

# MILEX™ Thermal MAX® INSULATION



## INSULATION CLASS

**Class III:** A Class III commodity is defined as a product fashioned from wood, paper, natural fibers, or Group C plastics with or without cartons, boxes, or crates.

## INSULATION CATEGORY

Loose-Fill or Blow-in

## PRODUCT OVERVIEW

### MILEX™ Thermal MAX® General Description

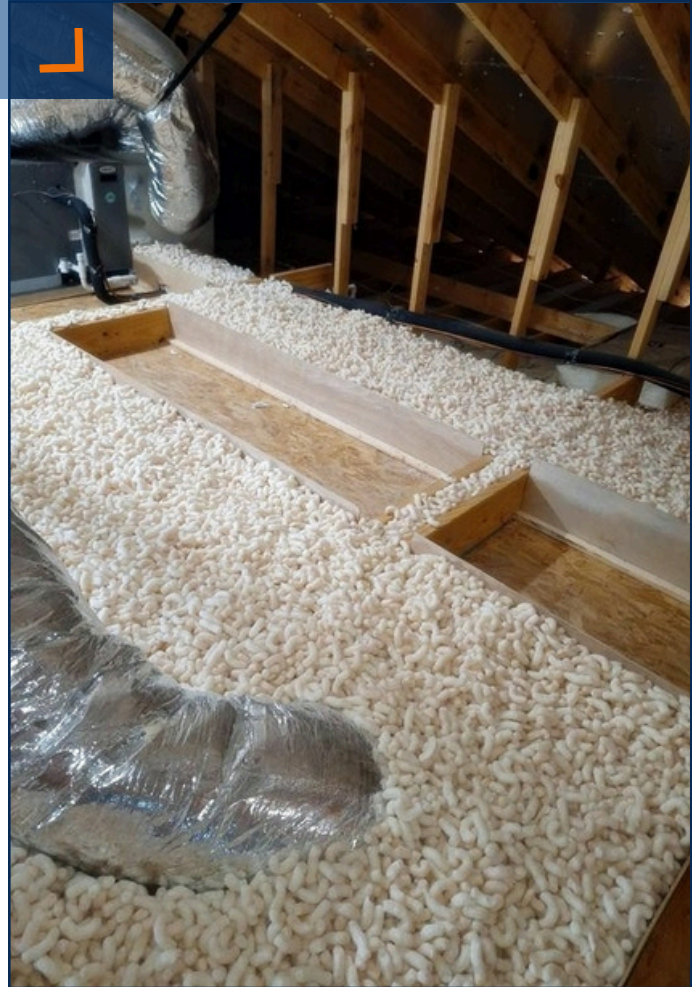
**MILEX™ Thermal MAX®** is an all-natural loose-fill/blow-in insulation material made exclusively from domestically grown grain sorghum. **MILEX™** is produced through an extrusion process that creates high performance “Thermal Puffs” which offer an R-value of 3.25 per inch. **MILEX™** is treated with naturally occurring borate (boric acid). Borate is an excellent fire retardant, mold inhibitor, and pest deterrent. **MILEX™** provides homeowners and business owners all-natural insulation alternative produced using domestic agricultural resources.

### General Application

**MILEX™ Thermal MAX®** is suitable for any residential or commercial project where loose-fill/blow-in insulation can be used. **MILEX™** should be blown into the insulated space using a specialized **MILEX™** blower and following manufacturers recommended coverage chart. **MILEX™** has lower Thermal Resistivity qualities making it the ideal insulation for all seasons and climates.

## KEY ATTRIBUTES

- 3.25 R-value per inch
- Minimal shrinkage. Maintains R-value over life of home reducing, or eliminating, the need to re-insulate
- Exclusive Transferrable Lifetime Warranty.
- The raw material (sorghum) is natural, renewable, sustainable and sourced within the United States.
- Contains no potentially harmful polymers



