



TI INDUSTRY GUIDE

TECHNICAL INSULATION
DECEMBER 2023

SHORT



PAROC[®]

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*Please note that product names may vary in some areas

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(WR) = water-repellent version available without surcharge (article numbers refer to non-WR version)

QUESTION
Q : HOW COST EFFICIENT IS TECHNICAL INSULATION?

ANSWER
A : **VERY.**

AVERAGE PAYBACK PERIOD: **2** YEARS

Source: EIF Source EIF Image Chris Biggs / Unsplash

INVESTING IN THE RIGHT INSULATION CAN HELP REDUCE ENERGY LOSS AND CO₂ FOOTPRINT AND CAN POTENTIALLY SAVE ON HEATING AND COOLING COSTS



This is very evident when you look at the facts. Better still, the payback period for improving industrial insulation is, nowadays, less than two years. According to the latest EiiF Study (based on analyzing 2500 TIP-CHECKS)* most industrial insulation systems are outdated. So there's a lot of potential for significant energy and cost efficiencies.

When inspecting the (approximately) 2500 plants and technical installations across Europe over the past 10 years, not a single one was found that didn't have the potential to save costs and energy through the proper insulation solution.

That's why PAROC has created the following [reference tables](#), to help you select the best PAROC insulation product for your plant's needs. Then, on our [product pages](#), you'll get more detail on the technical features of each PAROC solution – as well as corresponding installation videos. Additionally, our calculation tool 'Calculus' can tell you what insulation solution is best for your application.

Finally, you can [Contact Us](#) to speak to the closest PAROC team in your area.

*<https://www.eiif.org/>



Read on to learn about the energy and cost savings you can expect with PAROC Stonewool insulation.



The performance of PAROC Pro insulation products for industrial applications is documented according to both ASTM and EN standards

A CLOSER LOOK AT ENERGY SAVING AND COST REDUCTION

According to a EiiF study¹, missing and insufficient industrial insulation across Europe are causing huge energy losses – 480 PJ per year, or the equivalent of Hungary's entire energy production.

For smooth and cost-effective operations, power plants and process industries need long lasting, reliable, maintenance-free and quick-to-install insulations that get working rapidly. With the right insulation product, return-on-investment can be experienced within mere years and malfunction losses will be cut dramatically.

With this in mind, how much can a single factory save with the optimum insulation installation? Based on the TIPCHECK Program even a small investment in the right insulation can provide rapid operational cost savings that far outweigh the initial capital investment.

COST AND ENERGY-SAVINGS IN ACTION

A large chemical plant in Italy was found to have 650 m of piping that had missing or damaged insulation, as well as 300 flanges, 160 valves, and 3 tanks with no insulation at all. Based on a comprehensive audit, the plant's owner decided to invest in an insulation solution to reduce energy losses and improve cost savings.

Recommended actions, which included installing new pipe sections, helped to save 11.100MWh which is equivalent to approximately 200.000 EUR and 2.240 tonnes of CO₂ annually².

ONE OF THE BEST PRACTICES IN INDUSTRY

Original Source of graphic www.eiif.org³

Chemical Plant (France)

Payback: 2–4 months

Energy savings: 12 600 000 kWh/a

Money savings: 505 000 EUR/a

Refinery (Italy)

Payback: 1–3 years

Energy savings: 1 021 958 kWh/a

Money savings: 75 000 EUR/a

Processing plant (Germany)

Payback: 3 months

Energy savings: 1 448 500 kWh/a

Money savings: 47 800 EUR/a

¹ <https://data.europa.eu/euodp/data/dataset/information-on-energy-markets-in-eu-countries-with-national-energy-profiles>

² https://www.eiif.org/sites/default/files/2018-11/1_TIPCHECK_Report%20-%20ed%29.pdf

³ https://www.eiif.org/sites/default/files/2018-12/Eiif_ClimateProtectionWithRapidPayback_EN_online.pdf



CALCULATION TOOLS

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SALES OFFICES

PIPE SECTIONS

BENDS AND SEGMENTS

LAMELLA MATS

WIRED MATS

SLABS

MATS

CLAD SYSTEM

ACCESSORIES

PAROC CALCULUS: DESIGN ENERGY-EFFICIENT INSULATION TAILORED TO YOUR PROJECT

PAROC® Calculus is a technical insulation calculation program for dimensioning thermal insulation for different HVAC, Process Industry and Marine applications e.g. pipes, ventilation ducts and process industry tanks. With PAROC Calculus it is also possible to calculate the heat loss for insulated and uninsulated valves and flanges, which usually increases the risk of heat loss. Additionally, the heat loss caused by thermal bridges in pipe and duct suspensions can be taken into account.

With PAROC Calculus you can design energy efficient and economical insulation solutions for different HVAC and process industry applications with PAROC products.

PAROC Calculus features:

- Easy to use interface
- Works on pc, tablets and mobile phones
- Calculations for heat loss, surface temperature and temperature drop in pipes, ventilation ducts, process industry tanks, valves and flanges.
- Easy input of pipe diameters and duct dimensions (predefined)
- Thermal bridges of pipe and duct suspensions
- Print out your calculations to pdf
- All calculations are based on equations described in the EN ISO 12241 standard.

Updated according to ISO 12241:2022

Step 1 Select application



Step 2 Calculate with surface temperature display - cladding systems, suspensions and substructures can optionally be used for the calculation



This software (the Service) calculates properties of insulation solutions made by PAROC Technical Insulation products. Calculations are based on standard ISO 12241. The latest version is always on Paroc web pages. The information contained in the online insulation, energy and CO₂ calculations (the Service) is provided in good faith and for general information purpose only. Owens Corning as well as any of its direct or indirect affiliates, including Paroc Group OY (individually and jointly "Owens Corning") assumes no responsibility for errors or omissions in the contents of the Service, including technical or product data, product recommendations, research information, data and/or content contained in the Service. In providing the Service, Owens Corning does not make any warranties about its completeness, its reliability and its accuracy. Any action you take upon the information you find in using the Service, is strictly at your own risk. In no event shall Owens Corning be liable for any special, direct, indirect, consequential, or incidental damages or any other damages whatsoever, whether in an action of contract, negligence or other tort, arising out of or in connection with the use of the Service or the contents of the Service. Owens Corning reserves the right to make additions, deletions, or modification to the contents on the Service at any time without prior notice. By using the Service, you hereby consent to the present disclaimer and agree to its terms.

