

# FLEXIBLE DUCT

## INSULATED

### Description

ROCKAL flexible ducts are fully flexible high quality thermally insulated ducts for various purposes.

The ducts consist of an ROCKAL inner core shielding the fiberglass insulation from the airstream with a tough outer jacket/vapor barrier constructed of multiple layers of aluminum laminated construction and reinforced with fiberglass. The ducts are easily installed over either round or oval connection. The ducts are manufactured according to the international standard EN 13180.

### Construction and Dimensions

#### Inner Core:

- ROCKAL standard.

#### Types:

- Single layer
- Double layer
- Multi layer
- Metalized

#### Insulation:

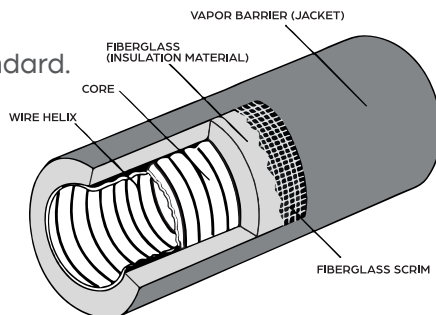
- ECO build environment friendly fiberglass.
- Thickness: 25 or 70 mm.
- Density: 16, 24 or 32 Kg/m<sup>3</sup>.
- Thermal conductivity: < 0.04 W/m.k.
- Euroclass fire rating classification: A1 class

#### Vapor Barrier:

A durable, scuff resistant outer jacket made of strong very tough spirally reinforced multiple layer aluminum laminated construction.

ROCKAL flexible ducts constructed out of a "sandwich construction" laminates. This means the different layers of aluminum and polyester are overlapping each other completely and encapsulates a high tensile steel wire.

The multiple laminates are adhered with fire retardant thermosetting adhesive.



#### Temperature Range:

-30 °C to + 140 °C

#### Air Velocity:

Max. 30 m/s (5900 ft/min)

#### Standard Color:

Aluminum

#### Thermal Conductivity:

0.04 W/m.K

#### Internal Diameter:

All standard diameters ranging from 102mm to 508mm (4 – 20 inch).

#### Fire Class:

Please see schedule on page 274.

#### Wire Spacing:

4 – 6" : 3.0 cm.  
8 – 10" : 3.5 cm.  
12 – 20" : 4.5 cm.

#### Wire:

2 thickness of wire are used:  
1mm, from dia. 102mm – 178mm  
1.2mm, from dia. 203mm – 315mm  
1.2mm, from dia. 356mm – 508mm

#### Chemical Resistance:

- Good resistance to many solvents
- Moderate resistance to acid & base

### Mechanical and Technical Data

#### Minimum Bending Radius:

0.58 x Ø

#### Working Pressure:

Max. 300mm WG (3000 Pa. or 10-inch WG).

## Applications:

Rockal Flexible ducts are used in heating, ventilation and air conditioning (HVAC) to deliver and remove air.

- Air conditioning
- Factory equipment
- Vehicle construction
- Bathroom • Confined space
- Tumbler dryer • Range hood
- Water heater • Fanner

## Packing:

Dia. Range		Std. Length (meters)	Carton Size (mm)
(mm)	(inches)	10 meters	350*350*600
102-305	(4"-12")	10 meters	350*350*750
355	(14")	10 meters	500*500*750
405	(16")	10 meters	500*500*750
457	(18")	10 meters	500*500*750
508	(20")	10 meters	500*500*750

## Standard Length:

10 meters for all sizes

## C-Straps:

Ideally the hanging straps should support the flexible duct with a minimum of half the circumference surface in contact, and without reducing the effective inside diameter of the duct. (See Figure 4 & 5). It is also recommended that the minimum width of material to be used for the hanging straps should be at least 25 mm.

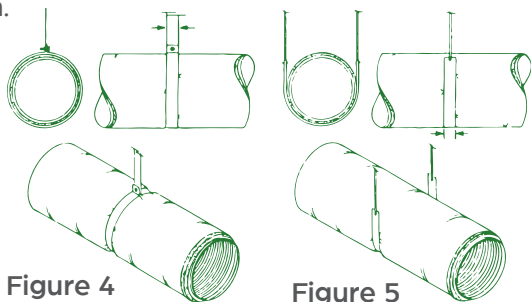
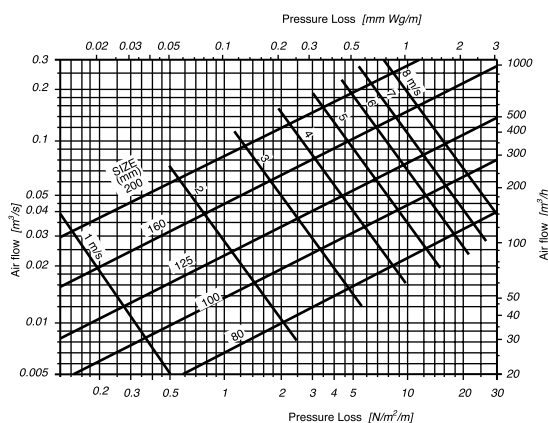


Figure 4

Figure 5



## B- Bending Radius

Minimum permissible radii are generally recommended by the manufacturer. (See Figure 2)

The following comparative dimensions can be recommended:

$R = D$  for metal-based products.

$R = 0.8 \times D$  for aluminum and plastic based products

It is always advisable to make any bend radius as large as possible. This will reduce unfavorable pressure losses and is particularly important for metal-based products which are more susceptible to stress rupturing. Double bends should be avoided, however if unavoidable, ensure that each radius is not less than  $R=2 \times D$  (See Figure 3).

