

# SUPREME<sup>TM</sup> FIBER

HVAC  
INSULATION

—  
[www.rockal.org](http://www.rockal.org)

# ABOUT US

Al Alamia for Insulation ROCKAL Co. is a leading Egyptian producer of building insulation materials. ROCKAL offers reliable and effective insulation products for construction companies, contractors in Egypt, Gulf & Europe. ROCKAL was founded in 2003 and since 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. 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 20 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 requirements which by years of experience we managed to deliver with maximum efficiency.

## UP TO DATE

### TECHNOLOGY

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 provides Wide range of insulation materials and 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. 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.

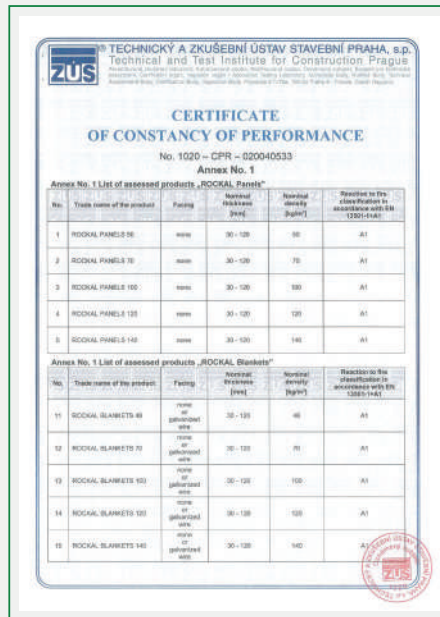
## ROCKAL MEANS SUSTAINABILITY





# CERTIFICATIONS

Looking at the market for insulation materials. We ROCKAL.CO see our responsibility to provide our clients with various high quality products. We Always look for the quality as our main objective. Successfully, ROCKAL Products are accredited & complied with European, American & International Standards.



## FIRE PROTECTION

Non-combustible materials (Class A1 in accordance to EN 1-13501) which maintain their insulating properties in high temperatures, contributing to the inhibition of the spread of fire, saving lives and protecting built structures and properties. Therefore, they constitute key parts of fire resistant walls, floors, roofs, prefabricated panels, doors or other passive fire protective systems.



# FEATURES

## **FIRE RESILIENCE:**

SUPREME FIBER insulation is extremely resilient to fire & can with stand temperatures up to 850 C. It works to contain fire & prevent its spread. At the same time, it does not contribute to the emission of significant quantities of toxic smoke.

## **DURABILITY:**

SUPREME FIBER insulation has a built- in robustness that is totally unique. It keeps its shape and toughness in all conditions; this means that compression, impacts and changes in temperature or humidity do not affect it. Its dimensional stability means its performance is unchanged,

## **ACOUSTIC CAPABILITIES:**

SUPREME FIBER products are high- density, which makes them extremely resistant to airflow and excellent at noise reduction and sound absorption, meaning that even the noisiest infrastructure sounds quieter.

## **THERMAL PROPERTIES:**

SUPREME FIBER product derive their thermal properties from tiny pockets of air trapped within the physical structure of the mixed components of mineral fibers. These air pockets allow the insulation to keep hot air out in hot climates and to retain warm air in cold climates. This can dramatically reduce heating, cooling, and ventilation costs, and reduce a building's carbon footprint

## **CIRCULARITY:**

SUPREME FIBER products can be easily removed when a building is renovated, or demolished and recycled back into new products.

## **ADVANTAGES**

ROCKAL SUPREME FIBER offers high performance against a range of criteria; controlling heat gain, minimizing heat loss, reducing noise and delivering excellent fire resistance into, and out of the HVAC system, creating safe and healthy working and living environments

Also, ROCKAL SUPREME FIBER has water & moisture resistance due to the new technology used in our factory to provide this extraordinary product. In addition to it's outstanding performance regarding the flame spread & smoke index. This makes it one of the most important products coming into the insulation field