## TECHNICAL DATA

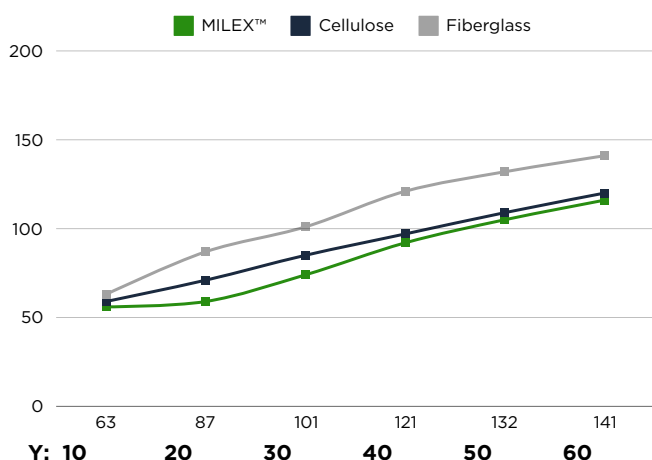
<b>Description</b>	Natural loose-fill insulation for residential & commercial spaces
<b>Declaration</b>	Expanded grain sorghum, boric acid
<b>R-value</b>	3.25 per inch. (ASTM C518)
<b>Fire Safety</b>	Critical Radiant Flux (CRF): ASTM E 970-14, Smoldering combustion: ASTM E136-19
<b>Volume/Weight</b>	12 f <sup>3</sup> (Cubic Feet): 8.4 lbs. 0.7 lbs. per f <sup>3</sup>

# PRODUCT TEST DATA

MILEX™ insulation products are engineered to comply with, and often exceed, all applicable federal standards and regulations pertaining to thermal insulation for both new construction and retrofit applications in residential buildings. Our commitment to quality assurance ensures that **MILEX™ Thermal MAX®** delivers superior energy efficiency and thermal performance, in alignment with the stringent criteria set forth by federal guidelines.

## Comparative Thermal Resistivity

Thermal resistivity is a measure of a material's ability to resist the flow of heat. In the context of insulation, it refers to how well the insulation material can prevent heat transfer through it.



Vertical Axis: Temperature of Insulation Material  
Y Axis: Time in Minutes in Oven at 200 °F

## WARRANTY

MILO Insulation is pleased to provide our exclusive **Transferable Lifetime Warranty** on all MILEX™ insulation products. This warranty offers lasting protection and value, ensuring a lifetime of coverage not only for you but also for the future home buyer should you decide to sell your property.

This warranty underscores our dedication to providing enduring value and peace of mind, allowing homeowners to transfer the warranty to subsequent property owners, thereby enhancing the long-term investment potential of their home. For full details on the terms and conditions, please consult the [Warranty](#) documentation.

Physical Properties	Test Method	Results
Design Density (Lb/ft3)	CAN/ULC S703-09 (Section 6.3.3)	0.85
Critical Radiant Flux (W/cm2)	ASTM E970	0.33 / PASS
Smoldering Combustion (max %)	ASTM E136	1.96
Fungi Resistance	ASTM C1338	PASS
Corrosiveness (Copper & Aluminum)	ASTM C665	PASS
Corrosiveness (Steel)	ASTM C1617	Less Than 0 PPM
Moisture Vapor Sorption (Mass %)	ASTM C739	PASS
Odor Emission	ASTM 1303	0.26
Thermal Resistivity (ft²*hr*F/Btu*in) Test 1 Test 2 Test 3 <b>Average</b>	ASTM C518	3.38 at 0.84 Lb/ft3 3.04 at 0.84 Lb/ft3 3.18 at 0.83 Lb/ft3 <b>3.25 at 0.84 Lb/ft3</b>
Installed Thickness	ASTM C1374	Completed

## PRODUCT PERFORMANCE & SAFETY

Independent laboratory testing and certification shows that MILEX™ insulation performs comparably to traditional insulation materials in terms of heat retention and moisture resistance. MILEX™ is non-toxic and poses no known health risks to installers or building occupants.

## COVERAGE

Coverage Estimates are based solely on the initial, pre-settled thickness of insulation material and is for preliminary estimation purposes only. Installers must verify and apply the minimum thickness specified to achieve the designated thermal resistance (R-value). Failure to meet the stated minimum thickness may prevent the product from reaching the specified R-values.

**MILEX™** may experience a normal “settling” of up to three (3) inches as thermal puffs interlock and tighten. Such settling does not degrade the insulation’s thermal efficiency or performance.

### MILEX™ Thermal MAX® Coverage Chart

R-value @75	3.25	13	19	26	32	39	46	52	58	65
Installed Thickness (in inches)	1	4	6	8	10	12	14	16	18	20
Min Weight (lbs/ft2)	0.16	0.31	0.46	0.53	0.58	0.71	0.77	0.91	0.96	1.08

### Estimated Coverage Calculations

To calculate the total cubic feet (ft3) of **MILEX™ Thermal MAX®** insulation required to properly insulate a residential attic or other enclosed space, the following conversion formula must be applied:

$$\text{Cubic feet (ft3)} = \text{SQ. FT.} \times \text{Height in inches} \div 12$$

First, the desired added R-value must be established. Refer to the chart detailing coverage rates and match the corresponding thickness in inches needed to achieve the target R-value.

