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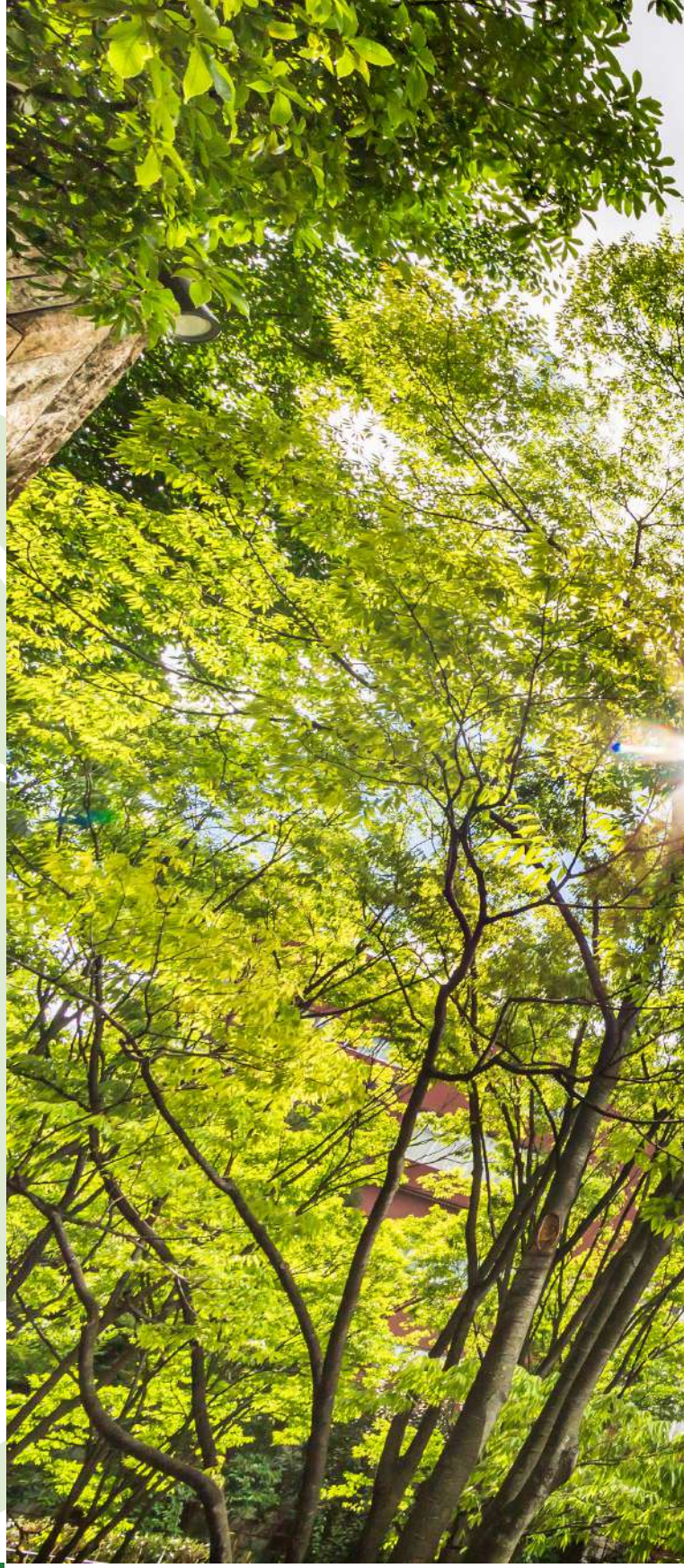
ROCKAL

AL ALAMIA FOR ROCK WOOL CO. الشركه العالميه للصوف الصخري



Rockal Products

www.rockal.org

Thermal And Acoustical Insulation. HVAC Accessories.

CATALOGUE

ABOUT ROCKAL

ROCKAL Is a leading Egyptian producer of building insulation materials.
ROCKAL offers reliable and effective insulation products for construction companies, contractors in Egypt, Middle East & Europe.

19 97

Rockal
THERMAL & ACOUSTICAL INSULATION & HVAC ACCISSORIES

ROCKAL was founded in 1997 & since 2003 then has accumulated considerable experience in manufacturing, import and export the insulation building materials and considered as the leader producer and supplier for insulation building materials.

ROCKAL

AL ALAMIA FOR ROCK WOOL CO. الشركه العالميه للصوف الصخري

ROCKAL provides Wide range of insulation materials and reliable solutions that facilitate making a choice that is best for the project in both in price and in quality.

As well as developing and promoting materials and systems that minimize energy-loss in the industrial sector and public utilities. With experience of more than 25 years in the insulation business by our founders and 15 years of experience as manufacturers and distributors of different insulation materials we have good overview of the market needs and requirments which by years of experience ,we managed to deliver with maximum efficiency.

ROCKAL is proud to offer up-to-date state of the art manufacturing technologies that support the construction revolution and mega projects all over the world and reflect on price as well.

