

# thermaduct

## OUTDOOR DUCT SOLVED

Purchaser	P.O. #	Date
Project	Location	
Engineer	Architect	
Submitted by	For Approval	For Review Only

### Introduction

Thermaduct is a highly efficient code compliant pre-insulated outdoor air distribution system designed to provide high R-values, increase air delivery, IAQ performance and exceptional water tight integrity that excels in providing high performance healthy air delivery for your HVAC applications. Thermaduct is a Kingspan KoolDuct fortified product that offers a fiber-free closed cell foam insulation, factory bonded to a high impact strength UV stable 1000 micron exterior vinyl shell. Thermaduct is highly resistant to punctures, rips, tears and has exceptional rigidity. Thermaduct's exclusive assembly process (Patent Pending) can virtually eliminate air leakage entirely while at the same time provide uncompromising water integrity.



### OD Duct Construction Type

Place an "X" by the duct system that applies:

- ☐ R-8.1 Thermaduct (1 Layer - 1 3/16" Panel)
- ☐ R-12 Thermaduct (1 Layer - 1 3/4" Panel)
- ☐ R-16.2 Thermaduct (2 Layers - 1 3/16" Panel)
- ☐ R-20.1 Thermaduct (1 Layer - 1 3/4" Panel, 1 Layer - 1 3/16" Panel)
- ☐ R-24 Thermaduct (2 Layers - 1 3/4" Panel)

\_\_\_\_\_ " E.S.P.



Before



After

### Standard Features

- Weather proof outdoor cladding
- High R-value
- Low air leakage
- Water tight
- Closed cell, zero fiber insulation
- Low and medium pressure class
- Sturdy hail and people resistant
- High impact resistance
- Passes the UL 181 mold growth test
- Low thermal expansion
- Standard white color \*\*
- Heat reflective surface
- Fully assembled and factory sealed
- KoolDuct fortified interior
- Welded or cohesively bonded seams
- LEED point eligible
- 10 year warranty \*

### Properties

- Color: Polar white with reflective sheen
- Density: Shell offers a tensile strength of 6,350 psi
- Flammability: Core: Kingspan KoolDuct, 25/50 compliant  
Shell: V-0 per UL-94
- Thermal Conductivity: K = 0.146 BTU/in/ft²/hr./degree F
- Minimum R-value: R-8.1 both out of package and installed
- Temperature Limits: Interior; 185 F, Exterior; 165 F
- Closed Cell Content: >90%
- Vapor Barrier: Autohesively bonded aluminum foil with zero permeability 1000 micron UV stable vinyl
- Fire/Smoke Performance: UL 723 Flame spread / smoke development interior <25/50

\* See warranty statement for full warranty details

\*\* Other colors are available. Minimum order required

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## Operating Recommendations:

It is recommended that the application of Thermaduct supplied be utilized for operation as a supply, return, fresh air and exhaust air ductwork applications for heating, ventilation, and air conditioning applications.

Air Velocity (Maximum)	5000 fpm / 25.4 m/s
Design Pressure (Maximum)	Designed up to Pos. and Neg. 10 in-w.g. / 2500 Pa *
Temperature	Internal; Continuous -15°F to +185°F
Size Limitations	None

\* Proper reinforcement required

## Compliance/Testing:

Thermaduct is comprised of a Kingspan KoolDuct fortified cladded duct system in accordance with the requirements of factory-made air ducts. Thermaduct OD is specifically designed for use in outdoor applications where adverse weather conditions will occur. Thermaduct incorporates the following standards:

UL 723, UL 181, 90A, 90B Interior;  
ASTM D-638, ASTM D790, ASTM D-256, ASTM D-4226, ASTM D-4216, ASTM D-792, ASTM D-2240, ASTM D-696, ASTM D-648, UL-94 Exterior Cladding;

## Frictional Properties:

Thermaduct is a factory assembled air distribution system that employs a smooth aluminum surface that has frictional characteristics much like that of galvanized sheet metal. As a result, the frictional pressure drop data for galvanized sheet metal ductwork can be applied when designing and specifying Thermaduct air distribution systems.

## Health & Safety:

Thermaduct high efficiency outdoor air distribution systems have a non-fibrous insulation core that is odorless, non-tainting, non-deleterious, chemically inert and safe to use.

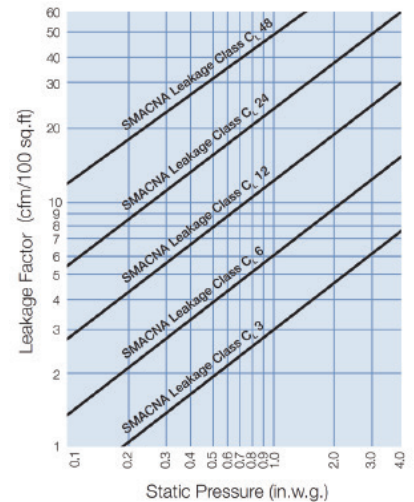
## Additional Information:

Additional information, such as literature, job photos and case studies, can be found online at [www.thermaduct.com](http://www.thermaduct.com) or by calling (855) 566-5382. For general inquiries, you can also reach us at [info@thermaduct.com](mailto:info@thermaduct.com).

## Operating Recommendations:

Thermaduct is designed to withstand a continuous maximum static pressure of 10 inches water guage / 2500 pa\* and is designed to have less than a SMACNA Air-Leakage Class 1 duct with the Thermaduct connection system.

Thermaduct is designed to provide the lowest air leakage rates in the industry. By combining two layers of an autohesively bonded aluminum foil vapor barrier to the inner and outer closed cell Kooltherm insulation core, all protected with 39 mil UV stable vinyl clad with welded or cohesively bonded seams...you simply cannot find a more air and water-tight outdoor duct system anywhere. Combining the best products and techniques to create the finest exterior air distribution product for outdoor ducting applications that we can manufacture.



This chart is based on SMACNA HVAC Air Duct Leakage Test Manual, 1985 Edition found in Figure 4-1 under "Duct Leakage Classification".

## Code Compliance:

Thermaduct will meet or exceed the IECC: 2006, 2009, 2012 and 2013 energy code and ASHRAE 90.1.2004, 2007 and 2010 Energy Standards for Buildings for both return and supply air ducts for both commercial and residential applications.

Thermaduct is designed to meet the needs of outdoor duct applications by employing the assembly of the best technologies available in today's growing levels of energy saving performance. Thermaduct is manufactured under strict guidelines for health and safety in compliance to OSHA CFR29. All manufacturing is compliant to SMACNA duct construction methods employing trained and certified building trade professionals.



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