Application version: 3.0.4, Database version: 2023-11-21



APPLICATIONS

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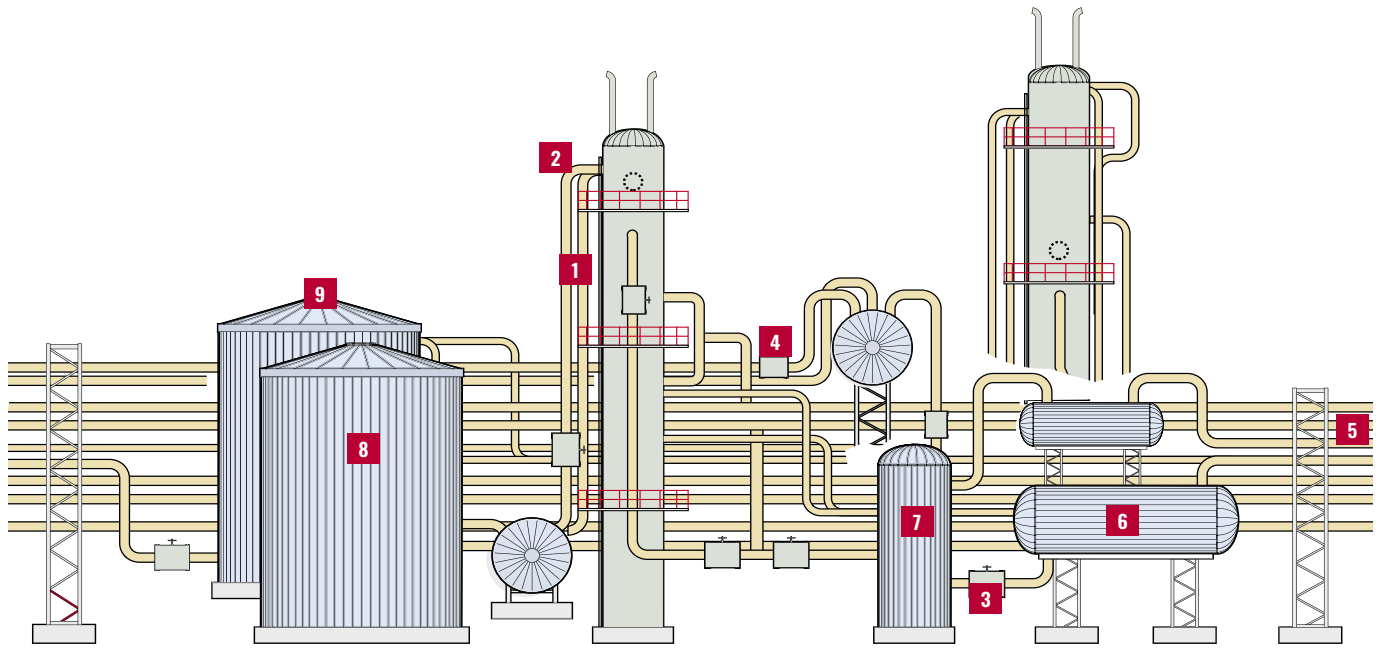
CLAD SYSTEM

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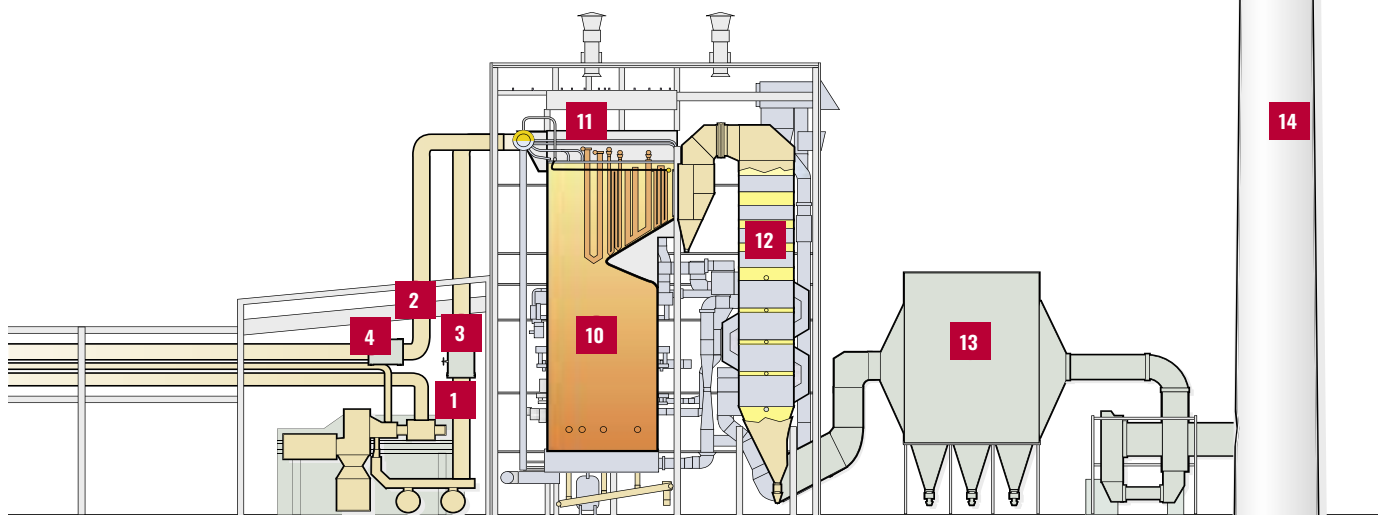
Process industries

Process industries demand specialist insulation solutions. The temperature in the pipelines must remain within certain parameters, heat loss must be minimised, and the whole process must be reliable, durable and safe. Paroc's industrially manufactured, mutually compatible insulation components provide the same insulation capacity both for straight pipe sections and pipe elbows, helping to maintain optimal performance throughout the pipeline.



Power plants

The high service temperatures involved in power generation, together with the variety of components that require insulation necessitate a wide range of special insulation solutions. For example, boilers need flexible, multi-layer solutions, whereas tanks require a range of varying density slabs with high compressive stress. Paroc has developed insulation solutions for boilers, tanks, flue ducts, chimneys, and other plant equipment that help increase the efficiency, service lifetime and reliability of the plant.



