Edition: Export
Published: 11/2007

Product catalogue

by Lapinus

ROCKWOOL®
TECHNICAL INSULATION

EXCELLENCE
IN FIRESAFE SOLUTIONS

RTI, excellence in firesafe solutions

Rockwool Technical Insulation (RTI) - a division of the Rockwool Group - is active in the industrial insulation market. For more than 50 years, we have been offering firesafe insulation solutions for protecting technical equipment with a complete range of techniques and systems. RTI continues to keep its finger on the pulse. This enables us to deliver high quality products through research, innovation and rigorous training for all our employees. We are committed to providing the best service to you.

Your desire for the highest quality is our minimum requirement

All RTI insulation products - pipe sections, slabs, wired mats, lamella mats and loose fill - meet the most stringent quality and safety standards. RTI sets the bar very high. We look for new systems, methods and formulas in each segment. It's a matter of developing more efficient products and further improving the production process and techniques.

The latest information? Whenever and wherever? Just ask us!

As a professional, you strive for a professional end result. Not only will you find superior quality products in the RTI range, we aim to harmonize the information we supply with the latest technical findings. However, it's always worth checking whether your information is up-to-date. If you have any questions about a specific application or a product characteristic, contact our RTI sales representatives on **+31 (0) 475 35 33 88**. You can also visit our web site at www.rockwool-rti.com

The best solutions, based on proven expertise and knowledge

To complement our range of superior products, RTI has the experience and technical know-how, developed from our extensive experience, to offer the most appropriate insulation solutions to end users in the petrochemical, energy, shipbuilding and processing industry. In the field of central heating, air conditioning and fire prevention, RTI is also a worldwide leader. Our consultants will be pleased to provide technical backup during the technical specification and design stage.

RTI - experience and know-how

Rockwool Technical Insulation (RTI) is an independent organisation within the Rockwool Group, the world's largest producer of stone wool products. Rockwool International A/S is based in Hedehusene, Denmark. The parent company had a net turnover of around €1.5 billion in 2006. Rockwool International has 22 factories in 14 countries in Europe, North America and Asia, and has around 8,000 employees in 35 countries.

ROCKWOOL
TECHNICAL INSULATION

EXCELLENCE
IN FIRESAFE SOLUTIONS

RTI's position as market leader is derived from a combination of extensive technical knowledge, high-grade products, continuous innovation and professional services. In all segments of HVAC, process industry, shipbuilding and passive fire protection, our Rockwool products offer unrivalled thermal, fire, acoustic and sustainable performance.

By Lapinus, RTI 's dynamic export center

Within the RTI company our Lapinus export department is a dynamic cell that is constantly seeking new business opportunities in the domain of technical insulation worldwide. The Lapinus export team is eager to commercialize and promote the extensive Rockwool product range (including Conlit firesafe solutions) and is quick in finding out how they can meet the present market demands with the best possible product offer.

In order to meet new regulations and standards on energy-saving and fire safety matters we took a close look at our present product range and made some important alterations. This resulted in a brand new product catalogue with a clear and powerful branding of all our RTI product solutions supervised by our Lapinus collaborators who know your market.
The new catalogue that lies before you is more convenient and easy to use and has a clear product description and reference. It combines all relevant product information (product descriptions, performance, properties, advantages, installation instructions,…) with international recognizable product names. Therefore we modified some product names into more appropriate international names with a clear and plain reference to the product itself.

Rockwool has a melting point above 1000°C

RTI stone wool products meet the strictest fire protection classes and make an active contribution to the fire safety of a building or installation. Other insulation materials combust at much lower temperatures and often release dangerous substances during combustion. Stone wool is non-combustible and only melts above 1000°C. As a result, Rockwool insulation inhibits the spread of fire, ultimately saving lives and protecting buildings.

Stone wool protects people and the environment

Every year, fire kills more than 60,000 people worldwide. The number injured far exceeds this. Loss of life or injury can be catastrophic, however the financial implications are also considerable. In Europe alone, losses total approximately 53 billion euros. A large-scale fire may force a company into liquidation, or result in the loss of priceless cultural buildings. In addition, every fire will have an environmental impact. Poisonous substances released during combustion, polluted extinguishing water and fire residues are discharged into the environment in an uncontrolled manner. The fire retardant and fire insulating characteristics of RTI's stone wool products deliver superior protection to people, property and the environment.

Contents

The full contents list can be found in the fold out page at the back of this catalogue.

by Lapinus

1 Insulation of technical installations in buildings

1.1 Pipe sections for heating & ventilation pipe work

Rockwool 810

H&V pipe section

Packaged in boxes

Shrink-wrapped pipe sections

All sections 1000 mm in length.

Other dimensions available upon request.

Qty per 40ft HC container in m¹						
Insulation thickness in mm						
Ø mm	20	25	30	40	50	60
17	16800	12000	10000	6400	3600	
21	14400	10000	8000	5200	3600	2400
27	12000	10000	8000	4800	3600	2400
33	10000	8000	6400	3600	3200	2000
42	8000	6400	4800	3600	2400	1600
48	6400	6000	4800	3600	2400	1600
54	6400	4800	4000	3200	2000	1600
57	6000	4800	3600	2400	2000	1600
60	4800	4400	3600	2400	2000	1600
64	4800	3600	3600	2400	1600	1992
70	4200	3600	3200	2000	1600	1944
76	3600	3600	2800	2000	1600	1738
83	3600	2800	2400	2000	1992	1694
89	3600	2400	2400	1600	1944	1650
102	2400	2000	1600	1600	1694	1440
108	2000	2000	1600	1944	1650	1400
114		1600	1600	1896	1480	1260
121		1600	1600	1694	1440	1098
127		1600	1968	1672	1400	1080
133		1992	1920	1480	1260	1062
140		1944	1716	1440	1116	1044
159		1650	1440	1116	1044	880
169		1440	1400	1080	896	848
178		1400	1116	1044	880	728
194		1098	1062	880	728	700
219		896	880	728	686	564

1.1 Pipe sections for heating & ventilation pipe work

Applications

Rockwool 810 is a pre-formed stone wool pipe section with a factory applied fibreglass reinforced aluminium foil facing and integral self-adhesive overlap. It is suitable for thermal and acoustic insulation of central heating installations and sanitary pipes.

Installation guidelines

Fit the pipe sections closely without any gaping joints, with the lengthwise (horizontal) joint turned towards the underside. Fix the lengthwise seam with the self-adhesive overlap. The end joints should preferably be finished with a self-adhesive aluminium tape (e.g. Rockwool Alufix, see p7). If there is a risk of condensation, a vapour barrier should be applied.

Advantages

- Excellent thermal and acoustic insulation
- Simple and rapid fitting due to the pre-cut side and self-adhesive overlap
- Wide range of diameters and insulation thicknesses for application on metal and plastic pipe work
- Suitable for improving the fire performance of pipe work, e.g. for plastic pipe work in escape routes
- Suitable for use over stainless steel
- Long lasting
- Close fitting so that losses through the seams are restricted to a minimum
- Fast return on investment

Product properties

<table>
<tr><th></th><th colspan="7">Performance</th><th>Standard</th></tr>
<tr><td rowspan="4">Thermal conductivity</td><td>$t°_m$ (°C)</td><td>10</td><td>20</td><td>30</td><td>40</td><td>50</td><td>100</td><td rowspan="4">EN ISO 8497. ASTM C335</td></tr>
<tr><td>λ (W/mK)</td><td>0.034</td><td>0.035</td><td>0.036</td><td>0.037</td><td>0.038</td><td>0.045</td></tr>
<tr><td>$t°_m$ (°F)</td><td>50</td><td>75</td><td>100</td><td>150</td><td>200</td><td>250</td></tr>
<tr><td>λ (BTU.in/ft².h.°F)</td><td>0.237</td><td>0.246</td><td>0.256</td><td>0.279</td><td>0.307</td><td>0.339</td></tr>
<tr><td>Maximum Service Temperature</td><td colspan="7">250°C (482°F).</td><td>EN 14707. ASTM C411</td></tr>
<tr><td>Reaction to fire</td><td colspan="7">Non-combustible
A1
A2
Non-combustible
Low Surface Flame Spread
Surface burning characteristics: Flame spread=passed. Smoke development=passed</td><td>NEN 6064
NBN S21-203
DIN 4102-1
IMO A799 (19)
IMO A653 (16)
ASTM E84 (UL 723)</td></tr>
<tr><td>Water leachable chloride content</td><td colspan="7">< 10 mg/kg. AS-quality for use on stainless steel
Conforms to the stainless steel corrosion specification as per ASTM test methods C692 and C871
<10mg/kg (pH-value neutral to slightly alkaline)</td><td>EN 13468
ASTM C795

ASTM C871</td></tr>
<tr><td>Water absorption</td><td colspan="7">Water absorption < 1 kg/m²
Water vapour absorption (vapor sorption) ± 0.02%vol</td><td>EN 13472
ASTM C1104/C1104M</td></tr>
<tr><td>Adhesive properties of self-adhesive overlap</td><td colspan="7">Processsing temperature: -10°C (14°F) to 50°C (122°F)
Service Application temperature: limited to 80°C (176°F)</td><td></td></tr>
<tr><td>Nominal density</td><td colspan="7">100 - 125 kg/m³ (6.24 - 7.80 lb/ft³)</td><td></td></tr>
<tr><td>Water vapour resistance aluminium foil</td><td colspan="7">$S_d \geq 350$ m</td><td>EN 12086</td></tr>
<tr><td>Compliance</td><td colspan="8">CINI 2.2.03 “Rockwool sections for the thermal insulation of pipes”
ASTM C547-06 “Standard specification for mineral fibre pre-formed pipe insulation” . type I</td></tr>
</table>

Rockwool 810 is certified by ButgB, technical approval ATG 2193

1.2 Thermal and acoustic insulation of heating & ventilation ducts

Rockwool 133

Lamella mat

Rockwool 133, lamella mat				
Thickness mm	Length mm	Width mm	m² per collo	m² 40ft HC
25	10000	1000	10	2700
30	8000	1000	8	2160
50	5000	1000	5	1350

☐ Shrink-wrapped

Applications

Rockwool 133 Lamella Mat is formed from strips of stone wool with vertical fibres bonded onto fibreglass reinforced aluminium foil. Lamella Mat is suitable for the external thermal and acoustic insulation of ventilation ducts, and maintains thickness even on tight bends or corners.