ROCKAL materials are used in the construction of houses, plants, HVAC systems, infrastructure and many applications.
We are proud of ROCKAL products.
Our high-quality insulation materials are produced from plain raw components taking into consideration the environmental impact and practice the latest sustainability measures while producing our products.

We care about our environment, energy efficiency of buildings & cutting down operational and construction costs as well as our consumption of energy in ROCKAL plants.
We enjoy seeing our production accredited and Complying with European, American and International standards, and introducing ROCKAL as a global brand.

RESEARCH & DEVELOPMENT

Al Alamia for insulation has fully equipped scientific research and development center located close to the production site and number of devices to test new materials. Our scientists are focused on the study of performance of building materials, prevention of their aging, increasing the possibilities of application by expanding the operating temperature range, developing additional functions, such as air purification, resistance to moss growth or increasing energy-effectiveness.
Al Alamia for Insulation has invested in the biggest Laboratories in Egypt with continuous improvement strategy and establishing learning center and academy for engineers and chemists to gain knowledge and experience in the waterproofing field. ROCKAL's facilities are equipped with latest technologies that will offer better quality waterproofing.

Laboratory on the factory operate on the base of modern equipment, which is used to study the physical and mechanical characteristics of materials in a wide temperature range, determine the structure and composition of raw materials, test the durability of materials.
Unique chromatograph equipment is used to determine the composition of bitumen for the production of roofing materials, and optimal selection of type and amount of modifying additives.
Research and implementation of advanced technologies allow us to bring new products and many product variations depending on needs of customer each year.
Fire safe materials and construction systems are one of the major priorities of ROCKAL Corporation. Our roofing and waterproofing membranes fully comply with strict European fire safety regulations. Bitumen and synthetic membranes are capable to resist flames and correspond to E class. Roofing systems are tested to evaluate the fire performance and meet the criteria for the Broof classification. ROCKAL stone wool matches the requirements of A1 Euroclass.
In cooperation with research and development centers, factories have obtained a number of product certificates issued by many prestigious institutes around the world.
The artificial climate chamber is used to study the aging process of materials. The method gives the possibility to predict waterproofing materials performance after many years of exploitation on the roof in just 2 or 3 months of testing.

HVAC ACCESSORIES

Thermal And Acoustical Insulation

02 ROCKAL PRODUCTS

www.rockal.org

FLEXIBLE DUCT

INSULATED

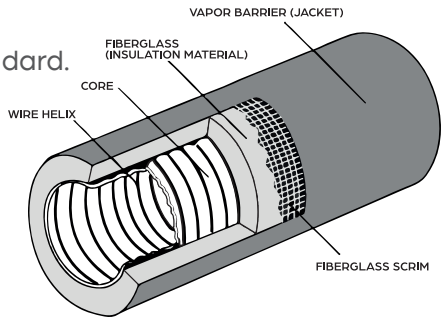
Description

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 50 mm.
• Density: 16, 24 or 32 Kg/m3.
• 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 (3000 ft/min).

Standa rdColor:
Aluminum

Thermal Conductivity:
0.04 W/m.K

Internal Diameter:
All standard diameters ranging from 102mm to 508mm (4 – 20").

Fire Class:
Please see schedule on page 274.

Wire Spacing:
102 – 153 mm (4–6 ") : 3 cm.
203 – 254 mm (8–10 ") : 3.5 cm.
305–508 mm (12–20 ") : 4.5 cm.

Wire:
Diameter of wire are used:
1mm, from dia. 102mm – 153mm (4 – 6").
1.2mm, from dia. 203mm – 508mm (8 – 20").

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
- Tumbler dryer
- Water heater
- Confined space
- Range hood
- Fanner

Packing:

Standard Packing:
Heavy Duty Polyethylene Packaging.

Alternative Packaging:
Heavy Duty Carton Boxes.

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.

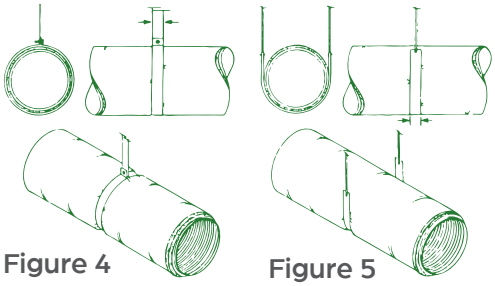
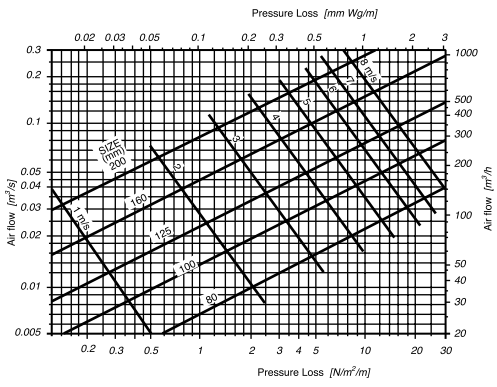


Figure 4

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 x 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 x D (See Figure 3).