1 High-temperature pipeline



2 High-temperature pipe elbow



3 Valve insulation box



4 Flange insulation box



5 Heated pipeline



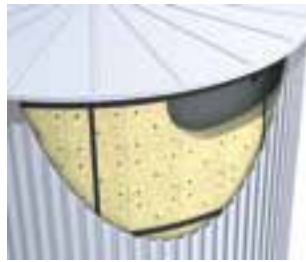
6 Heat exchanger



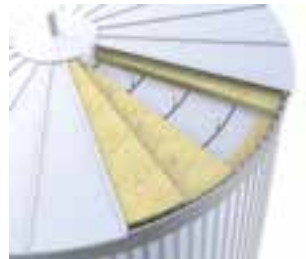
7 Pressure vessel



8 Tank wall



9 Tank roof



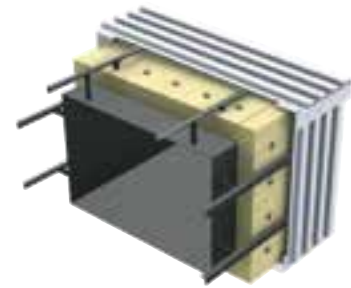
10 Boiler wall



11 Boiler penthouse



12 Flue duct



13 Exhaust gas filter wall



14 Industrial chimney



INSULATION SOLUTIONS FOR PIPEWORK

Pipes are a crucial component in industrial processes. Whether in power plants or process industries, well-designed and efficient pipework is a prerequisite for a properly functioning operation and low maintenance costs. For industrial use, we have a large range of pipe section solutions designed for various requirements consisting of industrially manufactured, mutually compatible insulation components for straight pipes and pipe elbows.

EFFECTIVE PAROC PIPE INSULATION SOLUTIONS

Insulation products are chosen according to the operating temperature of the pipe. Insulation can be implemented with standard products or, for high temperatures, with high-density pipe sections. Often one-layer solutions are suitable, but for more demanding specifications, double-layer solutions are required. Double-layer insulation (DL) and PAROC Pro Lock sections (WR) are tight without any gaps due to overlapping in lengthwise and crosswise joints.

Our solutions comprise standard pipe insulation, double-layer pipe insulation and pipe elbow insulation. The table shows the main products and combinations of products for different applications.

RAPID AND ECONOMICAL INSTALLATION

PAROC pipe sections are dimensionally accurate and compatible with factory-made components, such as bends and segments. Installation is straight-forward, easy and results in outstanding insulation performance. The components do not need to be further measured or modified on-site, nor do they require any additional metal support structure associated with wired mats. This is designed to reduce a common cause of heat loss.

The benefits of PAROC pipe insulation solutions are particularly significant when insulating pipe elbows. The same material, with the same properties is used, but without the need for on-site cutting and supporting rings often results in thermal bridges and energy leaks.

DOUBLE-LAYER PIPE INSULATION SOLUTIONS

Double-layer insulation solutions are recommended for temperatures higher than 250 °C and when the insulation thickness is over 80 - 100 mm.

PAROC products which have DL in their product name are single products based on two product pieces, one fitted inside the other. Layers are installed separately. The parts are precisely measured during production to ensure compatibility and a good fit to facilitate perfect insulation.

Double-layer products (DL) are handled as one e.g. each package includes all of the product pieces required for both the inner and outer layers, eliminating unnecessary waste. This eases the logistics, both in delivery to the building site and at the site itself. The solution, therefore, saves on costs, helps keep the site tidy and provides first-class insulation properties.

- For service temperatures of over 250 °C, at least two layers of insulation are recommended.
- If the total insulation thickness is 80 - 100 mm or more, we recommend using double-layer products (DL) or PAROC Lock Sections.
- We strongly suggest to use products with a density of 140 kg/m³ as the first layer when the pipe temperature exceeds 350 °C.

Table 1. Recommended insulation products for industrial pipework insulation.

PAROC solutions for industrial pipework insulation		
Temp. °C	Insulation for straight pipes	Insulation for pipe elbows
≤250	PAROC Pro Section (WR) 100	PAROC Pro Segment (WR) 100, PAROC Pro Bend (WR) 100
≤250	PAROC Pro Lock (WR) 100	PAROC Pro Segment (WR) 100 or PAROC Pro Segment (WR) 100 + PAROC Pro Segment (WR) 100
>250	PAROC Pro Lock (WR) 100 or PAROC Pro Section (WR) 100 + PAROC Pro Section (WR) 100	PAROC Pro Segment (WR) 100 or PAROC Pro Segment (WR) 100 + PAROC Pro Segment (WR) 100
>350	PAROC Pro Lock (WR) 140 or PAROC Pro Section (WR) 140 + PAROC Pro Section (WR) 100	PAROC Pro Segment (WR) 140 or PAROC Pro Segment (WR) 140 + PAROC Pro Segment (WR) 100



Pipeline insulated with pipe sections in one layer.

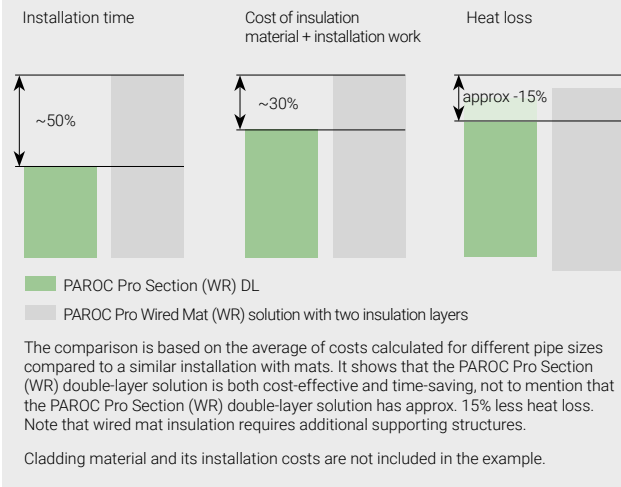


High-temperature pipeline insulated with pipe sections in two layers.



Double-layer insulation can be replaced with PAROC Pro Lock (WR) 100 or (WR) 140 (z-lock), a tongue-and-groove pipe insulation that can be installed in a single work period.

Comparison PAROC Pro Section (WR) DL with PAROC Pro Wired Mat (WR)*



*calculation done by PAROC Calculus

Comparison of PAROC Pro Section (WR) double-layer solution and PAROC Pro Wired Mat (WR) solution with the same insulation thickness.