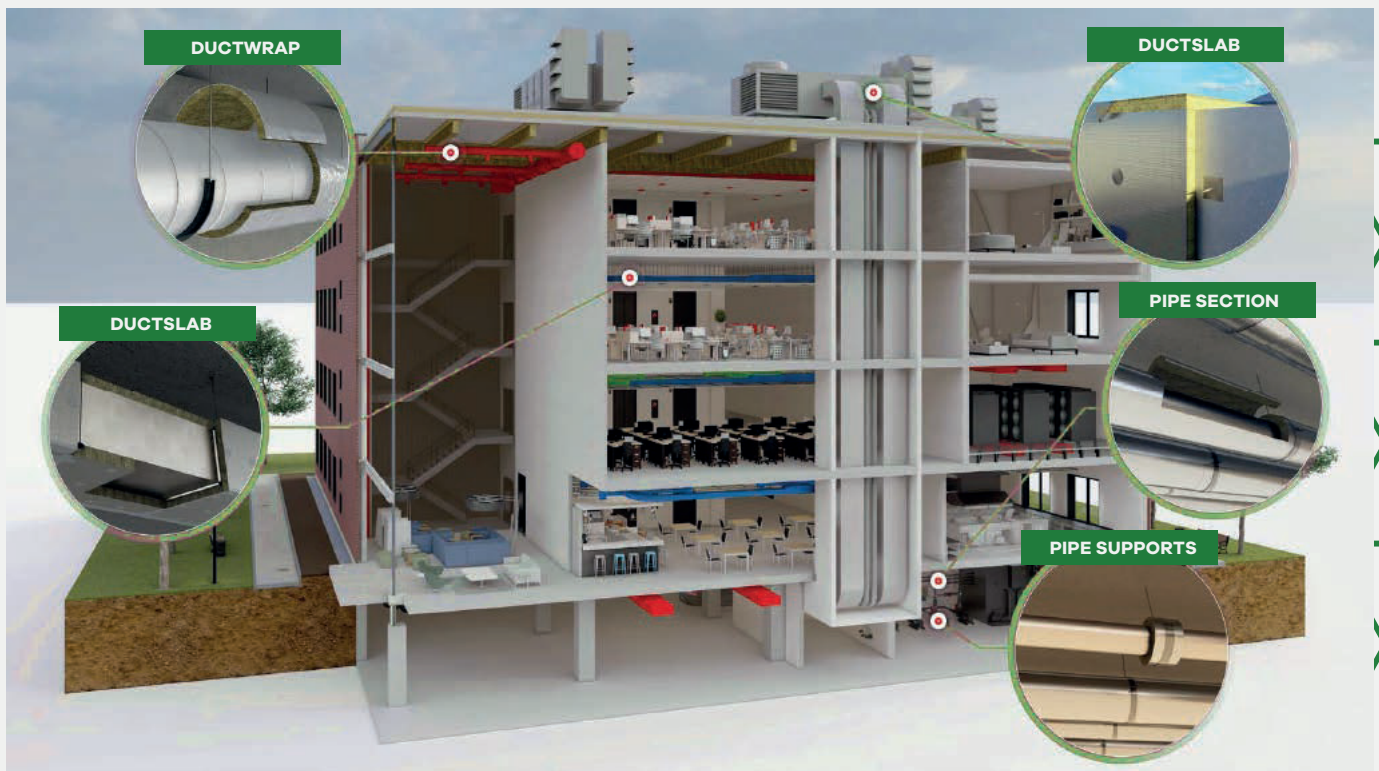


## THERMAL APPLICATIONS

Any loss of heat from HVAC installations directly results in wasted energy, higher energy costs and increased carbon emissions which negatively impacts the building occupants, building owners and the environment.

Avoiding any unwanted changes in system temperature is best achieved by adequately insulating HVAC pipework and ductwork, this will help to ensure that the operating temperature will be maintained, and the overall energy efficiency of the system optimized.

The ROCKAL SUPREME FIBER HVAC insulation range includes products to suit pipework as well as circular and rectangular ducts of varying size, which assist in keeping temperatures comfortable and stable and provide thermal performance for the lifetime of the building.



## SUSTAINABILITY

SUPREME FIBER insulation will, in its lifetime, save around 100 times more carbon dioxide than is emitted during its production. This means that SUPREME FIBER insulation becomes 'net carbon positive' within a few months - meaning the carbon emitted during manufacturing is offset by the avoided emissions of the insulation's use in buildings in less than a year.

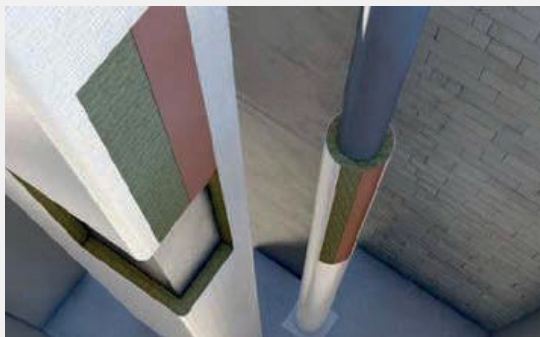
Our production processes are guided by ambitious goals to minimise our negative impacts. We also have a goal to grow the recycling services that take back our products. Similarly, we recycle other industries' waste by using it as a substitute for virgin raw material. We believe that it's possible to expand our business and communities without harming the environment and we're working to ensure we help society to grow sustainably.