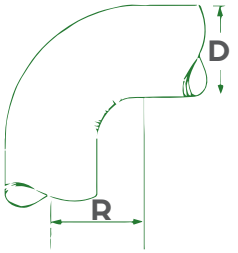


Figure 2

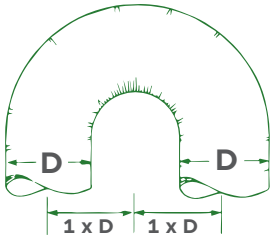
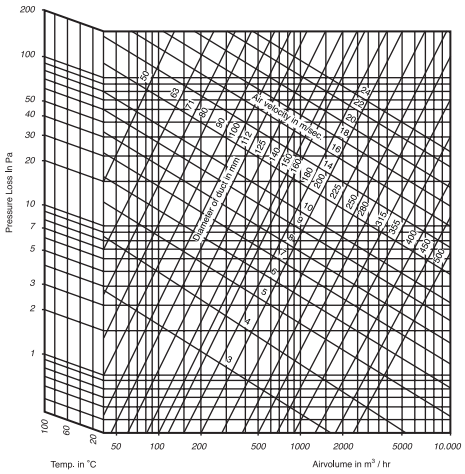
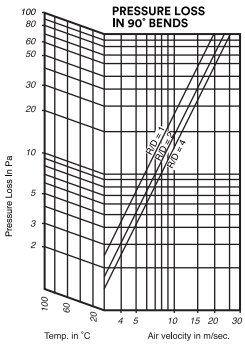
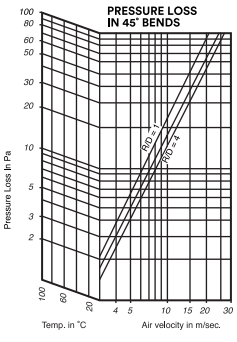


Figure 3

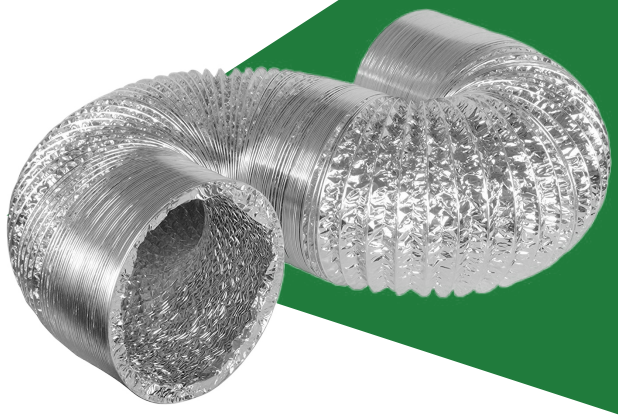






FLEXIBLE DUCT

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 (3000 ft/min).

StandardColor:
Aluminum

Types:
- Single layer
- Double layer
- Multi layer
- Metalized

Thickness
Total thickness of layers in rendezvous area (without wire) is about 50 µm.

Internal Diameter:
All standard diameters ranging from 102mm to 508mm (4 – 20 ").

Fire Class:
Please see schedule on page 274.

Wire Spacing:
102 – 153 mm (4-6 ") : 3 cm.
203 – 254 mm (8-10 ") : 3.5 cm.
305-508 mm (12-20 ") : 4.5 cm.

Wire:
Diameter of wire are used:
1mm, from dia. 102mm - 153mm (4 - 6").
1.2mm, from dia. 203mm - 508mm (8 - 20").

Chemical Resistance:
- Good resistance to many solvents
- Moderate resistance to acid & base

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
- Tumbler dryer
- Water heater
- Confined space
- Range hood
- Fanner

Mechanical and Technical Data

Minimum Bending Radius:
0.58 x Ø

Working Pressure:
Max. 300mm WG (3000 Pa. or 10–inch WG)

Packing:

Standard Packing:
Heavy Duty Polyethylene Packaging.

Alternative Packaging:
Heavy Duty Carton Boxes.

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.