Benefits of PAROC industrial pipework insulation solutions:

- Full product range for pipes and pipe elbows – rapid, easy design process
- Tight solutions without gaps in joints – minimum heat loss
- Solutions without need for supporting structures
- Controlled process temperature – process works efficiently
- Compatible pipe sections and elbow insulations – time and money saved on installation, minimum waste on-site
- Exact dimensioning – fits with pre-fabricated cladding
- Double-layer (DL) products delivered nested, one inside the other – more effective logistics
- Very low water absorption and low chloride content in products – reduces risk of corrosion
- Supports a long-lasting insulation performance with optimised maintenance costs

PAROC PIPE SECTION SOLUTION COMPARED TO WIRED MAT INSULATION

One of the primary advantages of PAROC pipe section (WR) solution over wired mat insulation is the ease and accuracy of the installation process. By using the PAROC Pro Section (WR) double-layer solution, heat loss can be reduced by approx. 15% (for example, DN200 pipe at 400 °C with 120 mm insulation, typical outdoor conditions - estimated heat loss with double layer Wired Mats is 250 W/m, and with double layer Sections is 210 W/m) compared to wired mat insulation with the same insulation thickness.

Insulating pipes with the PAROC Pro Lock (WR) solution also brings other benefits compared to the PAROC Pro Wired Mat (WR) solution: The insulation thickness can be reduced significantly with the pipe section insulation solution; for example, DN200 pipe at 400 °C with maximum heat loss 250 W/m, typical outdoor conditions - estimated thickness with double layer Wired Mats is 120 mm, and with double layer Sections is 100 mm. This also reduces insulation material costs, cladding costs and labour costs.

With pipe sections, the installation time is shorter. This means that scaffolding and other equipment is needed for a shorter period and general on-site costs are lower. Furthermore, the pipe section insulation does not sag over time, so its thickness and effectiveness remain stable.

Paroc has developed special solutions for pipe elbow insulation which perform as effectively as straight pipe insulation. Prefabricated PAROC Pro Segments (WR), PAROC Pro Bends (WR) and PAROC Pro Curve (WR) are a technically effective, fast and economic way to insulate pipe elbows.



Watch the video about how to save costs with PAROC Pro Pipe sections



INSULATION SOLUTIONS FOR PIPE ELBOWS

Paroc has developed special solutions for pipe elbow insulation which perform as effectively as straight pipe insulation. Prefabricated PAROC Pro Segments and PAROC Pro Bends are a technical-effective, fast and economic way to insulate pipe elbows.

PAROC PRO SEGMENTS

PAROC Pro Segments are insulation components for large pipe elbows. The benefits of double-layer insulation can also be utilised in pipe elbows by using double-layer segments, where the seams are covered in order to minimise heat loss.

We produce PAROC Pro Segments (WR) for 90° pipe elbows with a standard radius of 1.5D and 2.5D (special diameters available on demand).

PAROC PRO BENDS

PAROC Pro Bend (WR) 100 is used for small and medium-sized pipe elbows. It is available with a standard radius of 1.5D.

On request, we can produce segments or bends for any elbow radius and insulation thickness. For more information, please contact your local Paroc representative.

VALVES AND FLANGES

Valves and flanges of pipelines are often insulated using separate, easy-to-open jacketing. An aluminium foil-faced wired mat can be attached to the inside surface of the jacketing, with the foil facing inwards. This makes service and maintenance work easy and clean to perform, and the same jacketing, with its insulation, can be reused several times.

HEATED PIPELINES

Viscous fluids must be heated so that they can be transferred in pipelines. Pipes equipped with heating cables or steam tracers are first covered with aluminium foil so that heat is better distributed over the surface of the pipe. Insulation is then installed over the pipe in the normal manner, taking into account the altered outer diameter.

SUPERHEATED STEAM PIPELINES AND TURBINE TUBES

Turbine tubes operate at high temperatures of more than 500 °C and demand a good, thermal insulation solution. The insulation thicknesses are normally around 200 - 300 mm. The fixing of the insulation and cladding is very demanding, not only due to the high service temperatures, but also because of vibrations during operation. High density, double insulation solutions are recommended for insulating very high-temperature pipelines such as turbine tubes. See the recommended insulation solution in the table on page 11.

TURBINES

Turbine bodies are very complex in shape, with many outlets and round forms. This kind of high-temperature equipment could be insulated with high-density wired mats. The diverse form of the constructions make aluminium-faced wired mats a perfect solution. The fixing of the insulation and cladding is very demanding, not only due to the high service temperatures, but also because of vibrations during operation.

NOISE REDUCTION IN INDUSTRIAL PIPELINES

Pipelines transporting e. g. high-speed airflow or high-pressure steam often require noise reduction insulation. PAROC high-density pipe

sections are a good solution for these applications. They do not require any additional support structure on horizontal pipelines, which in some cases could increase the noise. Paroc offers a wide range of solutions for acoustical insulation and cover all classes of ISO 15665 (incl "Shell Class" D).



Double-layer segment solution on a pipe elbow continues with PAROC Pro Lock (WR) 100 pipe sections.



Double-layer segment solution on a pipe elbow continues with PAROC Pro Lock (WR) 100 pipe sections.



PAROC Pro Bends (WR) are designed to make installation quick, easy and efficient.



Remember to insulate all valves and flanges!



Insulation of a heated pipeline.



High-temperature pipe insulation with double layer insulation.



PAROC offer solutions for acoustical insulation and cover all classes of the standard for insertion loss, ISO 15665 (incl "Shell-class" D).

INSULATION SOLUTIONS FOR TANKS

Storage tanks of various shapes and sizes are integral parts of many industrial processes. The temperature of the stored material can vary greatly from one process to another, necessitating a thermal insulation solution that performs well over a wide service temperature range.

STONEWOOL INSULATION OFFERS EXCELLENT PROTECTION

PAROC stonewool slabs are the optimum solution for insulating storage tanks and other large cylindrical or flat surfaces. They provide excellent thermal insulation over wide service temperature ranges due to low air permeability.

The water-repellent and non-combustible nature of stonewool gives further protection to the tank. Additionally, as with all PAROC industrial insulation solutions, the installation process is both cost-effective and straight forward.

