



**Closed-cell, duct liner and duct wrap insulation made from a thermoplastic polymer blend**





## CLOSED-CELL Duct Liner and Duct Wrap Insulation

**SafeDuck™** is a flexible, closed-cell insulation product made from a thermoplastic polymer blend. It is supplied in sheet form and has excellent thermal and sound-insulating properties when used for duct liner and duct wrap applications.

## PERFORMANCE

SafeDuck insulation presents a uniform thickness across the profile and length of the duct, providing consistent thermal and sound insulation properties. It has performance properties similar to those of fiberglass and foam rubber insulation. SafeDuck combines the best features of fiberglass—being lightweight—and foam rubber, which is closed-cell. Since SafeDuck is fiber-free, no PPE is required for installation. It is lightweight, and it can be easily carried by one person. Additionally, SafeDuck is closed-cell, so it will not promote mold and mildew.

SafeDuck is tested for compliance with the the performance requirements of ASTM C1534 with respect to the following characteristics: thermal conductivity, surface burning characteristics, water-vapor absorption and transmission, odor emission, corrosiveness, fungi resistance, erosion resistance, and sound absorption coefficient.

Higher R-Value at 1" thickness than competing products

### TEST METHODS

- ASTM C534 Type 2, Grade 1
- ASTM E84 25/50
- ASTM D1667
- ASTM C177
- ASTM E96
- ASTM C209
- ASTM D635
- UL181, ASTM G21



# INSTALLATION

When installing SafeDuck insulation, verify that duct liner substrate is clean and free of oils, and ready to receive adhered liner. Verify

adhesion prior to proceeding with installation. Installation methods should Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 7-11, "Flexible Duct Liner Installation" and duct liner manufacturer's written installation instructions.

When gluing to the ductwork, adhere a single layer of indicated thickness of duct liner with at least 90 percent adhesive coverage at liner contact surface area, completely covering duct. Butt transverse joints without gaps, and coat joints with adhesive. Utilize metal nosing on exposed leading edges of duct liner and where upstream edges face velocity in excess of 4,000 fpm. Fold and compress duct liner in corners of rectangular ducts or cut and fit to ensure butted- edge overlapping.

If rivets are required for the installation, the rivet depth should equal the thickness of the insulation.

Store, handle and install insulated ducts in accordance with duct liner manufacturer's written installation instructions. Avoid contacting insulated surfaces with shipping wrap materials or damaging leading edges of installed insulation.

# PERFORMANCE

Safe Duck is fiber-free making it safer for installers. It is half the weight and has a lower installed cost than foam rubber. SafeDuck has a higher R-Value per square inch and has outstanding thermal performance thus reducing energy costs. Per ASTM E-84 (25/50 smoke/flame rating), Safe Duck exceeds the standard at 4.5 for one inch insulation.