# HVAC APPLICATIONS

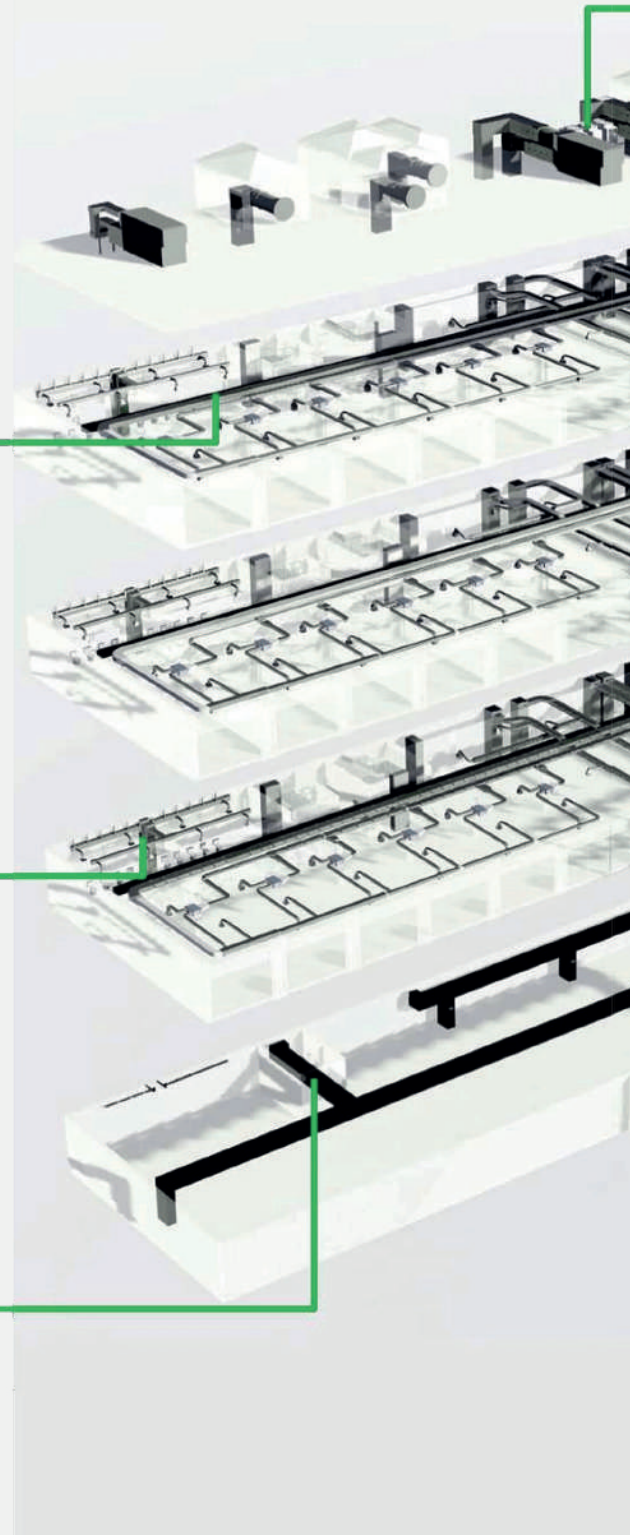
## RECTANGULAR / SQUARE DUCTWORK



## ACOUSTIC PIPEWORK & DUCTWORK

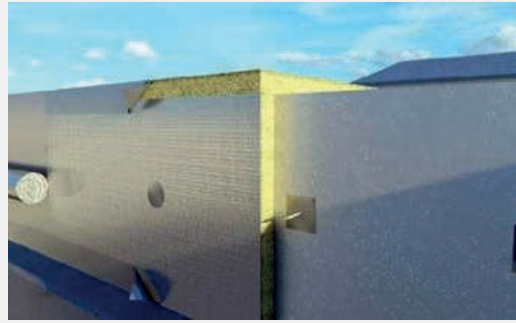


## FIRE RATED DUCTWORK

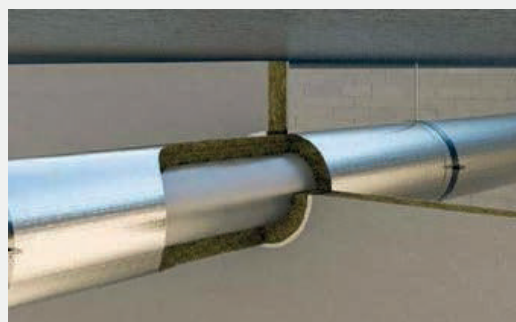