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

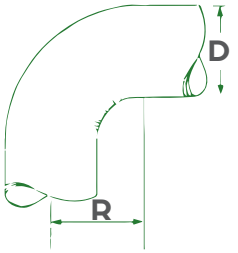


Figure 2

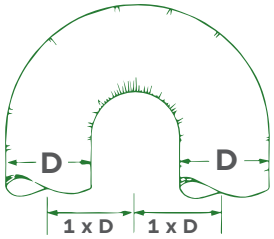


Figure 3

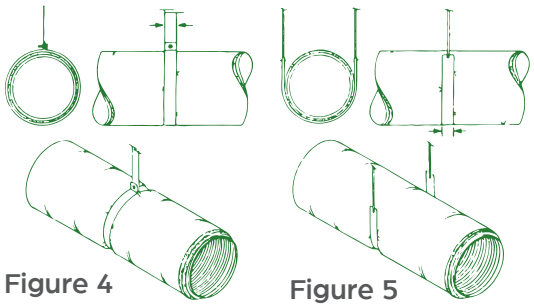
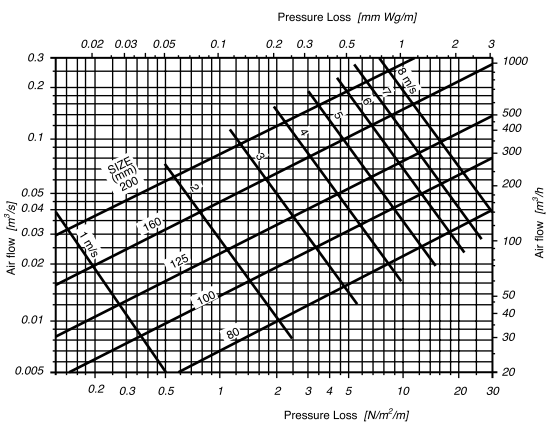
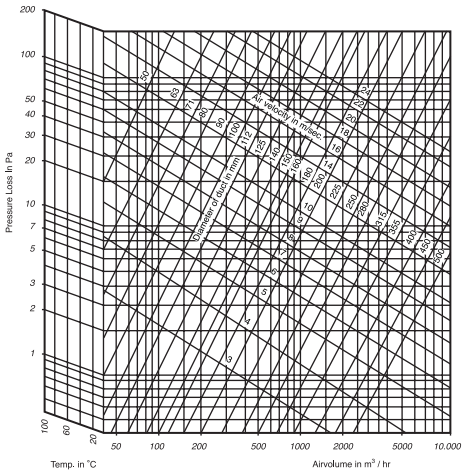
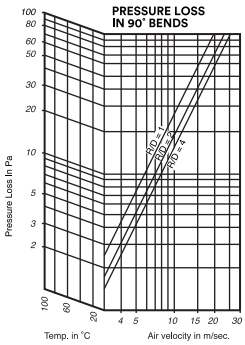


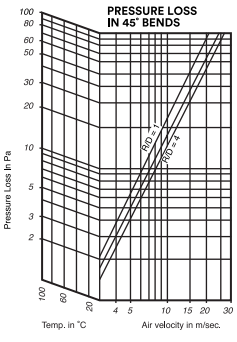
Figure 4

Figure 5









FLEXIBLE DUCT CONNECTOR

General Description

ROCKAL® Flexible Duct Connector (High Quality ventilation product)
Designed to isolate equipment noise and vibration from the ductwork, ROCKAL® flexible duct connector consists of a fabric which is secured to sheet metal on both sides, the connector is inserted between the equipment and the ductwork, Flexible duct connectors are widely used in air conditioning systems for commercial, industrial and residential applications.

Key features:

- Airtight and waterproof.
- Commercial or residential applications.
- Double-lock gripping fingers of metal to fabric adds to holding power.
- Designed to meet NFPA 90A & 90B specifications.
- Pre-assembled with sheet metal permanently secured to fabric.
- Available in a variety of fabrics.
- Fabrics are complying with NFPA 701.
- Heat resistant.
- Durable.
- Flexible.

Duct Connector Fabric Types

PU (Polyurethane)
Polyurethane fabric is fragile in construction but have a longer resistance period to high temperatures.

PVC
is recommended for use in application where high mechanical strength is required, extremely resistant to most alkalies, gasoline and toxic fumes.

SILICONIZED
Silicon fabric has a special silicon rubber coating that has excellent resistance to high and low temperatures. It is recommended for application where high temperature is of main concern in both indoor and outdoor installations.

Application

All mechanical equipment like Air Handling Units, Fan Coil Units and Ventilation Fans generate noise and vibrations when used. To eliminate the noise and vibrations from transmitting through the air ducts, it is necessary to install an airtight flexible joint between the outlet of the equipment, and the inlet of the ducts. During manufacturing, the joint formed by attaching a layer of fabric to two strips of metal on either side is called a "Flexible Duct Connector". The most critical part of this Flexible Duct Connector is the fabric which has to be selected to suit the typical requirements of each installation.

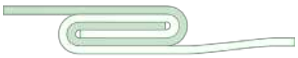
Size availability

Width:

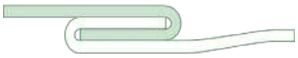
Size	Sheet Metal	Fabric	Sheet Metal
Small size	170mm	470mm	480mm
Large size	240mm	470mm	480mm

Length:
Standard length: 25 m per cardboard Box.

POWER LOCK



SINGLE FOLD



Packing and handling

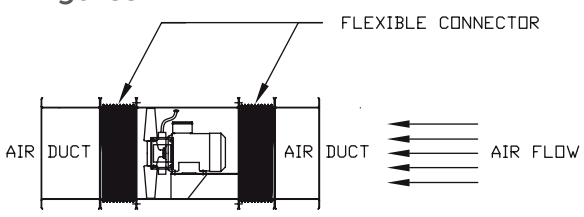
- Small size: Cardboard Box
  480mm x 170mm x 480mm.
- Large size: Cardboard Box
  480mm x 240mm x 480mm.