# HOW DO WE COMPARE?

## SAFEDUCK

## FIBERGLASS



Closed-cell structure



Contains glass fibers and causes irritation



Does not absorb water



Absorbs water which leads to mold and mildew



Safe to install



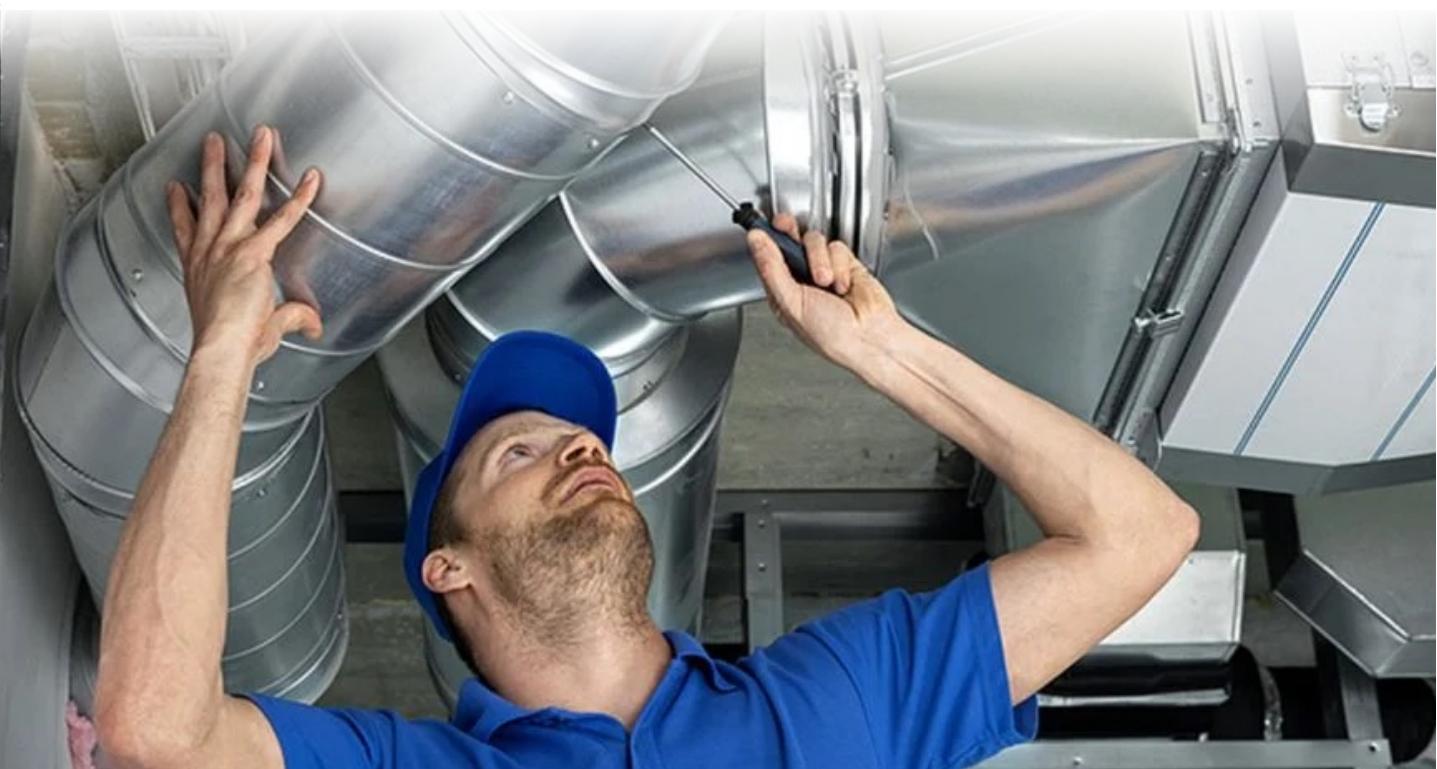
Must wear personal protection equipment to install



Smooth surface - can be cleaned



Cannot clean fiberglass surface - will tear and release glass fibers



# PHYSICAL PROPERTIES

PROPERTY	VALUE	ASTM TEST METHODS
Main Composition	FR PE CoPolymer	
Thermal Conductivity (K) Btu-in/hr-Ft <sup>2</sup> -°F (W/mK)	90°F (32°C) Mean Temp = 0.258 (0.0372) 75°F (24°C) Mean Temp = 0.245 (0.0353) 32°F (0°C) Mean Temp = 0.235 (0.0339)	ASTM C177
Density (up to 1")	1.3 - 2.5 lb/cubic ft	ASTM D1667
Operating Temperature Range	-40°F (-40°C) to +200°F (93°C)	ASTM C534
Water Vapor Permeability (Dry Cup)	<0.01 perm-in	ASTM E96
Water Absorption (Volume Change)	0%	ASTM C209
Flame Spread / Smoke Development	<25/50	ASTM E84
Flammability	Self-Extinguishing	ASTM D635
Mildew/Fungi Resistance	Pass	UL 181, ASTM G21

## Sound Absorption Coefficients at Frequency (Hz (ASTM C423)n

Thickness	125	250	500	1000	2000	4000	NRC
1" (25mm)	0.06	0.05	0.05	0.45	0.27	0.43	0.25

## R-Values (Size is Nominal)

1.0 inch (31.75 mm)

4.5

# KEEPING YOUR DUCTS SAFE



## FIBERGLASS



Smooth, clean surface



Rough, uneven, catches airborne particles



Closed-cell structure, will not absorb water



Absorbs water which can cause mold and mildew



Closed-cell structure



Rough, uneven, catches airborne particles