Paroc has a range of stonewool insulation slabs designed particularly for tank insulation applications. Specially made tank wall slabs are available in a range of densities to suit different tank temperatures. For roof insulation, high-density load-bearing PAROC Pro Roof Slabs (WR) are recommended.

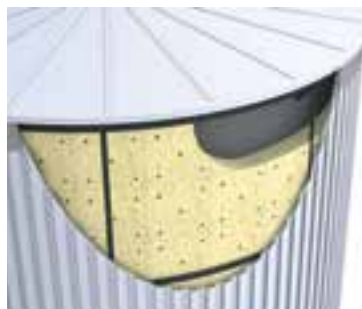
INSULATION OF TANK WALLS

Due to temperature differences between the insulation and cladding, the "chimney effect", where air flows upwards, occurs in high tank walls. Because of this, it is important to use dense enough insulation slabs to prevent air movement inside the insulation, and minimise heat convection (see graph 1). You can calculate the heat loss or cooling times of tanks with different insulation solutions with the [PAROC Calculus tool](#). Requirements listed in project insulation specification should always be followed.

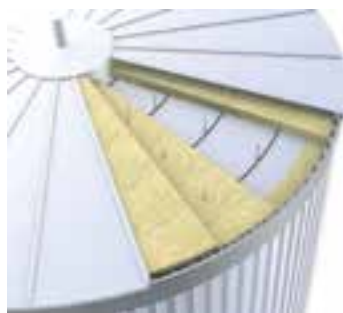
Tank wall insulation can be installed with different fixing and supporting methods. These vary from country to country and depend on the specifications used.

INSULATION OF TANK ROOFS

Tank roofs can be insulated with rigid PAROC Pro Roof Slabs (WR). Supporting for roof slabs can vary according to different specifications and standards. Insulation slabs for walkable roofs need to have good resistance to compression and need to fulfill requirements according to specifications.



The insulation slabs can be fixed with welded pins.

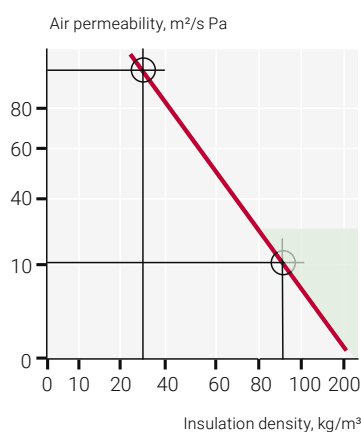


Tank roofs can be insulated with rigid PAROC Pro Roof Slabs.

Benefits of PAROC tank insulation:

- Tight solutions without gaps in joints – minimum heat loss
- Low air permeability of products – maximum performance even in the most demanding conditions
- Controlled temperature of the content – energy efficiency in storing
- Products with high compressive strength for tank roofs – withstand load during installation and maintenance
- Supports a long-lasting solution with optimised maintenance costs

Graph 1.



Air movement decreases when using higher-density products.

A favorable solution

INSULATION SOLUTIONS FOR PROCESS EQUIPMENT

Process equipment needs different insulation and cladding options based on its size and operating temperatures.

WIRED MAT INSULATION FOR EQUIPMENT

Wired mats are often the best insulation material for equipment with a lot of curves and outlets. Various pieces of small equipment, like heat exchangers, are insulated with flexible wired mats. A lot of this equipment is multiform, with uneven surfaces, and therefore flexible insulation is needed to fill up all the corners. When using flexible wired mats, it is necessary to secure the cladding with structures like supporting rings, in order to prevent the insulation from sagging.

INSULATION OF PRESSURE VESSELS

For pressure vessels, stonewool slabs or wired mats are used depending on the sizes and dimensions in question. Wired mats are used for smaller diameter vessels, for larger ones different density stonewool slabs can also be used according to the required temperatures.

The insulation fixing method is dependent on whether welding to the vessel's surface is permitted or not. Whenever it is possible, welded pins are one of the easiest choices, but an alternative method is to fix the insulation with steel bands.



Small equipment, such as heat exchangers, can be insulated with flexible wired mats.

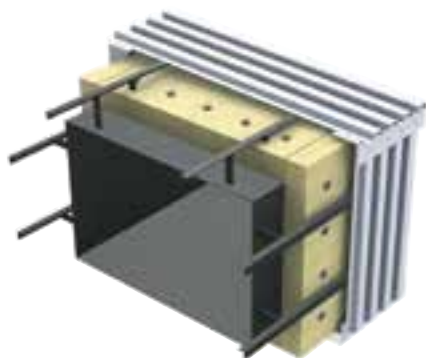


For pressure vessels, stonewool slabs or wired mats can be used depending on the sizes and dimensions in question.

Benefits of PAROC process equipment insulation:

- Controlled process temperature – process works efficiently
- Double or multi-layer solutions – no thermal bridges
- Supports a long-lasting solution with optimised maintenance costs

INSULATION SOLUTIONS FOR FLUE DUCTS



Flue ducts are easy to insulate with PAROC Pro Slab (WR) 450, using either one layer or multi-layer insulation solutions.

Benefits of PAROC flue duct insulation:

- Supports a long-lasting solution with optimised maintenance costs
- Controlled process temperature – process works efficiently

Many process industries involve the transfer of large volumes of air or other gases. The ventilation processes of paper machines, for example, involve a lot of energy that must be recovered. The airflow volumes associated with the ventilation of industrial processes are in a class of their own when compared to major conventional structures. High flow speeds, fluctuations in temperature and pressure, together with the sheer size of the ducts and equipment, require high mechanical strength from the structures protecting them.

THE OPTIMUM SOLUTION FOR EACH APPLICATION

In process industries, energy flow management is vital for the functionality and economy of the operation. Such demanding applications require insulation solutions designed and developed specifically for that purpose. PAROC flue duct insulation solutions provide superior thermal insulation at high service temperatures and help prevent condensation. They also have good mechanical strength.

In flue duct applications, a double layer of insulation is usually used in order to help prevent thermal bridges. Generally, both layers are slabs, but it is also possible to combine slabs with wired mats. The optimal insulation material depends on the temperatures and type of channel. For rectangular channels, slabs are easy to install, but wired mats may also be used.

Flue ducts are easy to insulate with PAROC Pro Slab (WR) 450, using either one layer or multi-layered insulation solutions. The slabs can be fixed with pins and washers. The insulation construction can vary according to specifications.