SINGLE FOLD

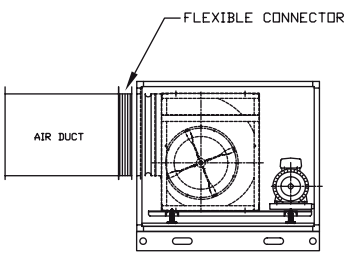
Technical Parameters

TYPES	PU	PVC	SILICONIZED
Base Fabric	Fiberglass	Polyester	Fiberglass
Coating	PU (both sides)	PVC (both sides)	Rubbery surface for grip (both sides)
Color	Grey	Black or Grey	Grey
Temperature Range	-30 C ° up to 250 C °	-30 C ° up to 80 C °	-30 C ° up to 260 C °
Fire Resistance	Fabric: Non-combustible Coating: Fire retardant	Fabric: Limited-Combustibility Coating: Limited-Combustibility	Fabric: Non-combustible Coating: Fire retardant
Tensile Strength	W: 425 lbs F: 280 lbs	W: 280 lbs F: 220 lbs	W: 372 lbs F: 372 lbs
Tearing Strength	W: 65 lbs F: 70 lbs	W: 35 lbs F: 35 lbs	W: 90 lbs F: 90 lbs
Specifications	Strongest all-purpose fabric in the industry with excellent resistance to cuts, tears, and abrasion	Suitable for general applications economical choice	Resistant to weather, most chemicals, water, and oil
Fire performance	Comply with NFPA 90A & 90B Comply with NFPA 701	Comply with NFPA 90A & 90B	Comply with NFPA 90A & 90B
Sheet Metal	Galvanized	Galvanized	Galvanized

Application Figures



EXHAUST FANS



FAN COIL / AIR HANDLING UNITS

Flash Point (ASTM D 3278):
None to boiling (100°C)

Pressure Test:
After 12 hrs. drying at 25°C, up to 60% RH. Bonds to galvanized aluminum or mild steel metal ducts.

Surface Burning Characteristics:
ASTM E 84: Class A
BS 476: Past 6 Pass, Part 7 Class 1
UK Building Regulation: Class 0

VOC Content:
22g/l (as supplied)

Meets NFPA 90A and 90B 25/50 requirements.

Storage:
Store in dry, cool place out of direct sunlight. Protect from freezing until dry.

Shelf-Life:
1 year from date of manufacture in original unopened packing.

Packing:
310 ml cartridge

Health & Safety:
Please refer to the product safety data sheet or contact the manufacturer.

DIRECTIONS OF USE

Surface Preparation:
All surfaces should be clean, dry and free from dust, grease and other foreign matters.

Application:
Apply by Caulking gun or extrusion. On spiral duct apply a thick coat of sealant to the male end on the coupling prior to slipping the straight run of spiral duct over it. Brush excess sealant over the exterior of the joint and over the heads of all meal screw after they are in place and joint is mechanically fastened. On rectangular ducts, apply sealant on both flange faces before joining with the flange gasket.

Limitations:
Store and apply between +4°C to +40°C.

Cleaning:
Tools should be cleaned with fresh water while wet. Dry sealant may be removed with hot water.

Surface Burning Characteristics (ASTM E 84):
Surface: Inorganic Reinforced Cement Board
Flame Spread: 10
Smoke Developed: 15
Number of Coats: 1

CAUTION
DO NOT THIN
DO NOT PERMIT INSTALLATION TO GO BELOW FREEZING WITHIN 24 HOURS AFTER APPLICATION
DO NOT EXCEED 3.5MM WET FILM THICKNESS
USE MECHANICAL FASTENERS TO PROVIDE RIGIDITY TO THE DUCT SYSTEM
FOR PROFESSIONAL USE ONLY.
KEEP OUT OF REAC OF CHILDREN.

Key Features:

- High Tack
- Quick Setting
- Adhesive is Solvent Free Synthetic Emulsion
  Excellent
- Adhesion and Peel Off Strength.
- HVAC High Performance Adhesive
- Non–flammable
- Fire–resistive
- Well adhere insulation to wood and concrete.
- Gives superior service when it is used as a contact adhesive to cement the laps of aluminum foil, FSK, ASJ, and FRK facings.

ROCKAL® Adhesive 85–20 Standards:

•ASTM C 916, Type I (ASC–A– 7001, Type. I)
•MIL–A–3316C, Class 2 grade A test
•meets NFPA 90A and 90B 25/50

Limitations:

Store and apply between 40°F (4°C) and 100°F (38°C). Always test plastic and painted materials for compatibility when using a solvent base product. Do not use with flexible PVC.
Make certain this product is completely dry and the area free from solvent odor if food is involved.