## EXTERNAL DUCTWORK



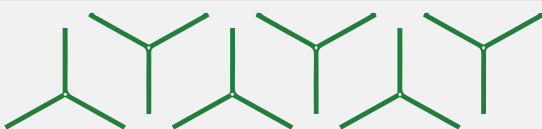
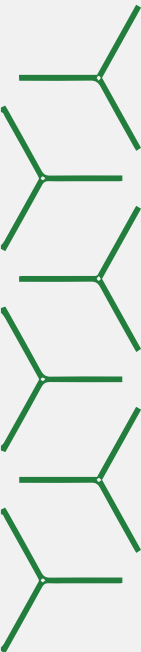
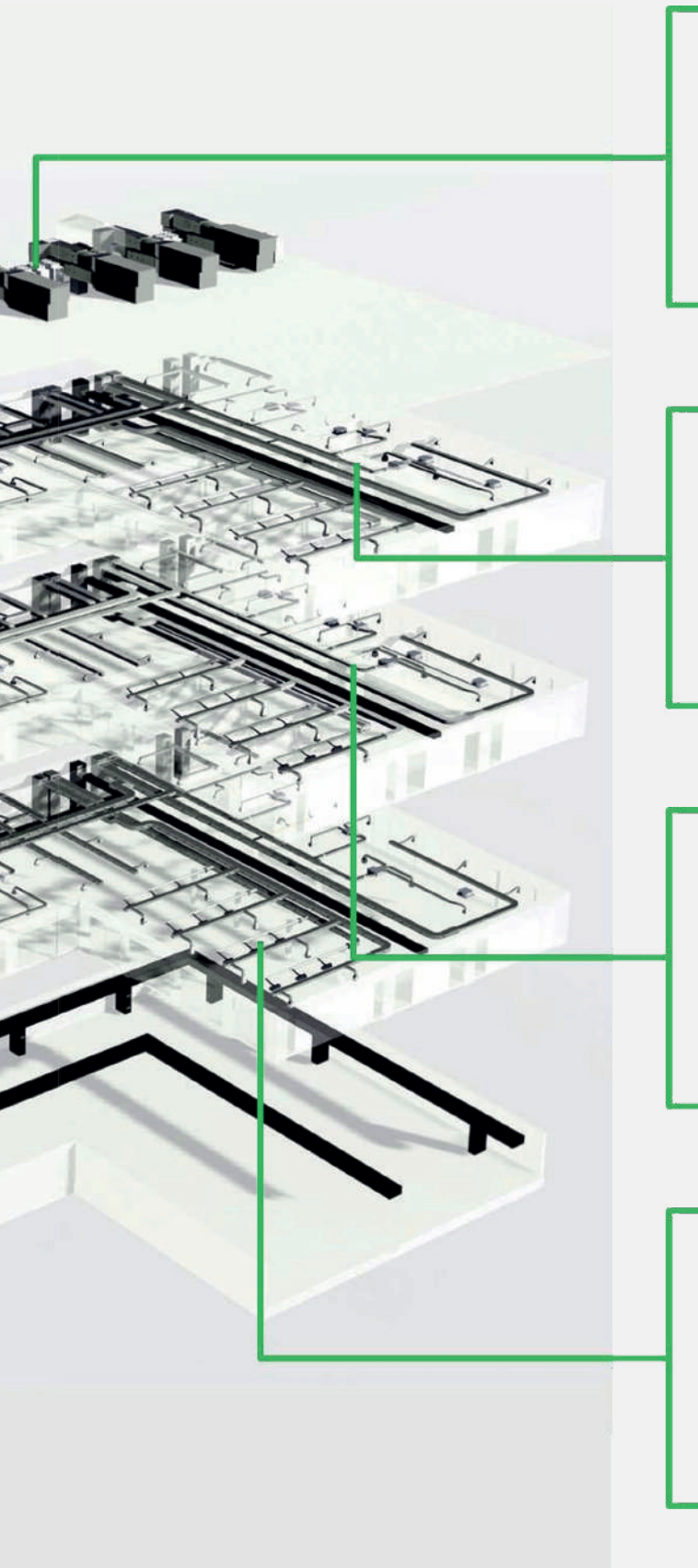
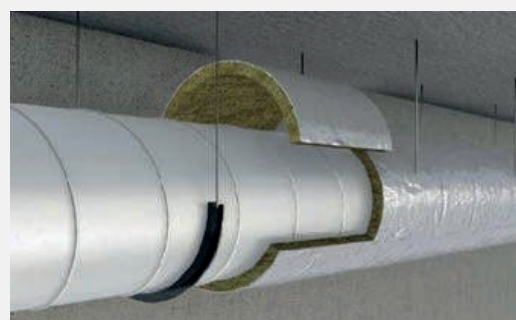
## PIPE PENETRATION SEALS