Advantages

- Excellent thermal and acoustic insulation
- Retains insulation thickness, even at tight angles
- Easy to handle and install
- Superior fire performance enables use of product in escape routes and technical shafts
- Minimal wastage through reuse of cut pieces

Product properties

	Performance							Standard
Thermal conductivity	$t°_m$ (°C)	10	20	30	40	50	100	EN ISO 8497, ASTMC335
	λ (W/mK)	0.038	0.040	0.041	0.043	0.044	0.054	
	$t°_m$ (°F)	50	75	100	150	200	300	
	λ (BTU.in/ft².h.°F)	0.263	0.274	0.286	0.313	0.345	0.421	
Maximum Service Temperature	133: 250°C (482°F) Outer foil temperature limited to 80°C (176°F)							EN 14706, ASTM C411
Reaction to fire	Class 1 A1 Surface burning characteristics: Flame spread=passed, Smoke development=passed							NEN 6065 NBN S21-203 ASTM E84 (UL 723)
Smoke intensity	Negligible							NEN 6066
Water absorption	Water absorption < 1 kg/m² Water vapour absorption (vapor sorption) ± 0.02%vol							EN 1609 ASTM C1104/C1104M
Nominal density	density = 37 kg/m³ (2 lb/ft³)							
Water vapour resistance aluminium foil	$S_d \geq 350$ m							EN 12086

Rockwool 133 is certified by ButgB, technical approval ATG 2319

1.2 Thermal and acoustic insulation of heating & ventilation ducts

Installation guidelines

Cut the lamella mat to the right length:

- Circular air ducts:
  (diameter + 2x thickness insulation) x 3.14 + 30 mm
- Right-angled ducts:
  circumference + 8x thickness insulation + 30 mm

For ducts with flanged joints, we recommend fitting the insulation to the exact width between the flanged joints. Rockwool 133 can be mechanically fixed using self-adhesive stick pins, adhesive coating or tie rods according to preference. Where there is a risk of condensation on the flange, place an additional loose strip over the flange joint. All joints are to be securely taped with an aluminium tape (e.g. Rockwool Alufix; see below) with a minimum width of 75mm. Provide vents at duct joints.

Storage

Rockwool Lamella Mat must be stored in a dry, frost-free environment in the original packaging.

Rockwool Alufix NEW

Self-adhesive aluminium tape

Width mm	Length m/roll	Rolls/ carton
75	100	16
100	100	12

Dimension of the carton: 330 x 330 x 330 mm.

Applications

Rockwool Alufix is a self-adhesive, non-combustible and solvent free aluminium tape. The adhesive side is covered with a PE foil, which should be removed before use.

Rockwool Alufix was specially developed for finishing all Rockwool products faced with aluminium foil, for example Rockwool 133 (EF), Rockwool Klimaboard, Conlit 150U and Conlit Ductrock.

Product properties

	Performance	Standard
Reaction to fire	A2	DIN 4102-1
Adhesive properties of self-adhesive overlap	Processing temperature: 5°C (41°F) to 35°C (95°F) Application temperature: -15°C (5°F) to 100°C (212°F) For proper adhesion, the base must be dry and dust and grease free. Adhesive strength on steel: > 10N/25 mm	

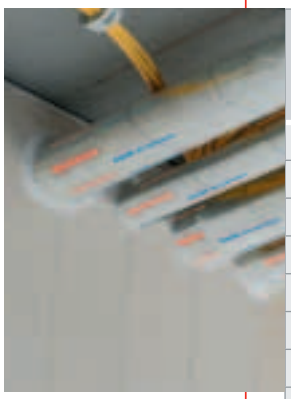
Conlit Fire Protection

by Lapinus

2.1 Fire rating of wall and floor penetrations

NEW

Conlit 150 U



Packed in boxes

Dimensions of the boxes:
100 x 40 x 40 cm.

Penetration seal

Internal diameter Ø mm	Insulation thickness mm	Outer diameter Ø mm	Packaging m/box
10	25	60	42
12	24	60	42
14	23	60	42
15	22.5	60	42
16	22	60	42
17	21.5	60	42
18	21	60	42
20	20	60	42
21	19.5	60	42
22	19	60	42
25	17.5	60	42
26	17	60	42
27	16.5	60	42
28	26	80	20
32	24	80	20
35	22.5	80	20
40	20	80	20
42	19	80	20
42	29	100	14
48	26	100	14
50	25	100	14
54	38	130	9
58	36	130	9
60	35	130	9
63	33.5	130	9
64	33	130	9
64	58	180	4
75	52.5	180	4

Internal diameter Ø mm	Insulation thickness mm	External diameter Ø mm	Packaging m/box
76	37	150	5
76	52	180	4
78	36	150	5
83	33.5	150	5
89	30.5	150	5
89	65.5	220	2
90	65	220	2
102	39	180	4
108	36	180	4
108	71	250	1
110	35	180	4
110	70	250	1
113	68.5	250	1
114	33	180	4
114	68	250	1
133	43.5	220	2
135	42.5	220	2
140	40	220	2
140	70	280	2
159	30.5	220	2
160	30	220	2
169	40.5	250	1
210	40	290	1
219	40	299	1
274	40	354	1
324	40	404	shrink foil
326	40	406	shrink foil

Applications

Conlit 150 U penetration seals were developed in order to allow firesafe pipe penetrations through walls and floors. The sections are suitable for fire resistant ducts for both metal and combustible pipe work, and for both walls and floors. The external diameter of the sections is suitable for the most common diameters used in core drilling. To seal odd shaped openings Conlit 150 U penetration seals can be used in combination with Conlit Penetration Board.

2.1 Fire rating of wall and floor penetrations

Installation guidelines

The fire resistant performance of a pipe aperture depends on various factors such as the type of piping, the diameter, the basic construction, the use of the piping, etc. Firesafe insulation requires special attention to the right choice of materials and installation. Detailed installation instructions are available upon request.

Advantages

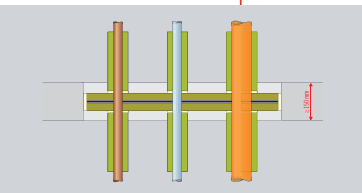
- Excellent fit: the external diameter is equal to core drilling diameters: 60, 80, 100, 130, 150, 180, 220, 250 and 280 mm
- Clearly identifiable markings on the aluminium foil
- For both metal and plastic pipe work
- For both solid and plasterboard constructions
- Simple to install
- Optimal fire safety, combined with acoustic and thermal insulation
- Tested and assessed by various accredited fire laboratories

Product properties Conlit 150U

	Performance				Standard
Thermal conductivity	$t°_m$ (°C)	10	$t°_m$ (°F)	50	EN 13162
	λ (W/mK)	0.040	λ (BTU.in/ft².h.°F)	0.278	
Reaction to fire	Class 1 A2				NEN 6065 DIN 4102-1
Smoke intensity	Negligible				NEN 6066
Fire resistance	Fire resistant from 30 to 120 minutes in accordance with EN 1366-3 “Fire resistance tests for service installation - Part 3: Penetration Seals”. Certificate available upon request.				
Water absorption	Water absorption < 1 kg/m²				EN 13472
Water vapour resistance aluminium foil	$S_d \geq 350$ m				EN 12086

Conlit Penetration Board

Penetration seal



Thickness mm	Length mm	Width mm	Packaging m²/box
50	1000	600	1.2

Applications

Conlit Penetration Board is faced on one side with printed aluminium foil. The other side is faced with a white fibreglass scrim. Each box contains two slabs for finishing one penetration. Conlit Penetration Board is developed for sealing openings in fire resistant walls and floors where pipe work is installed. In combination with Conlit 150 U and Rockwool 810 pipe sections, Conlit Penetration Board provides fire resistance for both metal and combustible pipe work passing through walls and floors. The boards can be placed side by side without clearance.

Advantages

- For use in combination with Conlit 150 U or Rockwool 810
- Clearly identifiable markings on the aluminium foil
- For use with metal and plastic pipe work. Both types may be combined
- For use in solid and plasterboard constructions
- Simple to install
- Optimal fire safety, combined with acoustic and thermal insulation
- Tested and assessed by various accredited fire laboratories

Product properties

	Performance				Standard
Thermal conductivity	$t°_m$ (°C)	10	$t°_m$ (°F)	50	EN 13162
	λ (W/mK)	0.040	λ (BTU.in/ft².h.°F)	0.278	
Reaction to fire	Class 1 A2				NEN 6065 DIN 4102-1
Smoke intensity	Negligible				NEN 6066
Fire resistance	Fire resistant from 30 to 120 minutes in accordance with EN 1366-3 “Fire resistance tests for service installation - Part 3: Penetration Seals”. Certificate available upon request.				
Water absorption	Water absorption < 1 kg/m²				EN 1609
Water vapour resistance aluminium foil	$S_d \geq 350$ m				EN 12086

Installation guidelines

The fire resistant performance of a pipe aperture depends on various factors such as the type of piping, the diameter, the basic construction, the type of pipe used, etc. Firesafe insulation requires special attention to the right choice of materials and installation. Detailed installation instructions are available upon request.

Conlit Fire Plug

Fire stop

Packed in boxes

Diameter Ø mm	Length mm	Packaging m/box
60	1000	42
80	1000	20
100	1000	14
130	1000	9
150	1000	5
180	1000	4
220	1000	2
250	1000	1
280	1000	1
325	1000	1

Applications

The Conlit Fire Plug is a cylindrical plug made from high-density stone wool, suitable for the most common diameters used in core drilling. Conlit Fire Plug is intended as temporary filler for apertures to receive future pipework. The plugs can be easily removed and replaced with a Rockwool fire resistant penetration.