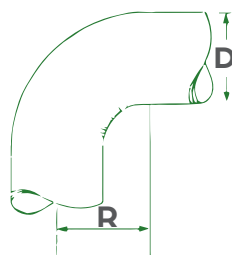


Figure 2

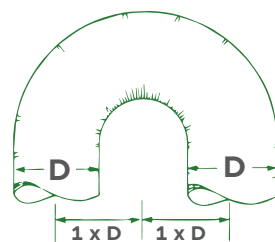
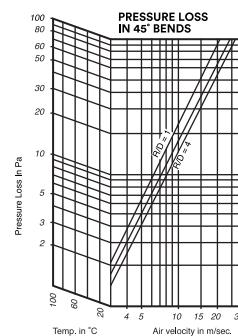
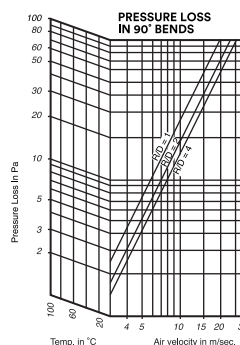
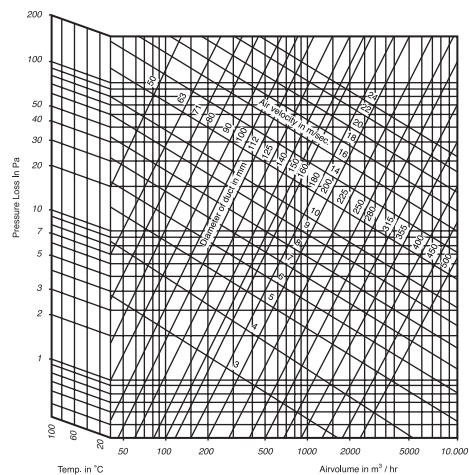


Figure 3



# FLEXIBLE DUCT

## UN-INSULATED

### Description

ROCKAL Standard are fully flexible, light weight, uninsulated, laminated ducts suitable for low- and high-pressure systems. The ducts consist of several layers of aluminum and polyester laminates encapsulating a high tensile steel wire helix. Rockal flexible ducts are easily installed over either round or oval connections. At high temperature, or in case of fire, no toxic or gas emission.

The ducts are manufactured according to the international standard EN 13180.

### Construction and Dimensions

#### Construction:

ROCKAL flexible ducts constructed out of a "sandwich construction" laminates. This means the different layers of aluminum and polyester are overlapping each other completely and encapsulates a high tensile steel wire. The multiple laminates are adhered with fire retardant thermosetting adhesive.

#### Temperature Range:

-30 °C to + 140 °C

#### Air Velocity:

Max. 30 m/s (5900 ft/min)

#### Standard Color:

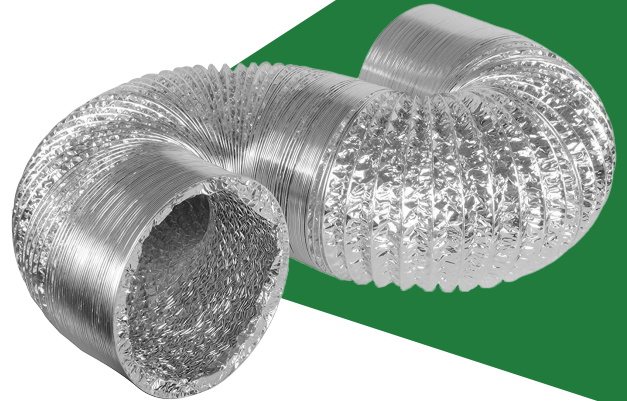
Aluminum

#### Types:

- Single layer
- Double layer
- Multi layer
- Metalized

#### Thickness

Total thickness of layers in rendezvous area (without wire) is about 70 µm



#### Internal Diameter:

All standard diameters ranging from 102mm to 508mm (4 – 20 inch).

#### Fire Class:

Please see schedule on page 274.

#### Wire Spacing:

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#### Wire:

2 thickness of wire are used:

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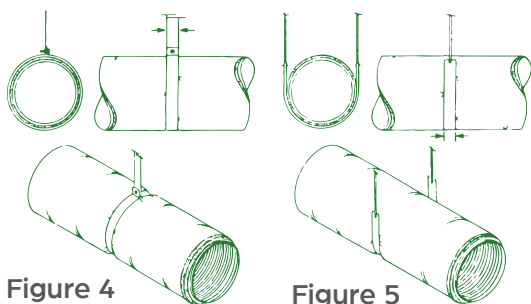
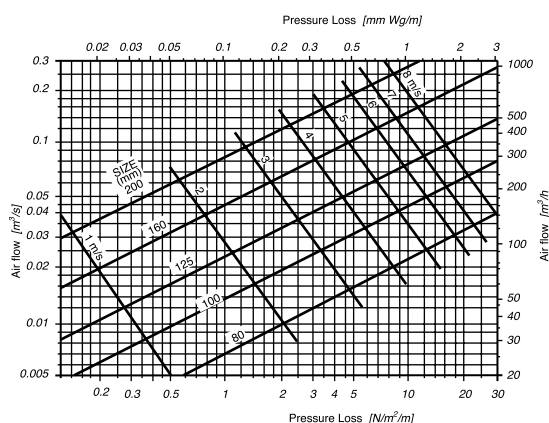


Figure 4

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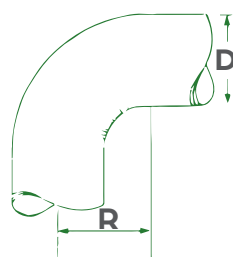


Figure 2

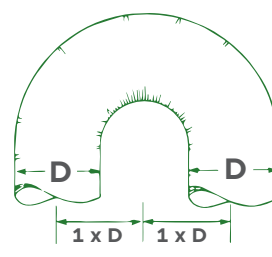


Figure 3