INSULATION SOLUTIONS FOR BOILERS



The inner layer of insulation can be wired mat. The outer layer can be insulated with PAROC Pro Slab (WR) 450, specially developed for this purpose.



Boiler penthouses are normally insulated with wired mats or with wired mats and slabs.

Benefits of PAROC boiler insulation:

- Double or multi-layer solutions – reduced risk of thermal bridges
- Flexibility and mechanical strength of products – proper insulation even under considerable temperature variations
- Controlled process temperature – process works efficiently
- Supports a long-lasting insulation performance

The high service temperatures and special structure of power plant boilers, together with the need to limit thermal radiation from their large surface area, places particular demands on the insulation solution. The casing and plumbing of boilers are constantly moving due to heat expansion and the vibrations caused by attached equipment such as burners and fans. In addition to the very high temperatures of boilers in general, the temperatures can vary in different parts of the construction.

SPECIAL DEMANDS – EFFECTIVE SOLUTIONS

Due to the high service temperatures involved, several layers of insulation are required in order to provide a sufficiently strong and thick solution. This demands a variable insulation solution depending on the type of boiler. Paroc has a range of stonewool insulation slabs and mats specially designed for boiler insulation applications. Usually, insulation solutions with two to four layers are needed. The inner layer is normally a wired mat and the outer layers can be wired mats or slabs.

The insulation material should be flexible in order to fill all the gaps and allow for heat expansion.

BOILER WALLS

The insulation of boilers is demanding, as heat expansion must be taken into account in all structures. The insulation of the boiler wall can be fixed with welded pins. The insulation structure can be faced with corrugated steel or aluminium cladding. A good choice for boiler wall insulation is PAROC Pro Wired Mat 660 or 680.

BOILER PENTHOUSES

On the top of boilers there can be series of pipe junctions. These pipe junctions should be insulated with wired mats only, or wired mats and slabs. The whole structure is often faced with heavy-duty corrugated steel plates. On the top of these steel plates capable of bearing the weight of maintenance are installed.

INSULATION SOLUTIONS FOR EQUIPMENT AND FILTERS

The design and installation of thermal insulation on the walls of a boiler plant's flue gas cleaning equipment can be of critical importance to its service life and functionality. A good insulation solution prevents the interior walls cooling below the point where the acid contained in the flue gas condenses and forms corrosive deposits. In this respect, it is crucial that no cold areas form on the interior wall.

OPTIMAL INSULATION PROPERTIES

The operational characteristics of PAROC stonewool products can be considered as ideally suited for such applications. They provide excellent thermal insulation in the temperature range of flue gases, have low air permeability, are moisture resistant and offer good compressive stress in roof structures. In addition PAROC stonewool has very low chloride and fluoride content, which helps to minimise corrosion.

INSULATION THAT MINIMIZES THERMAL BRIDGES

Critical areas such as wall bracing structures, adhesive surfaces, and access covers are usually insulated effectively using double or multi-layer insulation solutions with overlapping seams. Generally, both layers are slabs, but it is also possible to combine slabs with wired mats. Flat surfaces can be insulated with slabs such as PAROC Pro Slab (WR) 450, or with wired mats. The installation properties of the solutions enable tight insulation of wide flat surfaces.

ELECTROSTATIC PRECIPITATORS

Paroc has developed a range of products that are suitable for use in desulphurisation equipment and electrostatic precipitators. Electrostatic precipitators can be insulated with PAROC Pro Slab (WR) 450.

In some cases, wired mats or multi-layer insulation solutions combining slabs and mats, are also used. The insulation can be fixed with steel bands, support structures or pins and it is important to minimise all possible thermal bridges in the construction.



Electrostatic precipitators can be insulated with PAROC Pro Slab (WR) 450.

Benefits of PAROC equipment and filter insulation:

- Tight solutions that minimize gaps in joints – minimum thermal loss
- Controlled process temperature – process works efficiently
- Rigid slabs – easy installation
- Supports a long-lasting insulation performance



INSULATION SOLUTIONS FOR INDUSTRIAL CHIMNEYS

Most industrial plants feature concrete chimneys which need to be insulated. When insulating industrial chimneys, the primary concern is to prevent the surface temperature of the internal steel channels from dropping to the point where the gases can condense and form corrosive deposits. Preventing the formation of such deposits is designed to prolong the service life of the chimney.

WIRED MAT INSULATION

The round internal structures of chimneys are usually insulated with flexible wired mat insulation solutions, with special attention being paid to preventing the formation of corrosive acid droplets. PAROC Pro Wired Mat (WR) 660 AL1 and (WR) 680 AL1 can be seen as ideal products for insulating the round channels inside concrete chimneys.

The aluminium foil and net of the insulation provide dust protection and a good base for attachments. This helps prevent the insulation from sagging and also results in pleasant, low dust conditions when doing maintenance work.



PAROC Pro Wired Mat (WR) 660 AL1 and (WR) 680 AL1 are excellent products for insulating the round channels inside concrete chimneys.

Benefits of PAROC chimney insulation:

- Wired mat insulation – easy to install on large round channels
- Aluminium foil faced insulation – easy maintenance work inside concrete chimneys
- Supports a long-lasting insulation performance with low maintenance costs



Industrial Pipeworks		Tanks		Industrial Boilers		Recommended products	Nominal density kg/m ³	Max service temperatur (C and Fahrenheit)						
Process pipelines	High temperature pipelines	Super-heated steam pipelines	Pipe elbows	Tank roofs	Tank walls				Pressure vessels	Flue ducts	Boiler walls	Boiler penthouses	Equipment and filters	Industrial chimneys