Advantages

- Excellent fit: The external diameter is equal to core drilling diameters: 60, 80, 100, 130, 150, 180, 220, 250 and 280 mm
- For both solid and plasterboard constructions
- For application in floors and walls
- Simple to install
- Optimal fire safety, combined with acoustic and thermal insulation
- Tested and assessed by various accredited fire laboratories

Product properties

	Performance				Standard
Thermal conductivity	$t°_m$ (°C)	10	$t°_m$ (°F)	50	EN 13162
	λ (W/mK)	0.040	λ (BTU.in/ft².h.°F)	0.278	
Reaction to fire	Non-combustible A1				NEN 6064 DIN 4102-1
Fire resistance	Fire resistant from 30 to 120 minutes in accordance with EN 1366-3 “Fire resistance tests for service installation - Part 3: Penetration Seals”. Certificate available upon request.				
Water absorption	Water absorption < 1 kg/m²				EN 13472

Installation guidelines

The fire resistant performance of a pipe aperture depends on various factors such as the type of piping, the diameter, the basic construction, the type of pipe used, etc. Firesafe insulation requires special attention to the right choice of materials and installation. Detailed installation instructions are available upon request.

Conlit Fix

Special adhesive for fire resistant applications

Product	Packaging kg	Transport packaging
Conlit Fix	Bucket 20 kg	33 bucket/pallet
	Plastic tubes 1 kg	18 tubes/box
Conlit Fix Cold	Bucket 20 kg	33 bucket/pallet

Applications

Conlit Fix is a non-combustible, inorganic water-glass glue specially developed for the installation of Conlit products in fire resistant constructions. The main use of Conlit Fix is to glue Conlit stone wool products together. This glue is used for fire resistant pipe penetrations, Conlit Ductrock and Conlit Steel Protection.

Advantages

- Optimum consistency for easy application
- Conlit tubes can be used with refillable spray guns
- Conlit Fix Cold is for application at temperatures slightly below freezing, to -7°C

Product properties

	Performance	Standard
Reaction to fire	Non-combustible A1	NEN 6064 DIN 4102-1
Adhesive properties	Processing temperature: 5°C (41°F) to 25°C (77°F) Not to apply below 5°C (41°C), Conlit Fix Cold: not below -7°C(19°F)	

Installation guidelines

The ideal application temperature of Conlit Fix is between 10°C and 20°C. The glue must be applied at above 5°C. For lower working temperatures down to -7°C, use Conlit Fix Cold. Glue in tubs should be stirred well before use (the tubes should be kneaded). Application surfaces must be dry, grease-free and dust-free. Surfaces to be glued must not be exposed to water (e.g. rain and condensation). Cover both surfaces with Conlit Fix (1 to 1.5 mm thick) then press firmly together. The curing time is around 12 hours, depending on the ambient temperature.

Storage

Conlit Fix can be kept for up to twelve months in closed packaging when stored under dry conditions, frost-free, at a maximum temperature of 35°C.

Conlit Kit

Sealing kit for fire resistant applications

Product	Packaging	Tubes/carton
Conlit Kit	Tube 300 ml	20

☐ Packed in carton boxes

Applications

Conlit Kit is a mastic one-component fire protection kit, supplied in a tube. It should be used to seal the openings between Conlit 150 U pipe sections and the adjoining construction (up to a width of 30 mm). In the event of a fire, Conlit Kit expands slightly to provide a perfect seal.

Product properties

	Performance	Standard
Reaction to fire	B2	DIN 4102-1

Installation guidelines

Detailed information is available upon request.

Storage

Conlit Kit can be kept for up to 12 months in closed packaging when stored under dry conditions, frost-free, at a maximum temperature of 35°C.

2.2 Fire protection of heating & ventilation ducts

Conlit Ductrock

Fire protection board for H&V ducts

Product	Thickness mm	Length mm	Width mm	Packaging m²/pallet	m² per 40ft HC container
Conlit Ductrock 60	60	1500	1200	36	324
Conlit Ductrock 90	60	1500	1200	36	324
Conlit Ductrock 120	60	1500	1200	36	324

☐ Packed on wooden pallets

Applications

Conlit Ductrock is a non-combustible stone wool board faced on one side with fibreglass reinforced aluminium foil. The board contains a special granulate which releases its crystallised water in the event of fire. Conlit Ductrock is supplied in a standard thickness of 60 mm. The weight of the board depends on the added granulate. Conlit Ductrock has been specifically developed for the fire resistant cladding of metal vertical and horizontal right-angled ventilation ducts. Depending on the product used, it is fire resistant for 60, 90 or 120 minutes.

Advantages

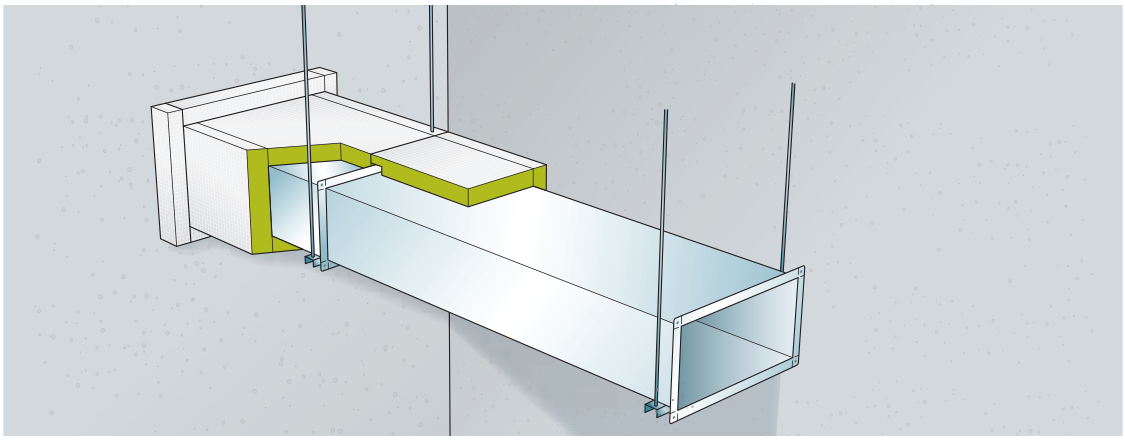
- Optimal fire safety, combined with acoustic and thermal insulation
- Space saving - one layer solution
- No additional reinforcement for flanges and suspensions required
- For horizontal and vertical ducts
- For fire in- and outside the ducts
- For both solid and plasterboard constructions
- Easy to handle, simple to cut to size
- Fast and easy to install using welded pins and/or parker screws
- Sturdy and safe: Tested in accordance with the European standard: EN 1366-1:1999

Installation guidelines

The fire resistant cladding of ventilation ducts must take into account a range of factors. Detailed installation instructions are available upon request.

Storage

Conlit Ductrock is delivered on pallets which must be stored dry and protected from the weather, stacked no more than two high.



2.2 Fire protection of heating & ventilation ducts

Product properties Conlit Ductrock

	Performance				Standard
Thermal conductivity	$t°_m$ (°C)	10	$t°_m$ (°F)	50	EN 13162
	λ (W/mK)	0.040	λ (BTU.in/ft^2.h.°F)	0.278	
Reaction to fire	A1 A2				EN 13501-1 DIN 4102-1
Fire protection	Fire resistant from 60 to 120 minutes in accordance with EN 1366-1:1999 “Fire resistance tests for service installation - Part 1: Ducts”. Certificate available upon request.				
Water vapour resistance of aluminium foil	$S_d \geq 350$ m				EN 12086

2.3 Fire protection of steel structures

Conlit Steelprotect Board

Fire protection board for steel structures

Conlit Steelprotect Board				
Thickness mm	Length mm	Width mm	Packaging m²/pallet	m² 40ft HC container
20	1800	1200	130.0	1166
25	1800	1200	97.0	1750
30	1800	1200	86.0	778
35	1800	1200	78.0	700
Conlit Steelprotect Board Alu				
Thickness mm	Length mm	Width mm	Packaging m²/pallet	m² 40ft HC container
25	1800	1200	97.2	1750
30	1800	1200	86.0	778
35	1800	1200	77.8	700

☐ Boards packed in shrink foil

Applications

Conlit Steelprotect Board is a high density non-combustible stone wool fire protection board. The board is specially designed for the fire resistant cladding of steel constructions. It is available both unfaced and with a fibreglass reinforced aluminium facing on one side.

Installation guidelines

Fire resistant cladding of steel structures is dependent upon a range of factors. The cladding thickness is determined by a combination of proposed steel temperature, required fire resistance, the steel profile used and the cladding method. Detailed installation instructions are available upon request.

Advantages

- Easy to handle, simple to cut to size
- Light weight and easy to manoeuvre
- Tested in accordance with EN 13381-4
- Can be either glued or screwed into place
- Special Conlit Screw available for dry and rapid application

Product properties

	Performance	Standard
Reaction to fire	Non-combustible A0 A1	NEN 6064 NBN S21-203 DIN 4102-1
Fire protection	Fire resistant from 30 to 240 minutes, in accordance with EN13381-4. Certificate available upon request.	
Water absorption	Water absorption < 1 kg/m²	EN 1609
Compression resistance	55 kPa at 10% deformation	EN 826
Water vapour resistance aluminium foil	$S_d \geq 350$ m	EN 12086

Conlit Screw

NEW

Screw for Conlit Steelprotect Board

Length mm	Packaging items/bag
40	1000
65	1000
90	1000

Applications

Spiral screw (pig tail) for fixing Conlit Steelprotect Board.

Advantages

- Easy to fit using a cordless drill
- Bit supplied free of charge with every pack of Conlit Screws

by Lapinus

3

Insulation for industry

Application selector

		Process pipe work	Valves, bends, flanges	Voids, seams	Cryogen installations and cold boxes	Tank walls, drums	Tank roofs	Columns	Furnaces	Boilers	Acoustic applications
Loose wool	Rockwool Loose Fill		●	●							
	Rockwool Granulate				●						
Pipe Sections	Rockwool 850	●									
	Rockwool 851	●									
Wired Mats	Rockwool 160	●	●			●		●			
	Rockwool 164	●	●								
	Rockwool 159	●	●					●	●	●	●
	Rockwool 168	●	●					●	●	●	●
Slabs	Rockwool Flexiboard					●		●			●
	Rockwool Multiboard					●		●			
	Rockwool HT600							●	●	●	
	Rockwool HT660								●	●	●
	Rockwool HT700								●	●	●
	Rockwool 251								●	●	●
	Rockwool CRS						●				●

Remarks

Due to an almost limitless range of applications, we have not provided detail information for all the applications. Information is available in the following manuals/standards for industrial insulation:

- CINI manual 'Insulation for industries'
- AGI Q101 (Dämmarbeiten an Kraftswerkkomponenten)
- DIN 4140 (Insulation work on industrial installations and building equipment)

For specific applications, our RTI sales team will be pleased to advise you.