## PIPEWORK



## CIRCULAR DUCTWORK

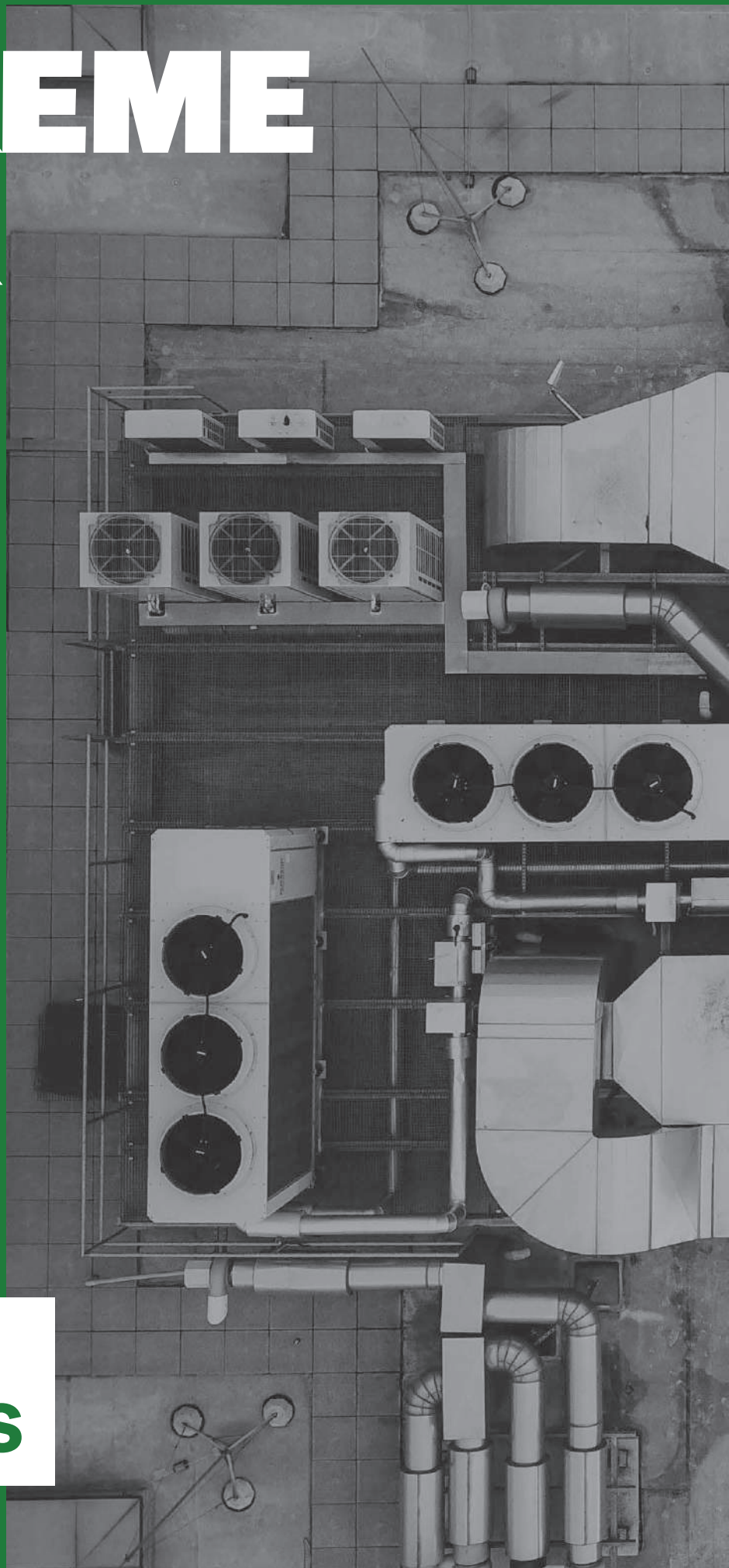


# SUPREME FIBER

—  
ROCKAL  
MEANS  
SUSTAINABILITY

**SUPREME  
PRODUCTS**

—  
[www.rockal.org](http://www.rockal.org)





## SUPREME DUCTWRAP (BLANKETS)

### DESCRIPTION:

Rockal Supreme Ductwrap is used for the thermal insulation of cold water storage, feed and expansion tanks. Ductwrap is a lightweight, flexible insulation roll, faced with reinforced aluminum foil.

### ADVANTAGES:

- Acoustically absorbent
- Non-combustible
- Water repellent
- Chemically inert
- Easy to handle and install
- Anti Fungal

### APPLICATIONS:

- Thermal & Acoustic Insulation of concrete floors in order to reduce energy losses & transmission of impact sound.
- Insulation of Single leaf walls with dressed fiber facings & cavity wall construction, precast structures & prefabricated buildings.
- Thermal Insulation of Concrete & Metal roofdecks
- Thermal insulation of industrial applications: boilers, ovens, refrigerators, storage, tanks, marine & road transport.

### CONFORMITY STANDARDS:

ASTM c767-, C795-, C612-, C692-, C871-, C355-, C177-, C- 411 C423-, C556-, C165, C,665, C553-, C692-, C303-, C1101, C110-, C302-, C335-, C592-, C547-, C585-, C1104-, E84-, E- 136, E119-, NPFA 255, ANSI A 1963-2.5, NAIMA, SMACNIA, UL723, IMO RESOLUTION, CE MARK, EN 2-13501, EN 13820:2003, EN12667, EN13162, NBN, EN2667 & 1604 & 823



### FACING:

ROCKAL Supreme Ductwraps are available unfaced or with a variety of facing to suit the application such as bitumen kraft paper, canvas or glass reinforced aluminum foil/kraft paper laminate facing (FSK), glass reinforced aluminum foil/high intensity bleached kraft paper (ASJ), Metallized polyester, black cloth, Alu glass

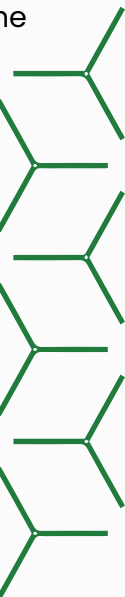


### TESTS & CERTIFICATIONS:

Supreme Ductwraps are tested and certified by the National Research Center, Belgium Building Research, Warrington Fire for the following properties.

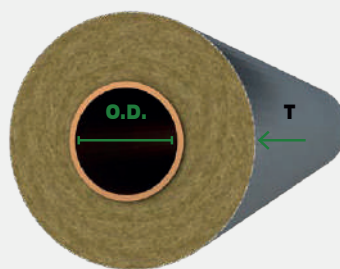
### PROPERTIES:

- Thermal Conductivity (K-Value, R-Value)
- Chemical analysis
- Heat Stability
- Fiber Content
- PH Value
- Linear Shrinkage
- Compressive Strength
- Water Vapor Absorption
- Odor Emission
- Flammability
- Corrosiveness to Steel
- Sag Resistance

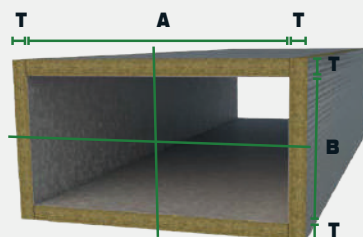


### CALCULATION OF LENGTH:

The calculation to determine the length of Ductwrap required to insulate the pipe or duct is made using the formula shown. The required thickness of Ductwrap insulation will depend on such factors as duct air temperatures, ambient air temperatures and the designed heat losses.



