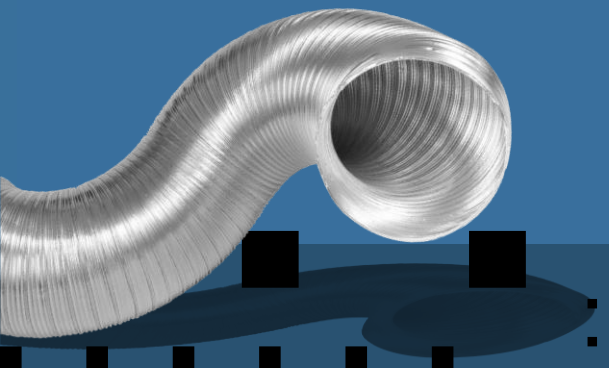
# G.L.V International

## Major Technological Breakthrough Announcement

# Success in the clothe dryer market, **Rigiflex** now provides the optimal solution for bathroom and kitchen air extraction to any outlet.

## The problem

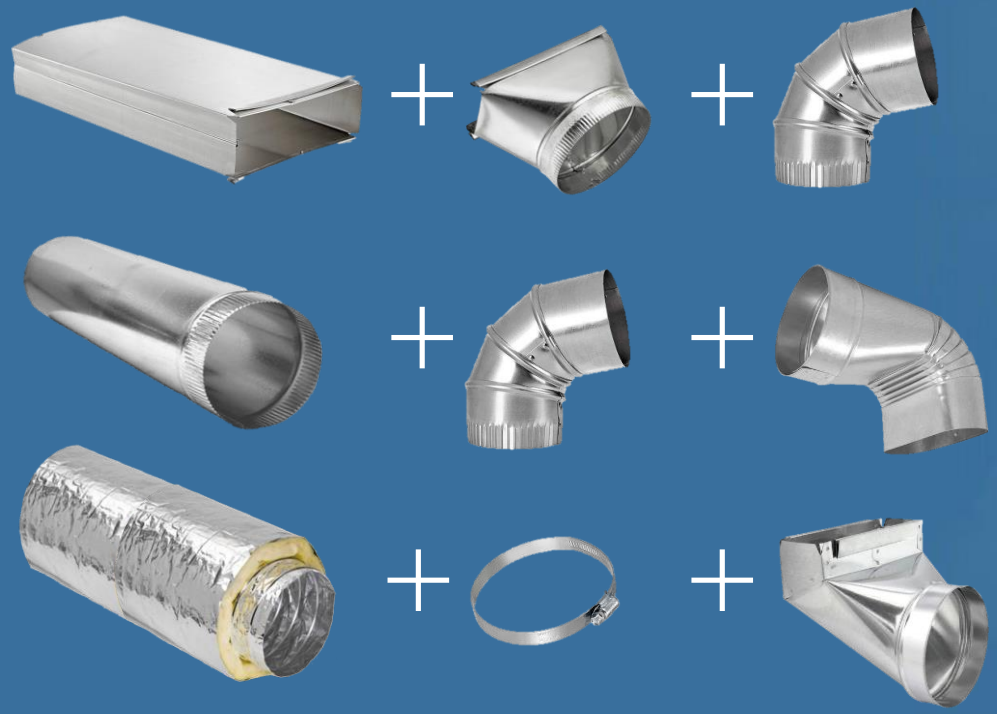
Although insulated 181 air duct products are **not optimal**, they are being used **unnecessarily,** because up till now, there were no class 0 semi rigid non insulated UL 181 Air Ducts, on the market.



## The solution

With new breakthrough technology, Rigiflex is now a flexible class 0 non insulated UL 181 semi rigid Air Duct and suitable for extraction of air to any outlet.
The duct can be used anywhere in the roof, using any length and the only restriction would be to ensure that there is a gravity dumper at the source of the extraction from the house.