Dilution

Up to 1:1 with water

Application Guide:

Material Preparation:

- Stir well, DO NOT THIN.
- No need to prime aluminum or galvanized metal.
- Apply only to clean, dry, dust–free surfaces.
- Keep container closed when not in use to prevent solvent evaporation.
- Do not use pumps or equipment that have aluminum parts in contact with the adhesive.

Application:

Insulation Attachment:

The metal surface shall be coated by brush with ROCKAL® Adhesive 85–20 at a coverage of 200 sq. ft./gal. (9 m2/l). Allow an open time of 0 to 15 minutes to develop full tack. Install insulation, apply pressure to assure complete and uniform contact to the metal surface.
The above application suggestions do not preclude the use of additional mechanical fastening as recommended by insulation manufacturer or required by design engineer.

Lap, Butt Strip & Pin Patch Sealing:

All longitudinal and butt joint laps of facing shall overlap a minimum of two inches (5 cm). Apply a brush coat of Foster ROCKAL Adhesive at the rate of 75 sq. ft./gal. (1.8 m2/l). Allow an open time of 2 to 10 minutes to develop full tack.
Alternate – Apply a brush coat of Foster ROCKAL Adhesive at the rate of 150 sq. ft./gal. (3.7 m2/l) to each surface. Allow an open time of 2 to 10 minutes to become tacky.
Bond laps by applying uniform pressure, smoothing out to avoid wrinkles and gaps.

Brush:

Use a good brush (suitable for chlorinated solvents), making strokes as long as possible. Do not overwork.

Clean–Up:

Use a chlorinated solvent (non–flammable) or xylol (flammable) to clean brushes and equipment.

For professional use only. Keep out of reach of children.
Consult Safety Data Sheet and container label for further information.

STUCK UP PIN

Description

ROCKAL self-adhesive pins are designed for fitting insulation materials to smooth surfaces without using any additional tools. It's great for quick and easy application. It can be used or fitting rigid or flexible insulation materials such as foam, Insulation Rockwool boards, etc.
Insulation Stuck up pins are dependable, long-lasting and safe for fixing insulation to HVAC, ceiling and ducting purpose. These hangers are perfect to fix to substrate with blind rivets, adhesive or other mechanical fixing methods. HVAC Insulation supplies stuck up pin comes up with a self-sticking base for insulation hanger. These pins are designed for fixing insulation material to highly smooth surfaces such as air duct chambers & enclosures. They consist of a nail and washer which holds the insulation

Key Features:

- Bases are tight with pins
- Soft
- Easy Bend Over
- Double Faced Adhesive
- Length Tolerance
- High strength
- Long Lasting

Application

- Marine Insulation
- Ductwork Insulation
- Ceiling & Ducting Purpose
- Fixing Insulation To HVAC
- Fixing Insulation Material to Highly Smooth Surfaces Such as Air Duct Chambers & Enclosures

Packing:

ROCKAL self-adhesive pins are packed in cardboard boxes after being PE bagged. This unique packing holds the pins properly. These pins can be transported, stocked & used safely, easily & practically.

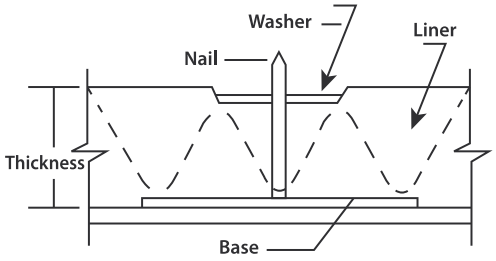
Rockal Pin Packing Details:

Pin Length (mm)	Packing Type	Package Amount
50	Carton Box	1000 Pieces with washer/Box
60	Carton Box	
75	Carton Box	750 Pieces with washer/Box
100	Carton Box	600 Pieces with washer/Box

Note:

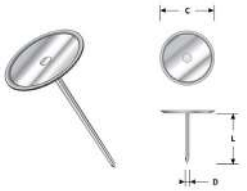
- Base Dimension: 38 mm x 38 mm.

- Meets SMACNA HVAC Duct Construction Standard for Mechanical Fasteners.
- All Steel Used in HVAC Insulation Fasteners Meets ASTM–A591.
- Gasket Adhesive using Rubber Based Adhesive



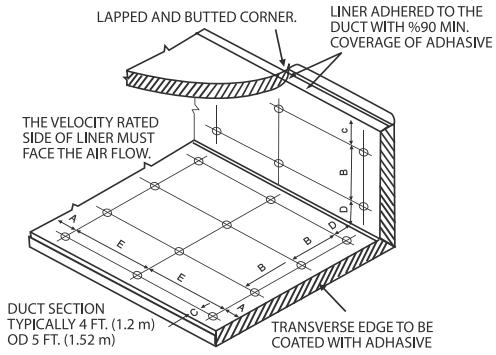
SW Washer:

Self–Locking Round Washers are used in conjunction with weld pins, insulation anchors and lacing anchors to fasten insulation in place. The washers are manufactured in Stainless Steel and MS Galvanized Steel to fit different pin diameters.