Circular Ducts:  
 $L = 3.14 \times (O.D. \times 2 + t)$



Regular Ducts:  
 $L = 2a + 2b + 8t$

### REGULAR DUCTS:

$$L = 2a + 2b + 8t$$

### THICKNESS OF SUPREME DUCTWRAP INSULATION FOR CHILLED AIR DUCTS:

Minimum insulation thickness for condensation control on ductwork carrying chilled air in ambient conditions: indoor still air temperature 25+°C, rh %80, dewpoint 21.3°C.

Min Temp Inside ( C )	0.05 (Bright Aluminum Foil)		0.44 (Galvanized Steel)		0.90 ( Black Paint)	
Min Temp Inside Duct ( C )	Calculated Thickness (mm)	Advised Thickness (mm)	Calculated Thickness (mm)	Advised Thickness (mm)	Calculated Thickness (mm)	Advised Thickness (mm)
15	25	52	13	25	9	25
10	45	50	23	25	15	25
5	64	70	33	40	21	25
0	83	90	42	50	27	30

### THERMAL CONDUCTIVITY:

Thermal Conductivity Ductwrap									
Mean Temperature	Thermal Conductivity in W/m.k for the following densities in Kg/Cu.m								
C	40	50	60	70	80	90	100	120	128
0	0.036	0.036	0.035	0.035	0.035	0.036	0.034	0.034	0.034
10	0.036	0.036	0.035	0.035	0.035	0.036	0.034	0.034	0.034
25	0.036	0.036	0.035	0.035	0.035	0.035	0.034	0.034	0.034
50	0.041	0.039	0.037	0.037	0.036	0.035	0.036	0.036	0.036
75	0.046	0.043	0.041	0.040	0.039	0.037	0.038	0.038	0.038
100	0.051	0.047	0.045	0.044	0.043	0.041	0.042	0.043	0.043



#### DIMENSIONS:

Length (mm)	10000/5000/3000
Width (mm)	1200/1000

#### DENSITY:

Density (Kg/m³)	40	50	60	70	80	90	100	120
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#### PRODUCT INFORMATION DUCTWRAP ROLLS - 1000MMWIDE

Thickness (mm)	Length (m.)	Area Per Pack (Sq.m)
25	10	10
40	10	10
50	10	10

#### PH NEUTRALITY:

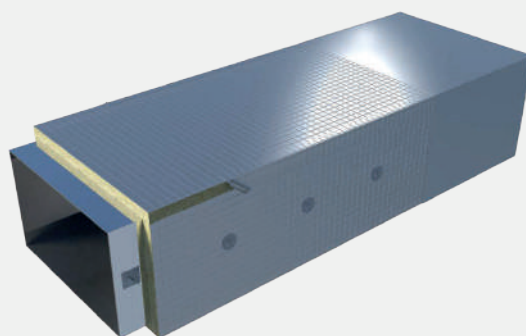
Supreme Ductwrap insulation is chemically compatible with all types of pipes, ducts, equipment and fittings. (Guidance is given in BS5970 regarding the treatment of austenitic stainless steel pipework and fittings). Supreme Ductwrap insulation is chemically inert. A typical aqueous extract of Supreme Fiber Ductwrap insulation is neutral or slightly alkaline (pH 7 to 9.5).

#### WATER VAPOUR RESISTANCE:

When suitably taped, the aluminum foil gives Ductwrap a water vapour resistance of approx 1000MNs/g.

#### BIOLOGICAL:

Supreme Fiber Ductwrap is a naturally inert and rot-proof material that does not encourage or support the growth of fungi, moulds or bacteria, or offer sustenance to insects or vermin.

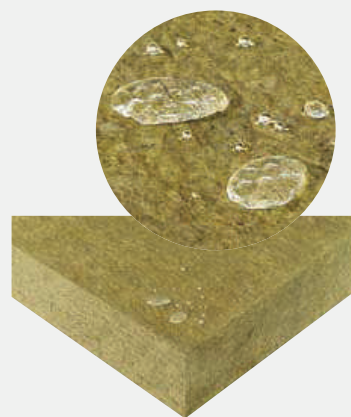


#### DURABILITY:

Supreme Fiber Ductwrap insulation products have been proven in service for over 60 years, in a wide range of climates and degrees of exposure. Supreme Fiber Ductwrap insulation will generally perform effectively for the life time of the building, plant or structure.

#### SOUND INSULATION:

High sound absorption coefficient and optimum air flow resistivity. These properties provide increased sound reduction and improved acoustic performance of spaces. Facings maximise sound reduction required in certain frequencies.