3.1 Insulation products

Rockwool 850

Industrial pipe section

Packed in cartons

Packed in shrinkfoil

All pipe sections 1000 mm in length.

Other dimensions (up to diameters of 915 mm) are available upon request.

	Qty per 40ft HC container in m¹							
Ø mm	25	30	40	50	60	80	100	120
17	12000	10000	6400	3600				
21	10000	8000	5200	3600	2400	1600		
27	10000	8000	4800	3600	2400			
33	8000	6400	3600	3200	2000	1200		
42	6400	4800	3600	2400	1600			
48	6000	4800	3600	2400	1600			
57	4800	3600	2400	2000	1600			
60	4400	3600	2400	2000	1600	1440	1044	
64	3600	3600	2400	1600	1992	1420	912	
70	3600	3200	2000	1600	1944	1400	896	
76	3600	2800	2000	1600	1738	1116	880	
83	2800	2400	2000	1992	1694	1098	864	
89	2400	2400	1600	1944	1650	1080	848	
102	2000	1600	1600	1694	1440	912	714	
108	2000	1600	1944	1650	1400	896	714	
114	1600	1600	1896	1480	1260	880	700	468
121	1600	1600	1694	1440	1098	864	686	468
127	1600	1968	1672	1400	1080	848	672	456
133	1992	1920	1480	1260	1062	742	672	456
140	1944	1716	1440	1116	1044	728	564	444
159	1650	1440	1116	1044	880	686	468	360
169	1440	1400	1080	896	848	672	456	350
194	1098	1400	880	728	700	468	360	330
219	896	1062	728	686	564	444	340	320
245	728	880	672	552	456	350	330	240
267	686	714	480	456	444	340	310	232
273	686	672	480	456	360	330	248	232
280	672	672	468	444	360	330	248	232
305	468	564	444	350	340	310	232	224
324	456	444	350	340	330	240	224	216
356	350	340	330	320	248	232	216	156
368	340	340	320	310	240	224	216	150
406	320	310	240	232	224	216	150	144
419		280	240	232	224	208	150	144
456		232	224	216	208	150	144	102
508		216	156	150	150	138	96	96
558		150	144	144	138	96	90	60
610			138	96	96	90	56	56

3.1 Insulation products

Applications

Rockwool 850 is a pre-formed stone wool pipe section. The sections are supplied split and hinged for easy snap-on assembly, and are suitable for the thermal and acoustic insulation of industrial pipe work.

Advantages

- Excellent thermal and acoustic insulation
- Easy to handle and install
- Wide range of diameters and insulation thicknesses
- Optimal performance due to the extensive range of diameters
- Suitable for use over stainless steel
- For temperatures up to 350°C, a support construction is not generally necessary
- Long lasting
- Excellent fit provides optimal performance
- Fast return on investment

Product properties

	Performance							Standard
Thermal conductivity	$t°_m$ (°C)	50	100	150	200	250	300	EN ISO 8497, ASTM C335
	λ (W/mK)	0.038	0.044	0.051	0.061	0.073	0.087	
	$t°_m$ (°F)	100	200	300	400	500	600	
	λ (BTU.in/ft².h.°F)	0.257	0.296	0.354	0.429	0.524	0.637	
Maximum Service Temperature	620°C (1148°F) 750°C (1382°F)							EN 14707 ASTM C411
Reaction to fire	Non-combustible A0 A1 Non-combustible Low Surface Flame Spread Surface burning characteristics: Flame spread=passed, Smoke development=passed							NEN 6064 NBN S21-203 DIN 4102-1 IMO A799 (19) IMO A653 (16) ASTM E84 (UL 723)
Water leachable chloride content	< 10 mg/kg, AS-quality for use on stainless steel Conforms to the stainless steel corrosion specification as per ASTM test methods < 10mg/kg (pH-value neutral to slightly alkaline) C692 and C871							EN 13468 ASTM C795 ASTM C871
Water absorption	Water absorption < 1 kg/m2 Water vapour absorption (vapor sorption) ± 0.02%vol							EN 13472 ASTM C1104/C1104M
Nominal density	100 - 125 kg/m³ (6.24 - 7.80 lb/ft³)							
Water vapour resistance factor	μ = 1,3							EN 12086
Compliance	Rockwool sections. For the thermal insulation of pipes. Standard specification for mineral fibre pre-formed pipe insulation, type I, II and IV							CINI 2.2.03 ASTM C547-06

Rockwool 850 is certificated by ButgB, technical approval ATG 2193

Note:
All steel components exposed to a corrosive environment should be cleaned, degreased and coated with a protective finish.

Installation guidelines Rockwool 850

Assembly
Fit the Rockwool 850 closely around the pipe, with the lengthwise (horizontal) joint turned towards the underside. The lengthwise joints must be staggered at an angle of at least 30 degrees to each other. The shell is secured with galvanised binding wire (thickness 0.5 mm, at least 3/m). For insulation thickness above 100 mm (or temperatures > 250°C) the insulation should be applied in at least two layers. In the case of multi-layer insulation it is recommended that the lengthwise and crosswise joints are staggered ('masonry bond').

Support construction
On pipes where mechanical loading (e.g. strong vibrations) of the insulation is expected and/or the temperature is higher than 350°C, a support structure (spacers) should be constructed. The number of spacers depends on the temperature and the mechanical load. As a guide, the following intermediate distances can be used:

- Horizontal pipe work: 3 to 4 m
- Vertical pipe work: 5 to 6 m

Finishing
All pipe sections should be finished with a metal (e.g. aluminium) cladding. Where necessary, expansion joints are required to cater for expansion of the pipes. Both the lengthwise and circular joints are fastened with sheet-metal screws: hard aluminium or stainless steel 1/2", 8 per metre. Close expansion joints with a steel tensioning wire. Connections to mountings, head and end caps, etc. should be made watertight using an appropriate sealant.

Rockwool 851

Industrial pipe section

Qty per 40ft HC container in m¹								
Insulation thickness in mm.								
Ø mm	25	30	40	50	60	80	100	120
17	12000	10000	6400	3600				
21	10000	8000	5200	3600	2400			
27	10000	8000	4800	3600	2400			
33	8000	6400	3600	3200	2000			
42	6400	4800	3600	2400	1600			
48	6000	4800	3600	2400	1600			
57	4800	3600	2400	2000	1600			
60	4400	3600	2400	2000	1600	1440	1044	
64	3600	3600	2400	1600	1992	1420	912	
70	3600	3200	2000	1600	1944	1400	896	
76	3600	2800	2000	1600	1738	1116	880	
83	2800	2400	2000	1992	1694	1098	864	
89	2400	2400	1600	1944	1650	1080	848	
102	2000	1600	1600	1694	1440	912	714	
108	2000	1600	1944	1650	1400	896	714	
114	1600	1600	1896	1480	1260	880	700	468
121	1600	1600	1694	1440	1098	864	686	468
127	1600	1968	1672	1400	1080	848	672	456
133	1992	1920	1480	1260	1062	742	672	456
140	1944	1716	1440	1116	1044	728	564	444
159	1650	1440	1116	1044	880	686	468	360
169	1440	1400	1080	896	848	672	456	350
194	1098	1400	880	728	700	468	360	330
219	896	1062	728	686	564	444	340	320
245	728	880	672	552	456	350	330	240
267	686	714	480	456	444	340	310	232
273	686	672	480	456	360	330	248	232
280	672	672	468	444	360	330	248	232
305	468	564	444	350	340	310	232	224
324	456	444	350	340	330	240	224	216
356	350	340	330	320	248	232	216	156
368	340	340	320	310	240	224	216	150
406	320	310	240	232	224	216	150	144
419		280	240	232	224	208	150	144
456		232	224	216	208	150	144	102
508		216	156	150	150	138	96	96
558		150	144	144	138	96	90	60

☐ Packaged in boxes

■ Shrink-wrapped pipe sections

All pipe sections 1000 mm in length.

Other dimensions (up to diameter of 915 mm) are available upon request.

3.1 Insulation products

Applications

Rockwool 851 is a pre-formed high density stone wool pipe section. The sections are supplied split and hinged for easy snap-on assembly, and are especially suitable for the thermal and acoustic insulation of industrial pipe work which is exposed to high temperature and light (e.g. vibrations) mechanical loads.

Advantages

- Excellent thermal and acoustic insulation
- Easy to handle and install
- Wide range of diameters and insulation thicknesses
- Optimal performance due to the extensive range of insulation thicknesses
- Suitable for use over stainless steel
- For temperatures up to 350°C, support construction is not generally necessary
- Long lasting
- Excellent fit provides optimal performance
- Fast return on investment

Product properties Rockwool 851

	Performance							Standard
Thermal conductivity	$t°_m$ (°C)	50	100	150	200	250	300	EN ISO 8497, ASTM C335
	λ (W/mK)	0.038	0.044	0.051	0.059	0.069	0.079	
	$t°_m$ (°F)	100	200	300	400	500	600	
	λ (BTU.in/ft².h.°F)	0.255	0.298	0.353	0.416	0.490	0.574	
Maximum Service Temperature	640°C (1184°F) 750°C (1382°F)							EN 14707 ASTM C411
Reaction to fire	Non-combustible A1 Surface burning characteristics: Flame spread=passed, Smoke development=passed							NEN 6064 DIN 4102-1 ASTM E84 (UL 723)
Water leachable chloride content	< 10mg/kg, AS-quality for use over stainless steel Conforms to the stainless steel corrosion specification as per ASTM test methods C692 and C871 <10mg/kg (ph-value neutral to slightly alkaline)							EN 13468 ASTM C795 ASTM C871
Water absorption	Water absorption < 1 kg/m² Water vapour absorption (vapor sorption) ± 0.02%vol							EN 13472 ASTM C1104/C1104M
Nominal density	140 kg/m³ (8.75 lb/ft³)							
Water vapour resistance factor	μ = 1.3							EN 12086
Compliance	Rockwool sections. For the thermal insulation of pipes. Standard specification for mineral fibre pre-formed pipe insulation, type I, II and IV							CINI 2.2.03 ASTM C547-06

Note:
All steel components exposed to a corrosive environment should be cleaned, degreased and coated with a protective finish.