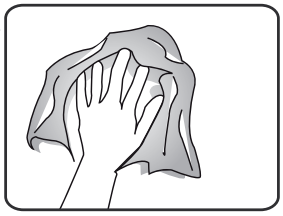
Based Pu & Adhesive Technical Detail:

- Base Material: polyethylene foam with aggressive pressure sensitive rubber resin adhesive
- Service Temperature: –40C to +70C
- Highly resistant to abrasion, corrosion and moisture.
- Confirms to European Directive 2000/53 (LED, Chromium VI, Mercury, Cadmium Free



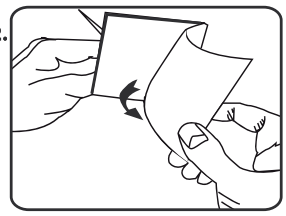
Methods of Installation

1.



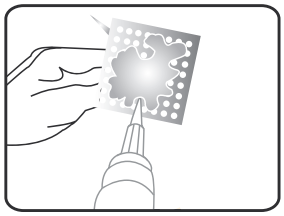
Ensure that the surface is clean and dry, free from oil, grease or any dust particles

2.



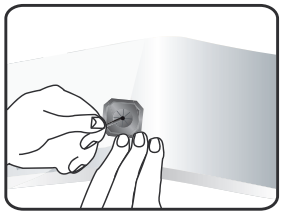
Remove protection paper from the base of the insulation fastener.

3.



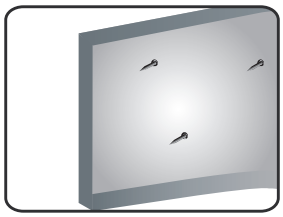
Apply glue to the base of the perforated hanger and fix to the surface

4.



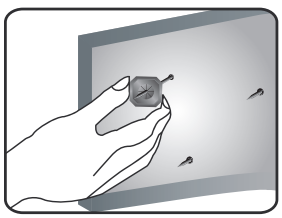
Firmly press the base of the pin at the required position on to the steel surface.

5.



Fix the insulation over the pins

6.



Lock the insulation firmly to the steel surface using the steel washers provided

03 ROCKAL PROJECTS

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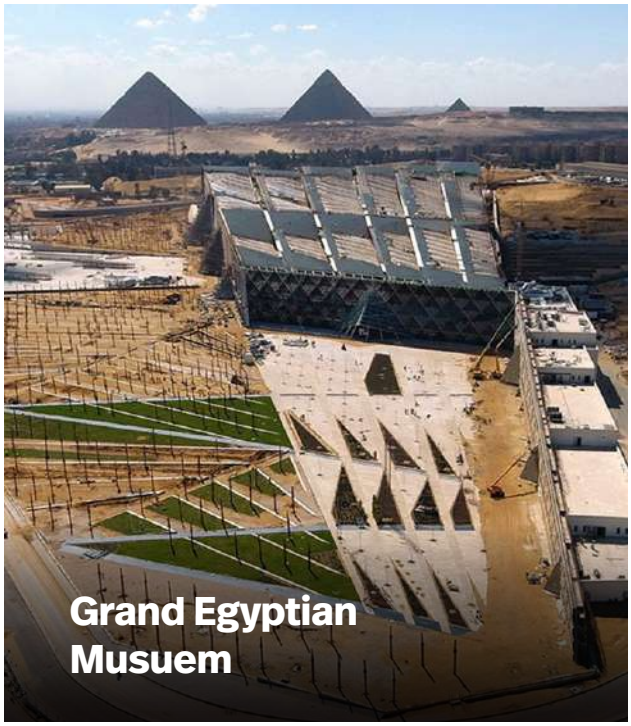
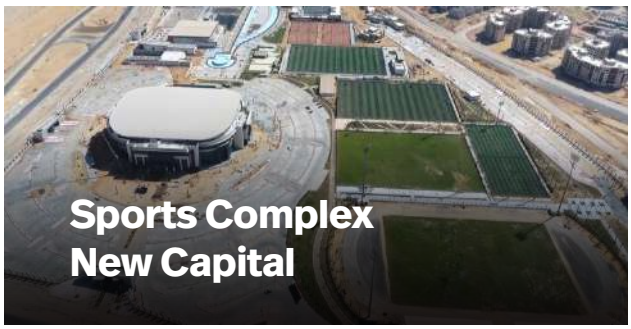
PROJECTS SUPPLIED BY ROCKAL





