

# inspiralR<sup>TM</sup> & FLOVAL<sup>TM</sup>

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

## Introduction

Give your round ductwork increased thermal performance with Thermaduct's InspiralR and Floval Duct Systems. These patent pending systems provides the increased air distribution efficiency of round ductwork packaged in an extremely lightweight and high quality closed cell phenolic insulation. There's no need to insulate separately as all InspiralR and Floval ductwork reach an R-6 Insulated value!

## ID Duct Construction Type

☐

inspiralR<sup>TM</sup>

Round Ductwork

☐

FLOVAL<sup>TM</sup>

Flat Oval Ductwork

Confirm Static Pressure:

" E.S.P.

Comments:



## Properties

Color:	Aluminum FSK Exterior Silver Color
Density:	3.43-3.75 pcf / 55-60 gm/m <sup>3</sup>
Flammability:	Core: Closed Cell Phenolic foam, 25/50 compliant
Thermal Conductivity:	K = 0.146 BTU/in/ft <sup>2</sup> /hr./degree F
Minimum R-value:	R-6 both out of package and installed
Temperature Limits:	-15°F to +185°F
Closed Cell Content:	>90%
Vapor Barrier:	Autohesively bonded aluminum foil
Fire/Smoke Performance:	UL 723 Flame spread / smoke development interior <25/50 UL 181 Burning: Pass UL 181 Flame Penetration: 30 minutes

## Standard Features

- High R-value
- Low air leakage
- Water resistant
- Closed cell, zero fiber insulation
- Low and medium pressure class
- UL 181 Listed
- Low thermal expansion
- LEED point eligible
- 10 year limited warranty \*

\* See warranty statement for full warranty details



# inspiralR™ & FLOVAL™

## Operating Recommendations:

It is recommended that the application of InspiralR and Floval 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. 10" w.g. and Neg. 8" w.g. / 2500 Pa *
Temperature	Internal; Continuous -15°F to +185°F
Size Limitations	None

\* Proper reinforcement required

## Compliance/Testing:

InspiralR and Floval are comprised of a closed cell phenolic foam duct system in accordance with the requirements of factory-made air ducts. InspiralR is designed for use in indoor applications where traditional round duct would be used. Thermaduct's InspiralR and Floval incorporate the following standards:

UL (Underwriters Laboratories) 181 Listed as a Class 1 Air Duct when fabricated to a specification clearly defined by the UL.

UL 723, UL 181, 90A, 90B, 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

## Frictional Properties:

InspiralR and Floval are 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 InspiralR air distribution systems.

## Health & Safety:

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

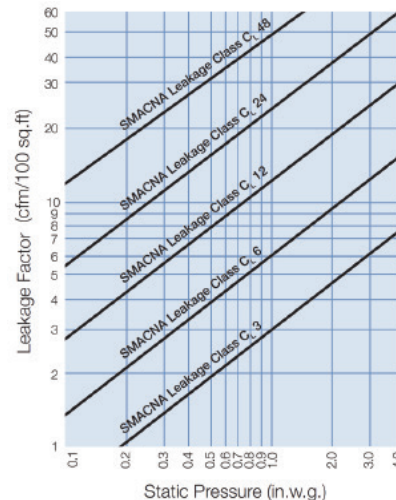
## Additional Information:

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:

InspiralR and Floval are designed to withstand a continuous maximum static pressure of 10" water guage positive and 8" water guage negative / 2500 pa\* and is designed to have less than a SMACNA Air-Leakage Class 1 duct with the InspiralR connection system.

Both systems are 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 insulation core...you have the excellent insulation properties of a phenolic duct system with the efficiency of round ductwork. We work hard to ensure the best products and techniques are used to create the finest air distribution products for ducting applications. InspiralR and Floval are our answer for round and flat oval applications.



This chart is based on SMACNA HVAC Air Duct Leakage Test Manual, 1995 Edition found in Figure 4-1 under "Duct Leakage Classification".

## Code Compliance:

InspiralR and Floval will meet or exceed the IECC: 2006 through 2018 energy codes 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.

InspiralR and Floval are designed to meet the needs of ducting applications by employing the assembly of the best technologies available in today's growing levels of energy saving performance. InspiralR and Floval are 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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