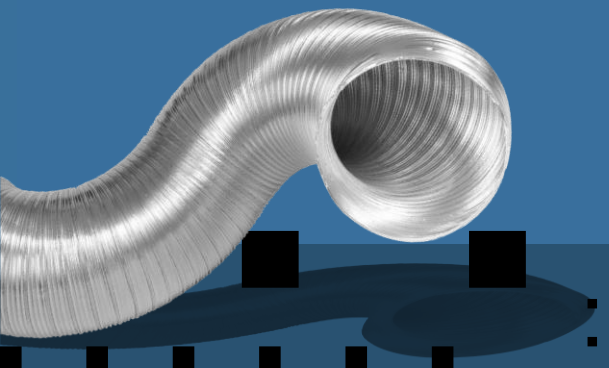
# From rigid UL 181 air ducts / insulated 181 class 1 air duct to a non insulated semi rigid UL 181 class 0 air duct.



# Rigiflex for the building industry – Major Advantages

- IT'S CHEAPER

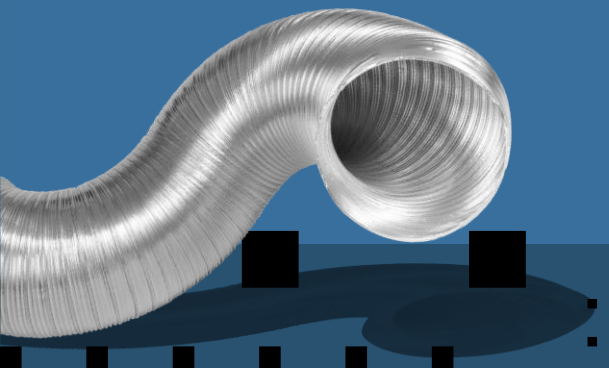
Cost savings throughout the entire value chain in the non insulated product vs insulated and rigid (product level, installation, shipment, warehousing, wastage, etc.).



# Rigiflex for the building industry – Major Advantages

- IT'S CHEAPER
- IT'S SAFER

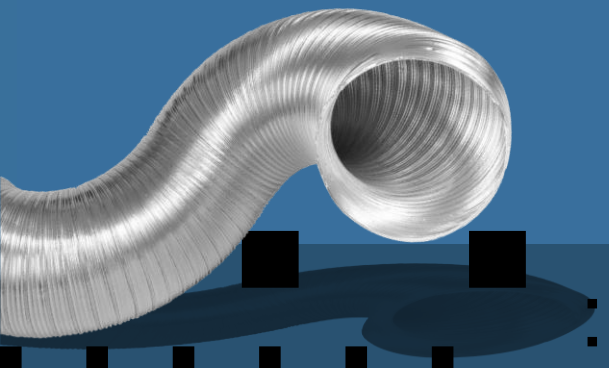
In addition to the normal advantages of semi rigid over rigid duct, GLV non insulated has a Class 0 rating vs insulated duct that has a class 1 rating.



# Rigiflex for the building industry – Major Advantages

- IT'S CHEAPER
- IT'S SAFER
- ENERGY EFFICIENT

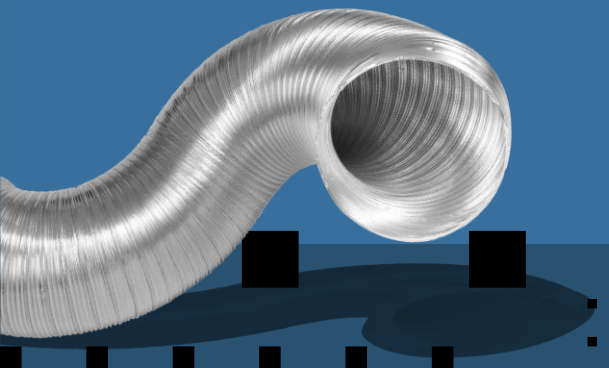
Allows stable and effective airflow without loss along the way.



# Rigiflex for the building industry – Major Advantages

- IT'S CHEAPER
- IT'S SAFER
- ENERGY EFFICIENT
- IT'S EASY TO INSTALL

The product is much EASIER TO INSTALL, considering it's mechanical features e.g. the ability to stay stable at a vertical and/or horizontal grip.