Pipe sections

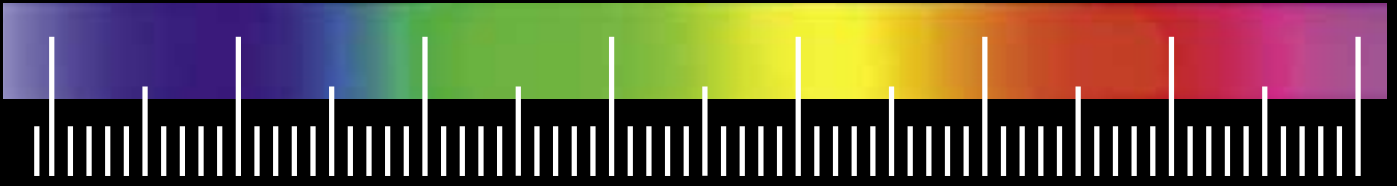
								PAROC Pro Section (WR) 100 (AluCoat)	100	640°C 1184°F
								PAROC Pro Section 100 (AluCoat)	100	640°C 1184°F
								PAROC Pro Section (WR) 140 (AluCoat)	140	680°C 1256°F
								PAROC Pro Section 140 (AluCoat)	140	680°C 1256°F
								PAROC Pro Section (WR) DL 100 (AluCoat)	100	640°C 1184°F
								PAROC Pro Section DL 100 (AluCoat)	100	640°C 1184°F
								PAROC Pro Section (WR) DL 140 (AluCoat)	140	680°C 1256°F
								PAROC Pro Section DL 140 (AluCoat)	140	680°C 1256°F
								PAROC Pro Section 140 Clad T (AluCoat)	140	680°C 1256°F
								PAROC Pro Lock (WR) 100	100	640°C 1184°F
								PAROC Pro Lock 100	100	640°C 1184°F
								PAROC Pro Lock (WR) 140	140	680°C 1256°F
								PAROC Pro Lock 140	140	680°C 1256°F

Segmens, Curves, Bends

								PAROC Pro Curve (WR) 100 (AluCoat)	100	640°C 1184°F
								PAROC Pro Curve 100 (AluCoat)	100	640°C 1184°F
								PAROC Pro Curve (WR) 140 (AluCoat)	140	680°C 1256°F
								PAROC Pro Curve 140 (AluCoat)	140	680°C 1256°F
								PAROC Pro Curve 140 Clad (WR) (AluCoat)	140	680°C 1256°F
								PAROC Pro Segment (WR) 100 (AluCoat)	100	640°C 1184°F
								PAROC Pro Segment 100 (AluCoat)	100	640°C 1184°F
								PAROC Pro Segment (WR) 140 (AluCoat)	140	680°C 1256°F
								PAROC Pro Segment 140 (AluCoat)	140	680°C 1256°F
								PAROC Pro Segment (WR) DL 100 (AluCoat)	100	640°C 1184°F
								PAROC Pro Segment DL 100 (AluCoat)	100	640°C 1184°F
								PAROC Pro Segment (WR) DL 140 (AluCoat)	140	680°C 1256°F
								PAROC Pro Segment DL 140 (AluCoat)	140	680°C 1256°F
								PAROC Pro Segment 140 Clad (AluCoat)	140	680°C 1256°F
								PAROC Pro Bend (WR) 100 (AluCoat)	100	640°C 1184°F
								PAROC Pro Bend 100 (AluCoat)	100	640°C 1184°F
								PAROC Pro Bend (WR) 140 (AluCoat)	140	680°C 1256°F
								PAROC Pro Bend 140 (AluCoat)	140	680°C 1256°F
								PAROC Pro Bend 140 Clad (AluCoat)	140	680°C 1256°F

WATER-REPELLENT
 STANDARD PRODUCTS
 ALU FACING
 ALUMINIUM FACING
 ALUMINIUM FACING + WATER-REPELLENT

0° 100° 200° 300° 400° 500° 600° 700°



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★ POSSIBLE
 ★★ RECOMMENDED
 ★★★ OPTIMAL

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Industrial Pipeworks		Tanks			Industrial Boilers			Equipment and filters	Industrial chimneys	Industrial special constructions	District heating lines	Columns	Recommended products	Nominal density kg/m ³	Max service temperatur (C and Fahrenheit)
Process pipelines	High temperature pipelines	Super-heated steam pipelines	Pipe elbows	Tank roofs	Tank walls	Pressure vessels	Flue ducts								

Slabs

													PAROC Pro Slab (WR) 350	40	350°C 662°F
													PAROC Pro Slab 350 AluCoat	40	350°C 662°F
													PAROC Pro Slab (WR) 350 AluCoat	40	350°C 662°F
													PAROC Pro Slab (WR) 450	60	450°C 842 °F
													PAROC Pro Slab 450 AluCoat	60	450°C 842 °F
													PAROC Pro Slab (WR) 450 AluCoat	60	450°C 842 °F
													PAROC Pro Slab (WR) 640	80	640°C 1184°F
													PAROC Pro Slab 640 AluCoat	80	640°C 1184°F
													PAROC Pro Slab (WR) 640 AluCoat	80	640°C 1184°F
													PAROC Pro Slab (WR) 660	100	660°C 1220°F
													PAROC Pro Slab 660 AluCoat	100	660°C 1220°F
													PAROC Pro Slab (WR) 660 AluCoat	100	660°C 1220°F
													PAROC Pro Slab (WR) 680	120	680°C 1256°F
													PAROC Pro Slab 680 AluCoat	120	680°C 1256°F
													PAROC Pro Slab (WR) 680 AluCoat	120	680°C 1256°F
													PAROC Pro Slab (WR) 700	150	700°C 1292°F
													PAROC Pro Slab 700 AluCoat	150	700°C 1292°F
													PAROC Pro Slab (WR) 700 AluCoat	150	700°C 1292°F

Lamella Mats

													PAROC Pro Lamella Mat AluCoat	50	500°C 932°F
													PAROC Pro Lamella Mat 80 AluCoat	80	500°C 932°F
													PAROC Pro Lamella Mat 100 AluCoat	100	500°C 932°F

WATER-REPELLENT
 STANDARD PRODUCTS
 AL1 FACING
 ALUMINIUM FACING
 ALUMINIUM FACING + WATER-REPELLENT

Industrial Pipeworks		Tanks			Industrial Boilers			Recommended products							Nominal density kg/m ³	Max service temperatur
Process pipelines	High temperature pipelines	Super-heated steam pipelines	Pipe elbows	Tank roofs	Tank walls	Pressure vessels	Flue ducts	Boiler walls	Boiler penthouses	Equipment and filters	Industrial chimneys	Industrial special constructions	District heating lines	Columns		(C and Fahrenheit)

