	Test methods
<b>Thermal conductivity</b> Btu • in./h • ft <sup>2</sup> • °F (W/mK) ■ 75 °F mean temperature (24 °C) ■ 90 °F mean temperature (32 °C)	0.25 (0.036) 0.256 (0.037) ASTM C 177 or C 518
<b>Water vapor permeability</b> Perm-in. [Kg/(s•m•Pa)]	0.05 (0.725 x 10 <sup>-13</sup> ) ASTM E 96, Procedure A
Flame spread and smoke developed index through 1" (25 mm)*	25/50 ASTM E 84 CAN/ULC S102
Mold growth Fungi resistance Bacterial resistance	UL181 ASTM G21/C1338 ASTM G22 Meets requirements Meets requirements Meets requirements
Water absorption, % by volume	0.2% ASTM C 209
Upper use limit	180/220 °F (82/105 °C)
Lower use limit <sup>Ⓢ</sup>	-297 °F (-183 °C)
Ozone resistance	Good
Density, typical range <sup>Ⓢ</sup>	3.0 to 6.0 lbs./ft <sup>3</sup> ASTM D 1622 D 1667

Performance approved through continuing supervision by Factory Mutual (FM) approvals.

<sup>Ⓢ</sup> At temperatures below -20 °F (-29 °C), elastomeric insulation starts to become less flexible. However, this characteristic does not affect thermal efficiency or water vapor permeability of the insulation.

<sup>Ⓢ</sup> Reference ONLY.