# Rigiflex for the building industry – Major Advantages

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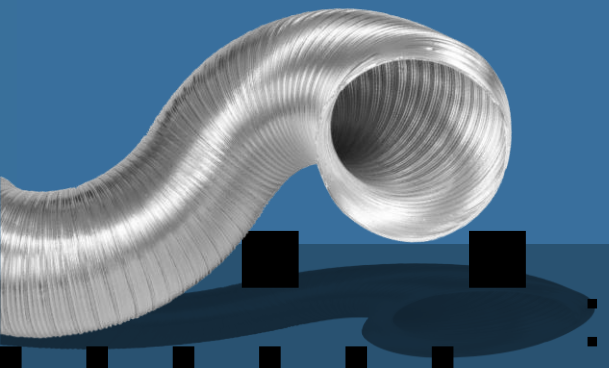
- IT'S SAFER
- ENERGY EFFICIENT
- IT'S EASY TO INSTALL
- FAR LESS WASTAGE

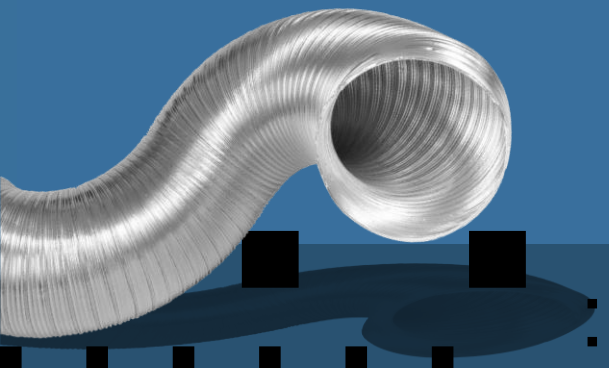
The duct comes in 25ft pieces and only the required lengths are used (vs releasing a 25ft piece of insulated duct that cannot be compacted again).



# Rigiflex for the building industry – Major Advantages

- IT'S CHEAPER
- IT'S SAFER
- ENERGY EFFICIENT
- IT'S EASY TO INSTALL
- FAR LESS WASTAGE
- SAVE A LOT OF SPACE

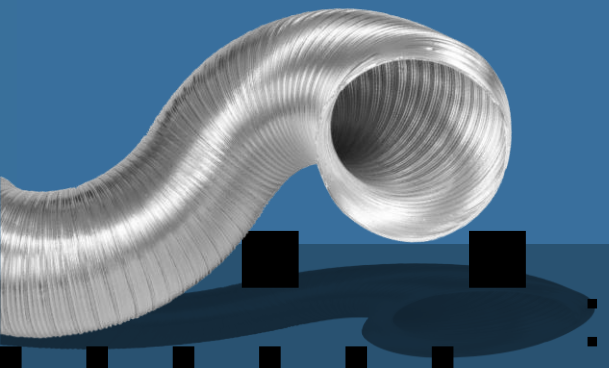
Due to its ability to compact, it will save a lot of space on shelves and/or in transport.



# Rigiflex for the building industry – Major Advantages

- IT'S CHEAPER
- IT'S SAFER
- ENERGY EFFICIENT
- IT'S EASY TO INSTALL
- FAR LESS WASTAGE
- SAVE A LOT OF SPACE
- SPACE SAVING IN TIGHT SPOTS

Can be supplied in an oval shape for space saving in tight spots, wall cavities, etc.



# Rules for Flexible air duct and Air connectors ICC Codes

Air Ducts Versus Air connectors and limitations involved with

Air connectors, as published at ICC Digital Codes (click here)

**603.6.1 Flexible air ducts.**

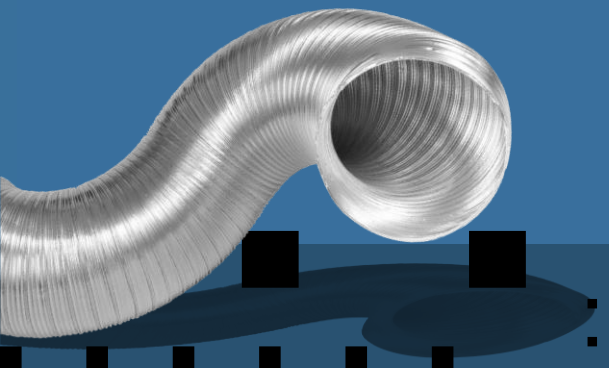
Flexible air ducts, both metallic and nonmetallic, shall be tested in accordance with UL 181. Such ducts shall be *listed* and *labeled* as Class 0 or Class 1 flexible air ducts and shall be installed in accordance with Section 304.1.

**603.6.1.1 Duct length.**

Flexible air ducts shall not be limited in length.