Installation guidelines

Assembly
Fit the Rockwool 851 closely around the pipe, with the lengthwise (horizontal) joint turned towards the underside. The lengthwise joints must be staggered at an angle of at least 30 degrees to each other. The shell is secured with galvanised binding wire (thickness 0.5 mm, at least 3/m). For insulation thickness above 100 mm (or temperatures > 250°C) the insulation should be applied in at least two layers. In the case of multi-layer insulation it is recommended that the lengthwise and crosswise joints are staggered ('masonry bond').

Support construction
On pipes where mechanical loading (e.g. strong vibrations) of the insulation is expected and/or the temperature is higher than 350°C, a support structure (spacers) should be constructed. The number of spacers depends on the temperature and the mechanical load. As a guide, the following intermediate distances can be used:

- Horizontal pipe work: 3 to 4 m
- Vertical pipe work: 5 to 6 m

Finishing
All pipe sections should be finished with a metal (e.g. aluminium) cladding. Where necessary, expansion joints are required to cater for expansion of the pipes. Both the lengthwise and circular joints are fastened with sheet-metal screws: hard aluminium or stainless steel 1/2", 8/metre. Close expansion joints with a steel tensioning wire. Connections to mountings, head and end caps etc. should be made watertight using an appropriate sealant.

Rockwool Duraflex

Insulation mat

☐ Shrink-wrapped

Thickness mm	Length mm	Width mm	Packaging m²/roll	m² per 40ft HC container
30	8000	500	8.0	2336
40	6000	500	6.0	1752
50	5000	500	5.0	1400
60	4500	500	4.5	1170
70	4000	500	4.0	1000
80	3500	500	3.5	875
90	3000	500	1.5	780
100	8000	500	1.5	700

Applications

Rockwool Duraflex is a stone wool insulation mat bonded onto fibreglass reinforced aluminium foil. The insulation mat is suitable for the thermal and acoustic insulation of especially vessels, ducts, and equipment up to intermediate temperatures.

Advantages

- Excellent thermal and acoustic insulation
- Easy to handle and install

Product properties

	Performance					Standard
Thermal conductivity	$t°_m$ (°C)	50	100	150	200	EN 12667, ASTM C177
	λ (W/mK)	0.043	0.053	0.064	0.077	
	$t°_m$ (°F)	100	200	300	400	
	λ (BTU.in/ft².h.°F)	0.280	0.339	0.415	0.508	
Maximum Service Temperature	300°C (572°F). Outer foil temperature limited to 80°C					EN 14706, ASTM C411
Reaction to fire	A2 Surface burning characteristics: Flame spread=passed, Smoke development=passed					DIN 4102-1 ASTM E84 (UL 723)
Water absorption	Water absorption < 1 kg/m² Water vapour absorption (vapor sorption) ± 0.02%vol					EN 1609 ASTM C1104
Water leachable chloride content	Conforms to the stainless steel corrosion specification as per ASTM test methods C692 and C871					ASTM C795
Compression resistance	> 10 kN/m²					DIN 52272-1
Nominal density	60 kg/m³ (3.75 lb/ft³)					
Water vapour resistance alumnium foil	$S_d \geq 350$m					EN 12086
Compliance	Rockwool Lamella Mats for the thermal insulation of air ducts, pipe bundles and equipment					CINI 2.2.05

Rockwool 160

Wired mat

Thickness in mm	Length in mm	Width in mm	Packaging m²/roll	m² per 40ft HC container
30	8000	500	4.0	2200
40	6000	500	3.0	1650
50	5000	500	2.5	1375
60	4000	500	2.0	1100
75	4000	500	2.0	1100
80	3000	500	1.5	825
100	3000	500	1.5	750
120	3000	500	1.5	720

☐ Shrink-wrapped

The following variants are available on request:
- Rockwool 160 SW: Stainless steel mesh and stitching wire
- Rockwool 160 S: Galvanised steel mesh and stainless steel stitching wire
- Rockwool 160 ALU: Galvanised steel mesh and stitching wire with addition of aluminium foil between mesh and rock wool
- Rockwool 160 SW ALU: Stainless steel mesh and stitching wire with addition of aluminium foil between mesh and rock wool

Applications

Rockwool 160 is a lightly bonded rock wool mat stitched on galvanised wired mesh with galvanised wire. The wired mat is suitable for thermal and acoustic insulation of industrial pipe work, boiler walls, furnaces and industrial smoke exhaust ducts.

Advantages

- Excellent thermal and acoustic insulation
- Suitable for use over irregular surfaces
- Available in a wide range of thickness up to 120 mm
- Suitable for use over stainless steel

Product properties

	Performance							Standard
Thermal conductivity	$t°_m$ (°C)	50	100	150	200	250	300	EN 12667, ASTM C177
	λ (W/mK)	0.039	0.047	0.055	0.065	0.076	0.091	
	$t°_m$ (°F)	100	200	300	400	500	600	
	λ (BTU.in/ft².h.°F)	0.268	0.310	0.373	0.453	0.552	0.670	
Maximum Service Temperature	600°C (1112°F) 750°C (1382°F)							EN 14706 ASTM C411
Reaction to fire	Non-combustible A0 A1 Surface burning characteristics: Flame spread=passed, Smoke development=passed							NEN 6064 NBN S21-203 DIN 4102-1 ASTM E84 (UL 723)
Water leachable chloride content	< 10mg/kg, AS-quality for use over stainless steel Conforms to the stainless steel corrosion specification as per ASTM test methods C692 and C871 < 10mg/kg (ph-value neutral to slightly alkaline)							EN 13468 ASTM C795 ASTM C871
Water absorption	Water absorption < 1 kg/m² Water vapour absorption (vapor sorption) ± 0.02%vol							EN 1609 ASTM C1104/C1104M
Nominal density	70 kg/m³ (4.37 lb/ft³)							
Water vapour resistance factor	μ = 1.3							EN 12086
Compliance	Rockwool (RW) wire mesh blankets for thermal insulation of large diameter pipes, flat walls and equipment Standard specification for mineral fibre blanket insulation, type I and II							CINI 2.2.02 ASTM C592-06

Installation guidelines

Note:
All steel components exposed to a corrosive environment should be cleaned, degreased and coated with a protective finish.

Assembly
Cut the wired mat to length, so that the mat fits the pipe with slight pre-stressing. The closing joints must be staggered at an angle of at least 30 degrees to each other. The closing joints of the mats (lengthwise and circular) must be wired together using steel wire (min. 0.5 mm) or secured with mat hooks. Stainless steel pipes and pipes with a temperature of > 350°C should preferably be insulated with Rockwool 160 SW, in which both the mesh and the stitching wire is stainless steel. If the mats are assembled in multiple layers, both the lengthwise and circular joints must be staggered ('masonry bond').

Support construction
Given the limited pressure resistance of wired mats, in most cases a support is required for the board cladding. As a guideline, assume that a support is required every 3 to 4 metres.

Finishing
The insulation should be finished with a metal (e.g. aluminium) cladding. Where necessary, expansion joints are provided to cater for expansion of the pipes. Both the lengthwise and circular joints are fastened with sheet-metal screws: hard aluminium or stainless steel 1/2', 8/metre. Close the expansion joints with a steel tensioning wire. Connections to mountings, head and end caps, etc. should be made watertight using a suitable sealant.

Rockwool 164

Wired mat

☐ Shrink-wrapped

Thickness in mm	Length in mm	Width in mm	Packaging m²/ roll	m² per 40ft HC container
30	8000	500	4.0	2200
40	6000	500	3.0	1650
50	5000	500	2.5	1375
60	4000	500	2.0	1100
75	4000	500	2.0	1100
80	3000	500	1.5	825
100	3000	500	1.5	750
120	3000	500	1.5	720

The following variants are available on request:
- Rockwool 164 SW: Stainless steel mesh and stitching wire
- Rockwool 164 S: Galvanised steel mesh and stainless steel stitching wire
- Rockwool 164 ALU: Galvanised steel mesh and stitching wire with addition of aluminium foil between mesh and rock wool
- Rockwool 164 SW ALU: Stainless steel mesh and stitching wire with addition of aluminium foil between mesh and rock wool

Applications

Rockwool 164 is a lightly bonded stone wool mat stitched on galvanised wire mesh using galvanised wire. The wired mat is suitable for thermal and acoustic insulation of industrial applications reaching high temperatures, such as industrial pipe work, boiler walls, furnaces and smoke ducts.

Advantages

- Excellent thermal and acoustic insulation
- Suitable for use over irregular surfaces
- Available in a wide range of thicknesses up to 120 mm
- Suitable for use over stainless steel

Product properties

	Performance							Standard
Thermal conductivity	$t°_m$ (°C)	50	100	150	200	250	300	EN 12667, ASTM C177
	λ (W/mK)	0.041	0.047	0.054	0.064	0.075	0.088	
	$t°_m$ (°F)	100	200	300	400	500	600	
	λ (BTU.in/ft².h.°F)	0.269	0.308	0.366	0.442	0.538	0.653	
Maximum Service Temperature	640°C (1184°F) 750°C (1382°F)							EN 14706 ASTM C411
Reaction to fire	Non-combustible A0 A1 Surface burning characteristics: Flame spread=passed, Smoke development=passed							NEN 6064 NBN S21-203 DIN 4102-1 ASTM E84 (UL 723)
Water leachable chloride content	< 10mg/kg, AS-quality for use over stainless steel Conforms to the stainless steel corrosion specification as per ASTM test methods C692 and C871 < 10mg/kg (ph-value neutral to slightly alkaline)							EN 13468 ASTM C795 ASTM C871
Water absorption	Water absorption < 1 kg/m² Water vapour absorption (vapor sorption) ± 0.02%vol							EN 1609 ASTM C1104/C1104M
Nominal density	80 kg/m³ (5 lb/ft³)							
Water vapour resistance factor	μ = 1.3							EN 12086
Compliance	Rockwool (RW) wire mesh blankets for thermal insulation of large diameter pipes, flat walls and equipment Standard specification for mineral fibre blanket insulation, type I and II							CINI 2.2.02 ASTM C592-06

Installation guidelines

Note:
All steel components exposed to a corrosive environment should be cleaned, degreased and coated with a protective finish.