Once the necessary thickness is identified, apply the conversion formula to estimate the approximate cubic foot amount of **MILEX™** insulation required to complete the insulation project. The insulation contractor must ensure the proper cubic foot amount is obtained to fully and adequately insulate the entire enclosed space.

$$\text{Desired R-value} \quad \left( \text{SQ FT (ft2) of Space} \quad \times \quad \text{R-value Inches} \right) \div 12 = \text{Cubic Feet Needed} \quad \boxed{\phantom{0000}}$$

## ENVIRONMENT & SUSTAINABILITY

**MILO Insulation** is an industry leader in developing and supplying natural insulation products and renewable energy solutions in a sustainable manner. **MILO Insulation** is committed to furthering environmental sustainability through the products and services it offers to the building industry.

**MILEX™ Thermal MAX®**, is manufactured using sustainably-sourced grain sorghum. The sorghum used in **MILEX™** is grown by local farmers, providing economic opportunities for rural communities while utilizing natural and renewable resources. The sorghum “berries” are expanded into lightweight insulation using a patented process that does not utilize expensive or hazardous chemical blowing agents as required by most synthetic insulation materials. **MILEX™** contains no toxic chemicals and will fully biodegrade at the end of its useful life. **MILEX™** maintains its insulation properties over the lifetime of the building without compressing or deteriorating like traditional insulation materials, thereby potentially eliminating the need to reinsulate.

More information regarding MILO Insulation, LLC and our **MILEX™** insulation product, including product specifications and technical data, warranty information, a distributor locator, and sustainability reports, can be found on MILO Insulation’s website at [www.miloinsulation.com](http://www.miloinsulation.com).

## LIABILITY DISCLAIMER

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## APPLICATION

**MILEX™ Thermal MAX®** is versatile and can be installed in any open flat or inclined area where loose-fill insulation can be effectively applied. This includes the floors of vented attics or sub-deck spaces between different levels of a building. **Thermal MAX®** is suitable for both new and existing construction in residential or commercial projects, where appropriate. However, it is important to note that **Thermal MAX®** is not intended for wall applications.

## INSTALLATION INSTRUCTION

**MILEX™ Thermal MAX®** can be installed directly on top of any existing insulation material, either blow-in or batt insulation products. Removal of old insulation is NOT required. Prior to installing **Thermal MAX®**, make sure to prepare the area by clearing any large items or trash and debris from the space. If blowing on top of existing insulation, installer should level any mounds, or stacks, of batts or loose-fill insulation.

Stated R-value is achieved by installing the minimum required inches per sq. ft. at a thickness not less than the labeled minimum thickness for desired R-value. Failure by the installer to provide the required minimum inches will result in lower insulation R-value.

The use of attic rulers, placed throughout the space being insulated, is strongly recommended to ensure that proper R-value levels (in inches) are added per the **MILEX™ Thermal MAX® Coverage Chart**.

Installer is responsible for making sure **Thermal MAX®** pellets are clear of any bathroom or laundry exhaust fans and cleared from A/C Unit drip pans. Upon installation completion, a **MILO INSULATION** "Attic Card" should be completed and properly displayed the attic near the attic entrance.

## INSTALLATION SAFETY PRECAUTIONS

Recessed light fixtures (Can Lights), or similar electrical devices that emit heat, that are located within the insulated parts of a residential attic, shall have a clearance of no less than 3" inches on all sides, including above. Insulation shall not be placed in contact with or within 3" inches of the recessed light can, unless the device has been approved and rated for contact with insulation, i.e. IC Rated (Insulation Contact Rated).

Insulation is prohibited from being placed in air spaces surrounding metal flues, chimneys or fireplaces. All clearances shall comply with the minimum specifications set forth in NFPA-31, NFPA-54, NFPA-211 or as otherwise required by applicable local building codes.

The use of fire rated "Can Light Covers" is strongly encouraged, and in some instances required.



## INSECT & FIRE PROTECTION

Although **MILEX™** is derived from grain, it does not attract insects or pests. This is due to during the production process, all of the which involves removing all fats, sugars, and proteins in order to achieve proper expansion, effectively rendering **MILEX™** a non-food source, and offers no nutritional value for bugs or rodents.

Additionally, during the curing phase, **MILEX™** is treated with boric powder, a natural fire retardant and pest repellent. This additional treatment not only prevents attraction but actively repels pests, ensuring that **MILEX™** remains free from infestations.

**NOTE:** This document supplements other Milo Insulation materials and must comply with national, state and local building regulations. The customer must assess material suitability and intended purpose. Milo Insulation and its subsidiaries are not liable, including for printing errors or subsequent technical data amendments.

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