**603.6.2.2 Connector penetration limitations.**

Flexible air connectors shall not pass through any wall, floor or ceiling.



# Rules for Flexible air duct and Air connectors ICC Codes

Air Ducts Versus Air connectors and limitations involved with

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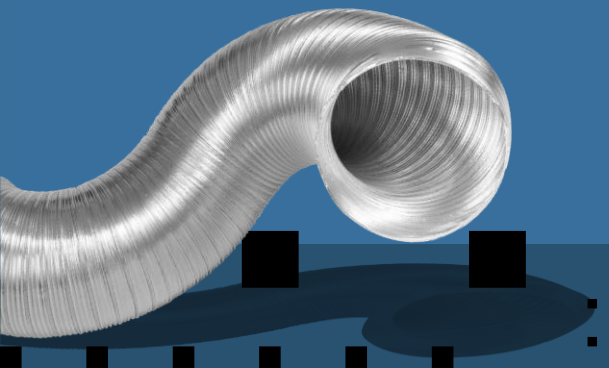
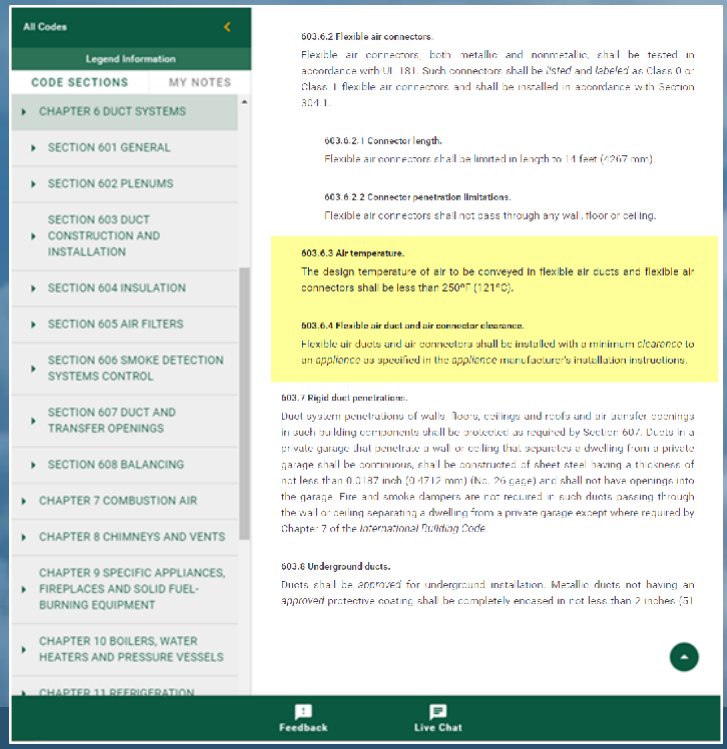
**603.6.3 Air temperature.**

The design temperature of air to be conveyed in flexible air ducts and flexible air connectors shall be less than 250°F (121°C).

**603.6.4 Flexible air duct and air connector clearance.**

Flexible air ducts and air connectors shall be installed with a minimum *clearance* to an *appliance* as specified in the *appliance* manufacturer's installation instructions.