Assembly
Cut the wired mat to length, so that the mat fits the pipe with slight pre-stressing. The closing joints must be staggered at an angle of at least 30 degrees to each other. The closing joints of the mats (lengthwise and circular) must be wired together using steel wire (min. 0.5 mm) or secured with mat hooks. Stainless steel pipes and pipes with a temperature of > 350°C should preferably be insulated with Rockwool 164 SW, in which both the mesh and the stitching wire is stainless steel. If the mats are assembled in multiple layers, both the lengthwise and circular joints must be staggered ('masonry bond').

Support construction
Given the limited pressure resistance of wired mats, in most cases a support is required for the board cladding. As a guideline, assume that a support is required every 3 to 4 metres.

Finishing
The insulation should be finished with a metal (e.g. aluminium) cladding. Where necessary, expansion joints are provided to cater for expansion of the pipes. Both the lengthwise and circular joints are fastened with sheet-metal screws: hard aluminium or stainless steel 1/2", 8/metre. Close the expansion joints with a steel tensioning wire. Connections to mountings, head and end caps etc. should be made watertight using a suitable sealant.

Rockwool 159

Wired mat

Shrink-wrapped

Thickness in mm	Length in mm	Width in mm	Packaging m²/roll	m² per 40ft HC container
30	8000	500	4.0	2200
40	6000	500	3.0	1650
50	2500	500	2.5	1375
60	4000	500	2.0	1100
75	4000	500	2.0	934
80	3000	500	1.5	825
100	3000	500	1.5	750
120	3000	500	1.5	720

The following variants are available on request:
- Rockwool 159 SW: Stainless steel mesh and stitching wire
- Rockwool 159 S: Galvanised steel mesh and stainless steel stitching wire
- Rockwool 159 ALU: Galvanised steel mesh and stitching wire with addition of aluminium foil between mesh and rock wool
- Rockwool 159 SW ALU: Stainless steel mesh and stitching wire with addition of aluminium foil between mesh and rock wool

Applications

Rockwool 159 is a lightly bonded heavy stone wool mat stitched on galvanised wired mesh with galvanised wire. The wired mat is especially suitable for industrial installations such as high-pressure steam pipes, reactors, furnaces, etc. where high demands are made on the temperature resistance of the insulation.

Advantages

- Excellent thermal and acoustic insulation
- Suitable for use over irregular surfaces
- Available in a wide range of thicknesses up to 120 mm
- Suitable for use over stainless steel

Product properties

	Performance							Standard
Thermal conductivity	$t°_m$ (°C)	50	100	150	200	250	300	EN 12667, ASTM C177
	λ (W/mK)	0.040	0.046	0.052	0.060	0.069	0.081	
	$t°_m$ (°F)	100	200	300	400	500	600	
	λ (BTU.in/ft².h.°F)	0.273	0.301	0.349	0.413	0.497	0.600	
Maximum Service Temperature	680°C (1256°F) 750°C (1382°F)							EN 14706 ASTM C411
Reaction to fire	Non-combustible A0 A1 Surface burning characteristics: Flame spread=passed, Smoke development=passed							NEN 6064 NBN S21-203 DIN 4102-1 ASTM E84 (UL 723)
Water leachable chloride content	< 10mg/kg, AS-quality for use over stainless steel Conforms to the stainless steel corrosion specification as per ASTM test methods C692 and C871 < 10mg/kg (ph-value neutral to slightly alkaline)							EN 13468 ASTM C795 ASTM C871
Water absorption	Water absorption < 1 kg/m² Water vapour absorption (vapor sorption) ± 0.02%vol							EN 1609 ASTM C1104/C1104M
Nominal density	100 kg/m³ (6.24 lb/ft³)							
Water vapour resistance factor	μ = 1.3							EN 12086
Compliance	Rockwool (RW) wire mesh blankets for thermal insulation of large diameter pipes, flat walls and equipment Standard specification for mineral fibre blanket insulation, type I and II							CINI 2.2.02 ASTM C592-06

Installation guidelines Rockwool 159

Note:
All steel components exposed to a corrosive environment should be cleaned, degreased and coated with a protective finish.

Assembly
Cut the wired mat to length, so that the mat fits the pipe with slight pre-stressing. The closing joints must be staggered at an angle of at least 30 degrees to each other. The closing joints of the mats (lengthwise and circular joints) must be wired together using e.g. steel wire min. 0,5 mm or secured with mat hooks. Stainless steel pipes and pipes with a temperature of > 350°C should preferably be insulated with Rockwool 159 SW, in which both the mesh and the stitching wire is in stainless steel. If the mats are assembled in multiple layers, both the lengthwise and circular joints must be staggered ('masonry bond').

Support construction
Given the limited pressure resistance of wired mats, in most cases a support is required for the board cladding. As a guideline, assume that a support is required every 3 to 4 metres.

Finishing
The insulation should be finished with a metal (e.g. aluminium) cladding. Where necessary, expansion joints are provided to cater for expansion of the pipes. Both the lengthwise and circular joints are fastened with sheet-metal screws: hard aluminium or stainless steel 1/2", 8/metre. Close the expansion joints with a steel tensioning wire. Connections to mountings, head and end caps, etc. should be made watertight using a suitable sealant.

Rockwool 168

Wired mat

Thickness in mm	Length in mm	Width in mm	Packaging m²/roll	m² per 40ft HC container
30	8000	500	4.0	2200
40	6000	500	3.0	1650
50	5000	500	2.5	1375
60	4000	500	2.0	1100
75	4000	500	2.0	934
80	3000	500	1.5	825
100	3000	500	1.5	750

☐ Shrink-wrapped

The following variants are available on request:
- Rockwool 168 SW: Stainless steel mesh and stitching wire
- Rockwool 168 S: Galvanised steel mesh and stainless steel stitching wire
- Rockwool 168 ALU: Galvanised steel mesh and stitching wire with addition of aluminium foil between mesh and rock wool
- Rockwool 168 SW ALU: Stainless steel mesh and stitching wire with addition of aluminium foil between mesh and rock wool

Applications

Rockwool 168 is a lightly bonded heavy stone wool mat stitched on galvanised wired mesh with galvanised wire. The wired mat is especially suitable for industrial installations where high temperature and vibration resistance is required.

Advantages

- Excellent thermal and acoustical insulation
- Suitable for use over irregular surfaces
- Available in a wide range of thicknesses up to 120 mm
- Suitable for use over stainless steel

Product properties

	Performance							Standard
Thermal conductivity	$t°_m$ (°C)	50	100	150	200	250	300	EN 12667, ASTM C177
	λ (W/mK)	0.041	0.044	0.050	0.057	0.066	0.077	
	$t°_m$ (°F)	100	200	300	400	500	600	
	λ (BTU.in/ft².h.°F)	0.284	0.305	0.347	0.402	0.471	0.561	
Maximum Service Temperature	720°C (1328°F) 750°C (1382°F)							EN 14706 ASTM C411
Reaction to fire	Non-combustible A0 A1 Surface burning characteristics: Flame spread=passed, Smoke development=passed							NEN 6064 NBN S21-203 DIN 4102-1 ASTM E84 (UL 723)
Water leachable chloride content	< 10mg/kg, AS-quality for use over stainless steel Conforms to the stainless steel corrosion specification as per ASTM test methods C692 and C871 < 10mg/kg (ph-value neutral to slightly alkaline)							EN 13468 ASTM C795 ASTM C871
Water absorption	Water absorption < 1 kg/m² Water vapour absorption (vapor sorption) ± 0.02%vol							EN 1609 ASTM C1104/C1104M
Nominal density	128 kg/m³ (8 lb/ft³)							
Water vapour resistance factor	μ = 1.3							EN 12086
Compliance	Rockwool (RW) wire mesh blankets for thermal insulation of large diameter pipes, flat walls and equipment Standard specification for mineral fibre blanket insulation, type I and II							CINI 2.2.02 ASTM C592-06

Installation guidelines Rockwool 168

Note:
All steel components exposed to a corrosive environment should be cleaned, degreased and coated with a protective finish.

Assembly
Cut the wired mat to length, so that the mat fits the pipe with slight pre-stressing. The closing joints must be staggered at an angle of at least 30 degrees to each other. The closing joints of the mats (lengthwise and circular joints) must be wired together using steel wire (min. 0.5 mm) or secured with mat hooks. Stainless steel pipes and pipes with a temperature of > 350°C should preferably be insulated with Rockwool 168 SW, in which both the mesh and the stitching wire is in stainless steel. If the mats are assembled in multiple layers, both the lengthwise and circular joints must be staggered ('masonry bond').

Support construction
Given the limited pressure resistance of wired mats, in most cases a support is required for the board cladding. As a guideline, assume that a support is required every 3 to 4 metres.

Finishing
The insulation should be finished with a metal (e.g. aluminium) cladding. Where necessary expansion joints are provided to cater for expansion of the pipes. Both the lengthwise and circular joints are fastened with sheet-metal screws: hard aluminium or stainless steel 1/2", 8/metre. Close the expansion joints with a steel tensioning wire. Connections to mountings, head and end caps, etc. should be made watertight using a suitable sealant.

Rockwool Flexiboard

Boards are shrink-wrapped

Thickness in mm	Length in mm	Width in mm	Packaging m² / pack	m² per 40ft HC container
25	1000	600	14.4	2419
30	1000	600	12.0	2016
40	1000	600	9.0	1512
50	1000	600	7.2	1210
60	1000	600	6.0	1008
70	1000	600	3.6	907
75	1000	600	4.8	806
80	1000	600	3.6	756
100	1000	600	3.6	605

Available on request with a one-sided facing of fibreglass reinforced aluminium foil (Alu) or glass tissue

Applications

Rockwool Flexiboard is a strong but flexible stone wool board for the thermal and acoustic insulation of horizontal and vertical walls or acoustic panels.