# SUPREME DUCT SLAB (BOARDS)

## DESCRIPTION:

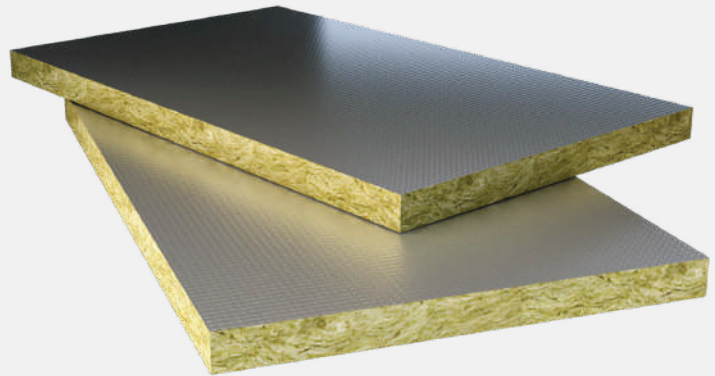
Rockal Supreme Ductslab is used for the thermal insulation of HVAC Ducts ,cold water storage, feed and expansion tanks.Ductslab is a semi-rigid insulation slab, faced with reinforced aluminum foil.

## ADVANTAGES:

- Acoustically absorbent.
- Non-combustible.
- Water repellent.
- Chemically inert.
- Easy to handle and install.
- Anti Fungal.

## FACING:

ROCKAL Supreme Ductslabs are available unfaced or with a variety of facing to suit the application such as bitumen kraft paper, canvas or glass reinforced aluminum foil/kraft paper laminate facing (FSK), glass reinforced aluminum foil/high intensity bleached kraft paper (ASJ), Metallized polyester, black cloth, Alu glass.



## APPLICATIONS:

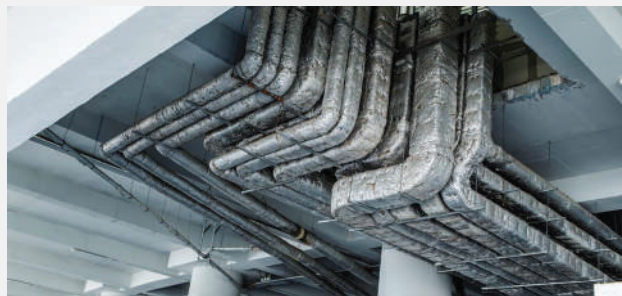
- Rockal Supreme Ductslabs are semi rigid & rigid boards manufactured from mineral fibers bonded with thermosetting resins.
- Capable of withstanding the extreme temperatures encountered in industrial applications or in flat roofing, capable of with standing normal loads met in domestic & commercial structures when used below floor screeds.
- Easy to handle & cut to suit intricate shapes.  
Light in weight, strong & resilient.

## TESTS & CERTIFICATIONS:

Supreme Ductslabs are tested and certified by the National Research Center, Belgium Building Research, Warrington Fire for the following.

## PROPERTIES:

- Thermal Conductivity (K-Value, R-Value)
- Chemical analysis
- Heat Stability
- Fiber Content
- PH Value
- Linear Shrinkage
- Compressive Strength
- Water Vapor Absorption
- Odor Emission
- Flammability
- Corrosiveness to Steel
- Sag Resistance



## CONFORMITY STANDARDS:

ASTM c767-, C795-, C612-, C692-, C871-, C355-, C177-, C- 411 C423-, C556-, C165, C,665, C553-, C692-, C303-, C1101, C110-, C302-, C335-, C592-, C547-, C585-, C1104-, E84-, E- 136, E119-, NPFA 255, ANSI A 1963-2.5, NAIMA, SMACNIA, UL723, IMO RESOLUTION, CE MARK, EN 2-13501, EN 13820:2003, EN12667, EN13162, NBN, EN2667 & 1604 & 823



### THICKNESS OF SUPREME DUCTSLAB INSULATION FOR CHILLED AIR DUCTS:

Minimum insulation thickness for condensation control on ductwork carrying chilled air in ambient conditions: indoor still air temperature 25+°C, rh %80, dewpoint 21.3°C

Min Temp Inside ( C )	0.05(Bright Aluminum Foil)		0.44(Galvanized Steel)		0.90( Black Paint)	
Min Temp Inside Duct ( C )	Calculated Thickness (mm)	Advised Thickness (mm)	Calculated Thickness (mm)	Advised Thickness (mm)	Calculated Thickness (mm)	Advised Thickness (mm)
15	26	30	14	50	9	25
10	47	50	24	50	15	25
5	67	70	34	40	22	25
0	86	90	44	50	28	30

### DIMENSIONS:

Length (m.)	1.2
Width (m.)	0.6

### DENSITY:

Density (Kg/Cu.m)	40	50	60	70	80	90	100	120
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### THERMAL CONDUCTIVITY:

Mean Temperature	Thermal Conductivity in W/m.k for the following densities in Kg/Cu.m								
C	40	50	60	70	80	90	100	120	128
0	0.036	0.036	0.035	0.035	0.035	0.036	0.034	0.034	0.034
10	0.036	0.036	0.035	0.035	0.035	0.036	0.034	0.034	0.034
25	0.036	0.036	0.035	0.035	0.035	0.035	0.034	0.034	0.034
50	0.036	0.035	0.036	0.037	0.037	0.037	0.037	0.037	0.037
75	0.039	0.037	0.038	0.040	0.040	0.040	0.040	0.040	0.040
100	0.043	0.041	0.043	0.043	0.043	0.043	0.043	0.043	0.043



## SUPREME PIPE SECTION

### DESCRIPTION:

Supreme Pipe Sections are pre-formed sections of Mineral Fiber insulation. Manufactured pre-slit and provided with a factory applied foil facing complete.