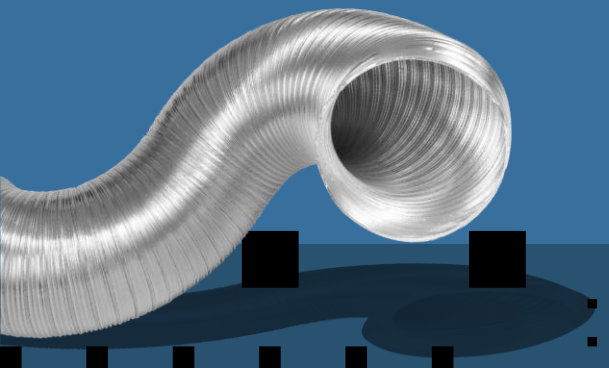


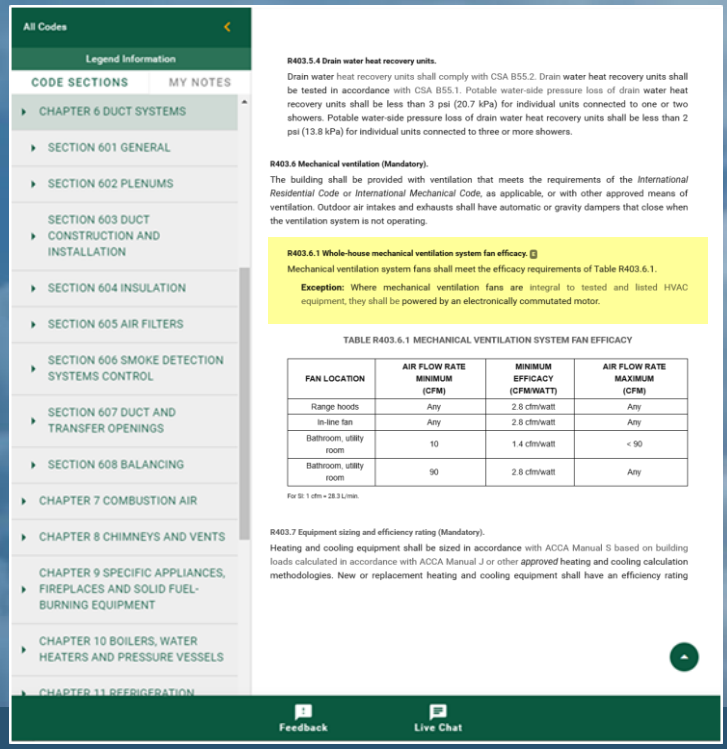
# Rules for Flexible air duct and Air connectors ICC Codes

Rules where to use insulated or non insulated duct (click here)

**R403.6 Mechanical ventilation (Mandatory).**

The building shall be provided with ventilation that meets the requirements of the *International Residential Code* or *International Mechanical Code*, as applicable, or with other approved means of ventilation. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating.





All Codes

Legend Information

CODE SECTIONS | MY NOTES

- CHAPTER 6 DUCT SYSTEMS
- SECTION 601 GENERAL
- SECTION 602 PLENUMS
- SECTION 603 DUCT CONSTRUCTION AND INSTALLATION
- SECTION 604 INSULATION
- SECTION 605 AIR FILTERS
- SECTION 606 SMOKE DETECTION SYSTEMS CONTROL
- SECTION 607 DUCT AND TRANSFER OPENINGS
- SECTION 608 BALANCING
- CHAPTER 7 COMBUSTION AIR
- CHAPTER 8 CHIMNEYS AND VENTS
- CHAPTER 9 SPECIFIC APPLIANCES, FIREPLACES AND SOLID FUEL-BURNING EQUIPMENT
- CHAPTER 10 BOILERS, WATER HEATERS AND PRESSURE VESSELS
- CHAPTER 11 REFRIGERATION

**R403.5.4 Drain water heat recovery units.**

Drain water heat recovery units shall comply with CSA B55.2. Drain water heat recovery units shall be tested in accordance with CSA B55.1. Potable water-side pressure loss of drain water heat recovery units shall be less than 3 psi (20.7 kPa) for individual units connected to one or two showers. Potable water-side pressure loss of drain water heat recovery units shall be less than 2 psi (13.8 kPa) for individual units connected to three or more showers.

**R403.6 Mechanical ventilation (Mandatory).**

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**R403.6.1 Whole-house mechanical ventilation system fan efficacy.**

Mechanical ventilation system fans shall meet the efficacy requirements of Table R403.6.1.

**Exception:** Where mechanical ventilation fans are integral to tested and listed HVAC equipment, they shall be powered by an electronically commutated motor.

TABLE R403.6.1 MECHANICAL VENTILATION SYSTEM FAN EFFICACY

| FAN LOCATION | AIR FLOW RATE MINIMUM (CFM) | MINIMUM EFFICACY (CFM/WATT) | AIR FLOW RATE MAXIMUM (CFM) |
|---|---|---|---|
| Range hoods | Any | 2.8 cfm/watt | Any |
| In-line fan | Any | 2.8 cfm/watt | Any |
| Bathroom, utility room | 10 | 1.4 cfm/watt | < 90 |
| Bathroom, utility room | 90 | 2.8 cfm/watt | Any |

For SI: 1 cfm = 28.3 L/min.

**R403.7 Equipment sizing and efficiency rating (Mandatory).**

Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies. New or replacement heating and cooling equipment shall have an efficiency rating

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