Advantages

- Excellent thermal and acoustic insulation
- Flexible application

Product properties

	Performance				Standard
Thermal conductivity	$t°_m$ (°C)	50	100	150	EN 12667 ASTM C177
	λ (W/mK)	0.041	0.054	0.066	
	$t°_m$ (°F)	100	200	300	
	λ (BTU.in/ft².h.°F)	0.273	0.355	0.466	
Maximum Service Temperature	300°C (572°F) 450°C (662°F)				EN 14706 ASTM C411
Reaction to fire	Non-combustible A0 Surface burning characteristics: Flame spread=passed, Smoke development=passed				NEN 6064 NBN S21-203 ASTM E84 (UL 723)
Water absorption	Water absorption < 1 kg/m² Water vapour absorption (vapor sorption) ± 0.02%vol				EN 1609 ASTM C1104/C1104M
Water leachable chloride content	Conforms to the stainless steel corrosion specification as per ASTM test methods C692 and C871				ASTM C795
Nominal density	40 kg/m³ (2.5 lb/ft³)				
Water vapour resistance factor	μ = 1.3				EN 12086
Compliance	Rockwool (RW) slabs for thermal insulation of equipment Standard specification for mineral fibre block and board thermal insulation, type IA				CINI 2.2.01 ASTM C612-04

Installation guidelines

- Mechanically fix Rockwool Flexiboard using self-adhesive or welded pins.
- In the case of aluminium foil facing, finish lengthwise and crosswise joints with a self-adhesive aluminium tape

(≥75 mm). When insulating objects colder than the ambient temperature, where there is a risk of condensation, the insulation should be provided with a vapour barrier. For external applications, the insulation should be finished with a metal, (e.g. aluminium) watertight covering.

Rockwool Multiboard

NEW

Boards are shrink-wrapped

Thickness in mm	Length in mm	Width in mm	Packaging m² / pack	m² per 40ft HC container
40	1000	600	6.0	1620
50	1000	600	4.8	1296
60	1000	600	4.8	1008
70	1000	600	3.6	907
75	1000	600	3.6	756
80	1000	600	3.6	756
90	1000	600	3.0	630
100	1000	600	2.4	648

Available on request with a one-sided facing of fibreglass reinforced aluminium foil (Alu) on glass tissue

Applications

Rockwool Multiboard is a strong and rigid board for the thermal and acoustic insulation of horizontal and vertical walls where a stable insulation product is required.
For example, tank walls or acoustic panels.

Advantages

- Excellent thermal and acoustic insulation
- Rigid product combined with aluminium foil or fibre-glass coating provides a smart, smooth surface finish

Product properties

	Performance				Standard
Thermal conductivity	$t°_m$ (°C)	50	100	150	EN 12667, ASTM C177
	λ (W/mK)	0.039	0.048	0.058	
	$t°_m$ (°F)	100	200	300	
	λ (BTU.in/ft².h.°F)	0.268	0.317	0.396	
Maximum Service Temperature	350°C (662°F) 450°C (842°F)				EN 14706 ASTM C411
Reaction to fire	Non-combustible A0 Surface burning characteristics: Flame spread=passed, Smoke development=passed				NEN 6064 NBN S21-203 ASTM E84 (UL 723)
Water absorption	Water absorption < 1 kg/m² Water vapour absorption (vapor sorption) ± 0.02%vol				EN 1609 ASTM C1104/C1104M
Water leachable chloride content	Conforms to the stainless steel corrosion specification as per ASTM test methods C692 and C871				ASTM C795
Nominal density	55 kg/m³ (3.44 lb/ft³)				
Water vapour resistance factor	μ = 1.3				EN 12086
Compliance	Rockwool (RW) slabs for thermal insulation of equipment Standard specification for mineral fibre block and board thermal insulation, type IA and IB				CINI 2.2.01 ASTM C612-04

Installation guidelines

- Mechanically fix Rockwool Multiboard using self-adhesive or welded pins. Due to the rigidity of the product, it can also be mounted in cassettes.
- In the case of aluminium foil facing, finish lengthwise and crosswise joints with a self-adhesive aluminium tape (≥75 mm). When insulating objects colder than the ambient temperature, where there is a risk of condensation, the insulation should be provided with a vapour barrier. The insulation should be finished with a metal (e.g. Aluminium), watertight covering.

Rockwool HT600

High temperature board

Boards are shrink-wrapped

Thickness in mm	Length in mm	Width in mm	Packaging m²/pack	m² per 40ft HC container
25	1000	600	9.6	2592
30	1000	600	6.0	2016
40	1000	600	6.0	1620
50	1000	600	4.8	1296
60	1000	600	3.0	1008
80	1000	600	3.0	810
100	1000	600	2.4	648
120	1000	600	1.8	529

Applications

Rockwool HT600 is a strong, rigid board, specially developed for the thermal and acoustic insulation of boilers, columns and high-temperature (exhaust) ducts.

Advantages

- Excellent thermal and acoustic insulation
- Suitable for high temperature applications
- Retains shape
- Long lasting
- Rapid return on investment

Product properties

	Performance							Standard
Thermal conductivity	$t°_m$ (°C)	50	100	150	200	250	300	EN 12667, ASTM C177
	λ (W/mK)	0.038	0.044	0.052	0.062	0.074	0.088	
	$t°_m$ (°F)	100	200	300	400	500	600	
	λ (BTU.in/ft².h.°F)	0.260	0.297	0.355	0.433	0.534	0.657	
Maximum Service Temperature	600°C (1112°F) 750°C (1382°F)							EN 14706 ASTM C411
Reaction to fire	Non-combustible A0 Surface burning characteristics: Flame spread=passed, Smoke development=passed							NEN 6064 NBN S21-203 ASTM E84 (UL 723)
Water absorption	Water absorption < 1 kg/m² Water vapour absorption (vapor sorption) ± 0.02%vol							EN 1609 ASTM C1104/C1104M
Water leachable chloride content	Conforms to the stainless steel corrosion specification as per ASTM test methods C692 and C871							ASTM C795
Nominal density	80 kg/m³ (5 lb/ft³)							
Water vapour resistance factor	μ = 1.3							EN 12086
Compliance	Rockwool (RW) slabs for thermal insulation of equipment Standard specification for mineral fibre block and board thermal insulation, type IA, IB, II, III, IVA, IVB							CINI 2.2.01 ASTM C612-04

Rockwool HT660

High temperature board

Thickness in mm	Length in mm	Width in mm	Packaging m²/ pack	m²/ per 40ft HC container
30	1000	600	6.0	2016
40	1000	600	4.8	1210
50	1000	600	3.6	1210
60	1000	600	3.0	1008
80	1000	600	1.8	832

☐ Boards are shrink-wrapped

Applications

Rockwool HT660 is a strong, rigid board for the thermal and acoustic insulation of constructions where higher temperatures and light mechanical loads (e.g. vibrations) occur.

Advantages

- Excellent thermal and acoustic insulation
- Suitable for high temperature applications
- Retains shape
- Long lasting
- Rapid return on investment

Product properties

	Performance							Standard
Thermal conductivity	$t°_m$ (°C)	50	100	150	200	250	300	EN 12667 ASTM C177
	λ (W/mK)	0.038	0.043	0.049	0.058	0.067	0.078	
	$t°_m$ (°F)	100	200	300	400	500	600	
	λ (BTU.in/ft².h.°F)	0.259	0.291	0.34	0.402	0.481	0.576	
Maximum Service Temperature	660°C (1220 °F) 750°C (1382 °F)							EN 14706 ASTM C411
Reaction to fire	Non-combustible A0 Surface burning characteristics: Flame spread=passed, Smoke development=passed							NEN 6064 NBN S21-203 ASTM E84 (UL 723)
Water absorption	Water absorption < 1 kg/m² Water vapour absorption (vapor sorption) ± 0.02%vol							EN 1609 ASTM C1104/C1104M
Water leachable chloride content	Conforms to the stainless steel corrosion specification as per ASTM test methods C692 and C871							ASTM C795
Compression resistance	15 kPA at 10% deformation							EN 826
Nominal density	115 kg/m³ (7.18 lb/ft³)							
Water vapour resistance factor	μ = 1.3							EN 12086
Compliance	Rockwool (RW) slabs for thermal insulation of equipment Standard specification for mineral fibre block and board thermal insulation, type IA, IB, II, III, IVA, IVB							CINI 2.2.01 ASTM C612-06

Rockwool HT700

High temperature board

Thickness in mm	Length in mm	Width in mm	Packaging m²/ pack	m²/ per 40ft HC container
30	1000	600	3.6	2117
40	1000	600	3.0	1638
50	1000	600	2.4	1310
60	1000	600	1.8	1058

Applications

Rockwool HT700 is a strong, rigid board for the thermal and acoustic insulation of constructions where higher temperatures and/or mechanical loads (e.g. vibrations) occur.

Advantages

- Excellent thermal and acoustic insulation
- Suitable for high temperature applications
- Retains shape
- Long lasting
- Rapid return on investment

Product properties

	Performance								Standard
Thermal conductivity	$t°_m$ (°C)	50	100	150	200	250	300	350	EN 12667, ASTM C177
	λ (W/mK)	0.039	0.044	0.050	0.057	0.065	0.075	0.087	
	$t°_m$ (°F)	100	200	300	400	500	600	700	
	λ (BTU.in/ft².h.°F)	0.267	0.298	0.342	0.398	0.467	0.548	0.641	
Maximum Service Temperature	700°C (1292°F) 750°C (1382°F)								EN 14706 ASTM C411
Reaction to fire	Non-combustible A0 Surface burning characteristics: Flame spread=passed, Smoke development=passed								NEN 6064 NBN S21-203 ASTM E84 (UL 723)
Water absorption	Water absorption < 1 kg/m² Water vapour absorption (vapor sorption) ± 0.02%vol								EN 1609 ASTM C1104/C1104M
Water leachable chloride content	Conforms to the stainless steel corrosion specification as per ASTM test methods C692 and C871								ASTM C795
Compression resistance	40 kPA at 10% deformation								EN 826
Nominal density	145 kg/m³ (9.05 lb/ft³)								
Water vapour resistance factor	μ = 1.3								EN 12086
Compliance	Rockwool (RW) slabs for thermal insulation of equipment Standard specification for mineral fibre block and board thermal insulation, type IA, IB, II, III, IVA, IVB								CINI 2.2.01 ASTM C612-04

Rockwool CRS

NEW

Compression resistant slab

Thickness mm	Length mm	Width mm	Packaging m²/pack	m² per 40ft HC container
40	1000	600	3.0	1638
50	1000	600	2.4	1310
60	1000	600	2.4	1109
80	1000	600	1.8	832
100	1000	600	1.8	655

☐ Shrink-wrapped

Applications

Rockwool Compression Resistant Slab(CRS) is a rigid, pressure-resistant stone wool insulation slab with high resistance to mechanical loads (e.g. foot traffic). The Compression Resistant Slab is developed for the thermal insulation of tank roofs subject to pedestrian traffic, and the thermal/acoustic insulation of constructions subject to mechanical load.