### ADVANTAGES:

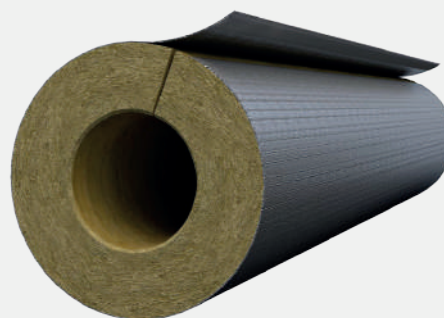
- Resilient, high performance barrier provided by one-piece, reinforced foil with integral lap.
- Fast and simple installation reduces cost and time on site.
- Tape requirement reduced.
- European Reaction to Fire Classification of A2L, s-1d0.

### CONFORMITY STANDARDS:

ASTM c767-, C795-, C612-, C692-, C871-, C355-, C177-, C-411 C423-, C556-, C165, C,665, C553-, C692-, C303-, C1101, C110-, C302-, C335-, C592-, C547-, C585-, C1104-, E84-, E-136, E119-, NPFA 255, ANSI A 1963-2.5, NAIMA, SMACNIA, UL723, IMO RESOLUTION, CE MARK, EN 2-13501, EN 13820:2003, EN12667, EN13162, NBN, EN 2667&1604&823

### PRODUCT INFO

Thickness (mm)	25-250
Density (Kg/Cu.m)	96-140



### APPLICATIONS:

ROCKAL SUPREME FIBER Pipe Sections are strong lengths of pre-formed insulation with a one-piece, factory applied foil facing with integral self-adhesive lap. The integral lap ensures fast and easy installation: just snap the sections onto the pipe, peel off the backing tape and smooth down for a completely sealed joint.

### TESTS & CERTIFICATIONS:

Supreme Pipe Section are tested and certified by the National Research Center, Belgium Building Research, Warrington Fire for the following

### PROPERTIES:

- Thermal Conductivity (K-Value, R-Value)
- Chemical analysis
- Heat Stability
- Fiber Content
- PH Value
- Linear Shrinkage
- Compressive Strength
- Water Vapor Absorption
- Odor Emission
- Flammability
- Corrosiveness to Steel
- Sag Resistance

Mean Temperature	Thermal Conductivity in W/m.k for the following densities in Kg/Cu.m			
	25	50	100	150
10 C	0.029	0.030	0.032	0.031
96	0.030	0.032	0.032	0.033
128	0.032	0.033	0.035	0.036
140	0.041	0.039	0.038	0.039
160	0.050	0.047	0.044	0.045



### THICKNESS OF SUPREME PIPE SECTION INSULATION FOR CHILLED AIR DUCTS:

Minimum thickness of SUPREME PIPE SECTION to prevent condensation.

Outside diameter steel pipe on which insulation has been based (mm)	Temperature of contents (°C)					
	Temperature of contents °10+C		Temperature of contents °5+C		Temperature of contents °0C	
	Calculated thickness (mm)	Advised thickness (mm)	Calculated thickness (mm)	Advised thickness (mm)	Calculated thickness (mm)	Advised thickness (mm)
17	16	20	22	25	28	30
21	17	20	24	25	30	30
27	19	20	26	30	32	35
33	20	20	27	30	34	35
42	21	25	29	30	37	40
48	22	25	31	35	39	40
60	24	25	33	35	41	45
76	26	30	36	40	46	50
89	28	30	38	40	48	50
102	29	30	40	40	50	50
114	30	30	41	45	52	60
140	31	35	43	45	55	60
169	33	35	46	50	58	60
219	35	35	49	50	62	70
245	36	40	51	60	64	70
273	37	40	52	60	66	70
324	39	40	55	60	70	70
356	40	40	56	60	71	80
406	41	45	58	60	74	80
456	43	45	60	60	76	80
508	44	45	61	70	78	80
558	45	45	63	70	80	80
610	46	50	64	70	82	90

### WATER RESISTANCE:

ROCKAL SUPREME Pipe Sections are water repellent. However, when used or stored in the open, the insulation should be protected with a waterproof covering. When used to insulate cold pipes, the joints should be sealed with foil tape to prevent condensation.

### SERVICE TEMPERATURE:

ROCKAL SUPREME Pipe Sections are used to insulate pipes operating at temperatures in the range 0 to °250C. The sections are used to insulate against frost damage. For hot pipes, the limiting temperature of the outer foil face is °80C to maintain facing bond strength.



## CONTACT US

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