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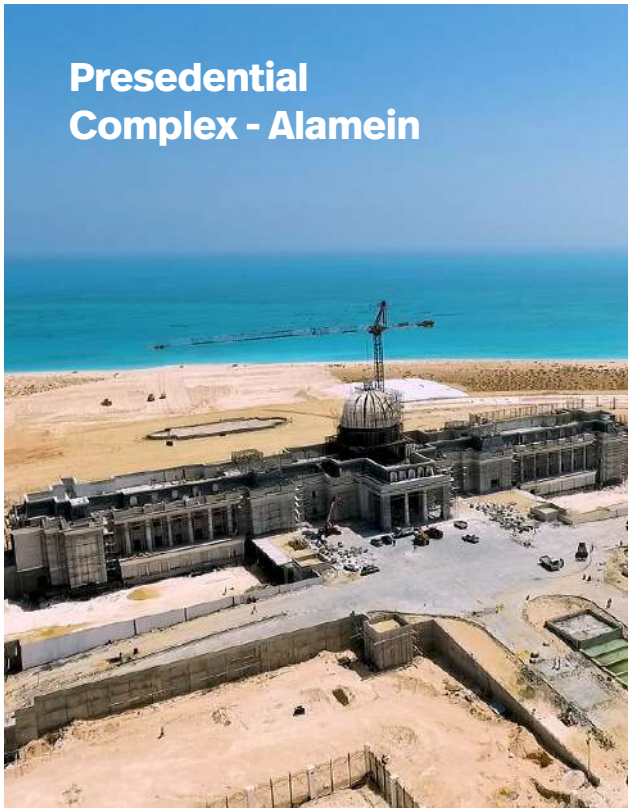

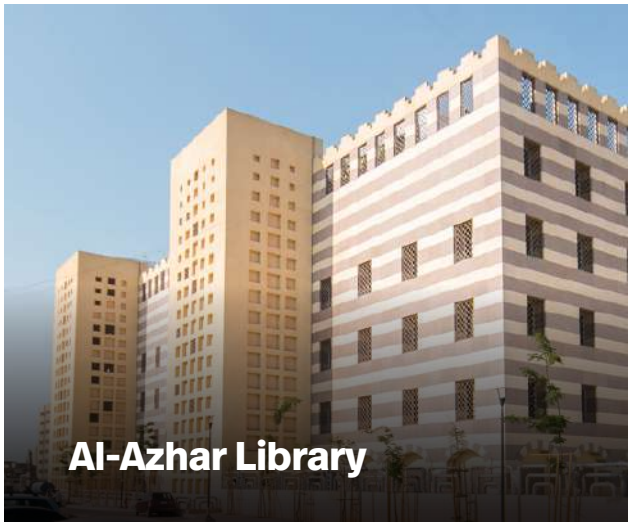

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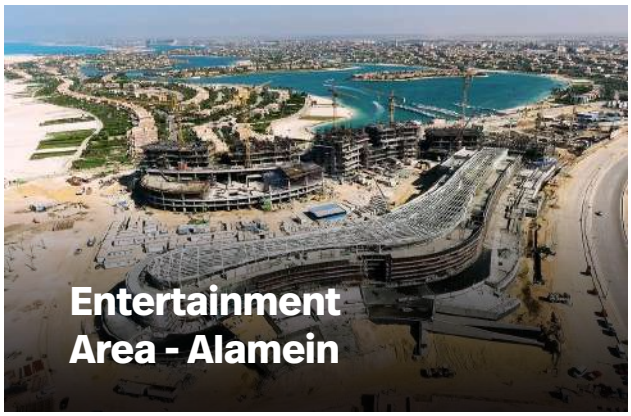
Al Shabab Power Plant


Entertainment Area - Alamein


Marassi


KISU Sharm El Sheikh


Mivida Business District

Alamein University

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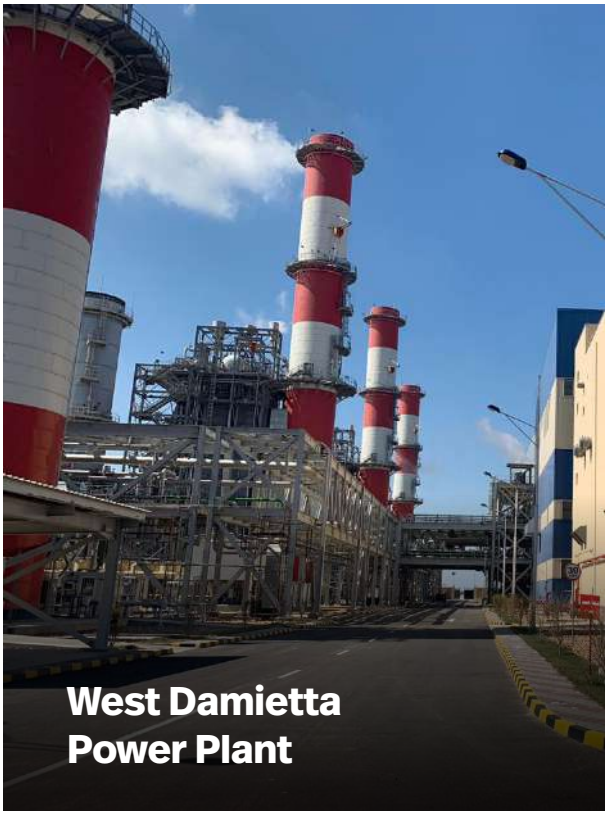

West Damietta Power Plant

The Iconic Tower

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