Advantages

- Excellent thermal and acoustic insulation
- Resistant to foot traffic
- Resistant to mechanical loads

Product properties

	Performance				Standard
Thermal conductivity	$t°_m$ (°C)	50	100	150	EN 12667, ASTM C177
	λ (W/mK)	0.040	0.043	0.049	
	$t°_m$ (°F)	100	200	300	
	λ (BTU.in/ft².h.°F)	0.270	0.302	0.345	
Maximum Service Temperature	250°C (482°F)				EN 14706, ASTM C411
Reaction to fire	Non-combustible A0 Surface burning characteristics: Flame spread=passed, Smoke development=passed				NEN 6064 NBN S21-203 ASTM E84 (UL 723)
Water absorption	Water absorption < 1 kg/m² Water vapour absorption (vapor sorption) ± 0.02%vol				EN 1609 ASTM C1104/C1104M
Water leachable chloride content	Conforms to the stainless steel corrosion specification as per ASTM test methods C692 and C871				ASTM C795
Compression resistance	60 kPa at 10% deformation				EN 826
Nominal density	150 kg/m³ (9.05 lb/ft³)				
Water vapour resistance factor	μ = 1.3				EN 12086
Compliance	Rockwool (RW) slabs for thermal insulation of equipment Standard specification for mineral fibre block and board thermal insulation, type IA, IB and II				CINI 2.2.01 ASTM C612-04

Rockwool 251

Industrial slab

Thickness in mm	Length in mm	Width in mm	Packaging m²/ pack	m²/ per 40ft HC container
40	1000	600	2.4	1613
50	1000	600	1.8	1285
60	1000	600	1.8	1058
80	1000	600	1.2	806
100	1000	600	1.2	655

☐ Shrink-wrapped

Applications

Rockwool 251 is a highly pressure resistant stone wool slab for the thermal and acoustic insulation of constructions where high temperatures and mechanical loads (e.g. vibrations) occur.

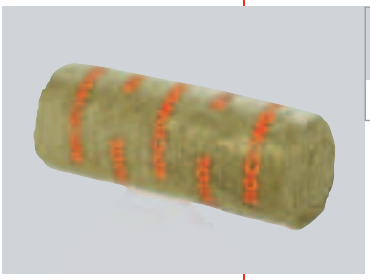
Advantages

- Excellent thermal and acoustic insulation
- Resistant to high temperatures
- Resistant to mechanical loads

Product properties

	Performance							Standard
Thermal conductivity	$t°_m$ (°C)	50	100	150	200	250	300	EN 12667, ASTM C177
	λ (W/mK)	0.041	0.045	0.051	0.058	0.066	0.075	
	$t°_m$ (°F)	100	200	300	400	500	600	
	λ (BTU.in/ft².h.°F)	0.276	0.309	0.353	0.405	0.468	0.541	
Maximum Service Temperature	700°C (1292°F) 750°C (1382°F)							EN 14706 ASTM C411
Reaction to fire	Non-combustible A0 Surface burning characteristics: Flame spread=passed, Smoke development=passed							NEN 6064 NBN S21-203 ASTM E84 (UL 723)
Water absorption	Water absorption < 1 kg/m² Water vapour absorption (vapor sorption) ± 0.02%vol							EN 1609 ASTM C1104/C1104M
Water leachable chloride content	Conforms to the stainless steel corrosion specification as per ASTM test methods C692 and C871							ASTM C795
Compression resistance	54 kPA at 10% deformation							EN 826
Nominal density	175 kg/m³ (10.94 lb/ft³)							
Water vapour resistance factor	μ = 1.3							EN 12086
Compliance	Rockwool (RW) slabs for thermal insulation of equipment Standard specification for mineral fibre block and board thermal insulation, type IA, IB, II, III, IVA							CINI 2.2.01 ASTM C612-04

Rockwool Loose Fill



Product	Packaging	kg/packaging	kg per 40 ft HC Container
Rockwool Loose Fill (Rolls)	Bag	15	**5250**

☐ Packed into bags

Applications

Rockwool Loose Fill is lightly bonded impregnated stone wool. This product is especially suitable for thermal insulation and acoustic insulation of joints and irregularly formed constructions.

Advantages

- Excellent thermal and acoustic insulation
- Flexible application

Product properties

	Performance							Standard
Thermal conductivity (stuffing density 100 kg/m³)	$t°_m$ (°C)	50	100	150	200	250	300	EN 12667, ASTM C177
	λ (W/mK)	0.040	0.049	0.057	0.067	0.075	0.091	
	$t°_m$ (°F)	100	200	300	400	500	600	
	λ (BTU.in/ft².h.°F)	0.276	0.338	0.393	0.462	0.517	0.628	
Maximum Service Temperature	680°C (1256°F) 750°C (1382°F)							EN 14706 ASTM C411
Reaction to fire	Non-combustible A0 Surface burning characteristics: Flame spread=passed, Smoke development=passed							NEN 6064 NBN S21-203 ASTM E84 (UL 723)
Water leachable chloride content	< 10mg/kg, AS-quality for use over stainless steel Conforms to the stainless steel corrosion specification as per ASTM test methods C692 and C871 <10mg/kg (ph-value neutral to slightly alkaline)							EN 13468 ASTM C795 ASTM C871
Water absorption	Water absorption < 1 kg/m2 Water vapour absorption (vapor sorption) ± 0.02%vol							EN 1609 ASTM C1104/C1104M
Compliance	Loose Rockwool for the thermal insulation of valve boxes and the specification stuffing of insulation matresses							CINI 2.2.04

Rockwool Granulate

Granulate wool

Product	Packaging	kg/packaging	kg per 40 ft HC Container
Rockwool Loose	Bag	20	12000

☐ Lightly compressed and packed in bags

Applications

Rockwool Granulate is a stone wool granulate with no additives. The granulate is especially suitable for the thermal insulation of cold boxes and air separation plants.

Advantages

- Non-combustible
- Chemically inert
- Easy to remove for inspection purposes
- Long lasting
- Short return on investment

Product properties

	Performance							Standard
Thermal conductivity (Stuffing density 100-200 kg/m³)	$t°_m$ (°C)	20	-20	-60	-100	-140	-180	EN 12667, ASTM C177
	λ (W/mK)	0.039	0.033	0.027	0.022	0.018	0.015	
	$t°_m$ (°F)	50	0	-50	-150	-250	-300	
	λ (BTU.in/ft².h.°F)	0.260	0.229	0.201	0.153	0.115	0.101	
Reaction to fire	Non-combustible A0 Surface burning characteristics: Flame spread=passed, Smoke development=passed							NEN 6064 NBN S21-203 ASTM E84 (UL 723)
Water leachable chloride content	< 10mg/kg, AS-quality for use over stainless steel Conforms to the stainless steel corrosion specification as per ASTM test methods C692 and C871 <10mg/kg (ph-value neutral to slightly alkaline)							EN 13468 ASTM C795 ASTM C871

Rockwool Granulate complies with AGI Q 118 “insulation work for refrigeration on industrial installations; air separations plants”

Installation guidelines

The guidelines for the use of granulate wool in cold applications are given in the AGI Q 118 standard. These guidelines are available on request. Please ask your RTI sales consultant.

4

Delivery and storage

Rockwool Technical Insulation can accept no liability for any faults in installation and deficiencies. The respective terms of general sale and delivery of Rockwool Technical Insulation BV, lodged with the Commercial Court of Limburg North under number 13025533, and Rockwool Technical Insulation NV, was drafted in Brussels took effect on 1 August 2005 shall apply to all our offers and contracts. A copy of these conditions can be provided on request.

Delivery service

RTI strives to make all its products readily available. Delivery normally takes place from our dealers' warehouses. However, direct delivery by RTI to the site of installation is also possible. To simplify construction site logistics, deliveries using containers can be arranged. Contact your dealer for more information.

Packaging and storage

Where our goods are supplied packed, packaging is included in the price. The polyethylene used in packaging is free of chlorine and sulphur compounds, and suitable for recycling. RTI products must be stored in the original packaging, protected from the weather and off the ground.

Advice

RTI offers more than just the rapid delivery of the right product. Rockwool can also act as your partner during the design phase to help to resolve technical problems, such as providing advice for complex technical insulation calculations, construction advice and help with drafting specifications.

All the values given in this publication are indicative average values, subject to manufacturing tolerances. Rockwool Technical Insulation retains the right to change product specifications at any time without prior notice.

by Lapinus

Contents

RTI, excellence in firesafe solutions

Rockwool Technical Insulation (RTI), a division of the international Rockwool Group, is the world wide market leader in technical insulation. Our experts offer you a complete range of techniques and systems for the firesafe insulation of technical installations. In all segments of HVAC, process industry, ship building and passive fire resistance, RTI stands for a total approach. From quality products to reliable expert advice, from documentation to delivery and after sales service. Throughout the whole chain from specifier, through dealer to contractor and installer we aim to add value. We don't just sell products, we supply solutions. It's this total approach that makes RTI the ideal choice for professionalism, innovation and trust.

RTI/10.07/3.Okt/Exp 750

Want to know more about RTI's insulation solutions? We'd be delighted to help!

Rockwool Technical Insulation bv

Industrieweg 15
NL-6045 JG Roermond
Tel. +31 (0) 475 35 33 88
Fax +31 (0) 475 35 36 40
e-mail info-rti@rockwool.nl
www.rockwool-rti.com

by Lapinus

ROCKWOOL®
TECHNICAL INSULATION

EXCELLENCE
IN FIRESAFE SOLUTIONS