Wired Mats

															PAROC Pro Wired Mat (WR) 550	70	600°C 1112°F
															PAROC Pro Wired Mat 550 AL1	70	600°C 1112°F
															PAROC Pro Wired Mat 660	80	660°C 1220°F
															PAROC Pro Wired Mat (WR) 660	80	660°C 1220°F
															PAROC Pro Wired Mat 660 AL1	80	660°C 1220°F
															PAROC Pro Wired Mat 680	100	680°C 1256°F
															PAROC Pro Wired Mat (WR) 680	100	680°C 1256°F
															PAROC Pro Wired Mat 680 AL1	100	680°C 1256°F
															PAROC Pro Wired Mat (WR) 700 TH1	130	700°C 1292°F
															PAROC Pro Wired Mat (WR) 700 AluCoat TH1	130	700°C 1292°F
															PAROC Pro Wired Mat (WR) 700 AL1 TH1	130	700°C 1292°F

Mats

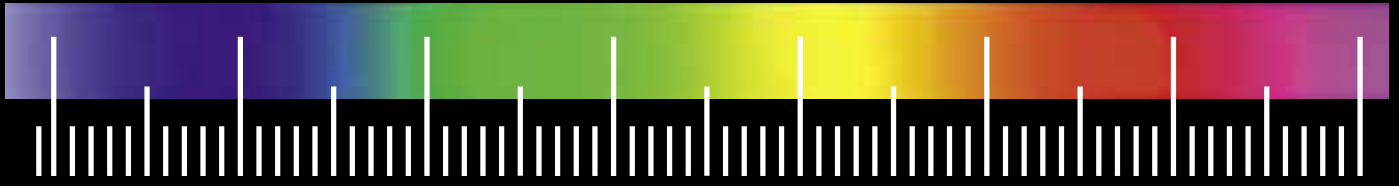
															PAROC Pro Mat 350	50	350°C 662°F
															PAROC Pro Mat 350 AluCoat	50	350°C 662°F
															PAROC Pro Mat 640	80	640°C 1184°F
															PAROC Pro Mat 640 AluCoat	80	640°C 1184°F
															PAROC Pro Mat 660	100	660°C 1220°F
															PAROC Pro Mat 660 AluCoat	100	660°C 1220°F
															PAROC Pro Loose Mat (WR) 600	70	600°C 1112°F
															PAROC Pro Loose Mat (WR) 660	100	660°C 1220°F

Roof Slabs

															PAROC Pro Roof Slab 20 kPa	90	640°C 1184°F
															PAROC Pro Roof Slab (WR) 20 kPa	90	640°C 1184°F
															PAROC Pro Roof Slab 50 kPa	150	700°C 1292°F
															PAROC Pro Roof Slab (WR) 50 kPa	150	700°C 1292°F
															PAROC Pro Roof Slab (WR) 80 kPa	150	660°C 1220°F

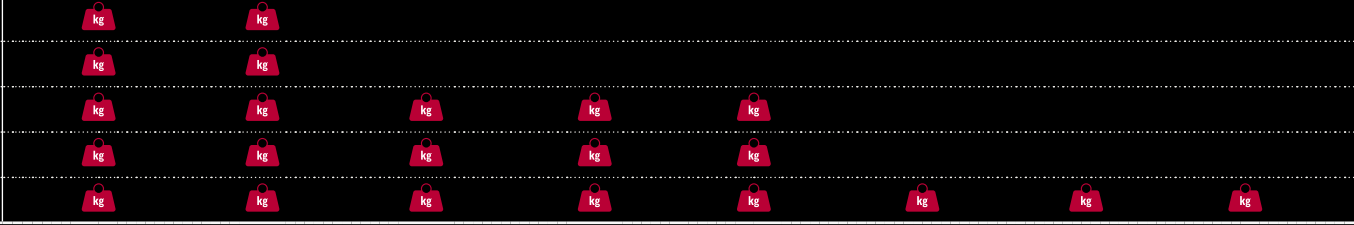
WATER-REPELLENT
 STANDARD PRODUCTS
 AL1 FACING
 ALUMINIUM FACING
 ALUMINIUM FACING + WATER-REPELLENT

0° 100° 200° 300° 400° 500° 600° 700°



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★ POSSIBLE
 ★★ RECOMMENDED
 ★★★ OPTIMAL

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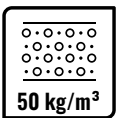


PAROC PRODUCTS FOR INDUSTRIAL APPLICATIONS

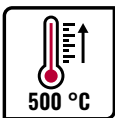
EXPLANATION OF SYMBOLS

TECHNICAL SPECIFICATIONS

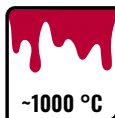
Nominal density



Maximum service temperature



Melting point

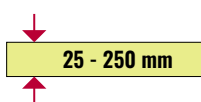


Non-combustible

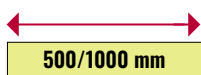


DIMENSIONS

Thickness



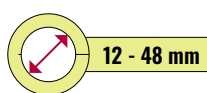
Width



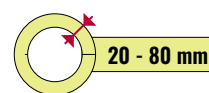
Length



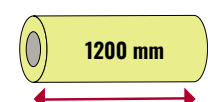
Inner diameter



Insulation thickness



Section length



ADDITIONAL INFORMATION

Data sheet

Accessories

Installation video

Packing details

Dimension Guide

Installation manual

Water-repellent version available without surcharge

(WR)

PIPE SECTIONS

PAROC PRO SECTION WR 100

PAROC PRO SECTION 100

PAROC PRO SECTION WR 100 ALUcoat

PAROC PRO SECTION 100 ALUcoat

Concentric, dimensionally accurate stone wool pipe sections, in one or two segments, slotted on one side



Accessories (pages 84 - 87):

- PAROC Pro Knife XTK001/003
- PAROC CUI Spacers
- PAROC Galvanised Wire
- PAROC Pallet Hoods

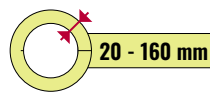
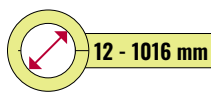
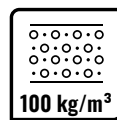
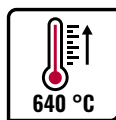
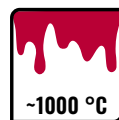


APPLICATION

- Pipelines for industrial and power plants, district heating and exhaust pipes, technical systems, chimneys

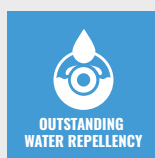
TECHNICAL SPECIFICATIONS

- Water absorption <math>< 0,1 \text{ kg/m}^2</math> at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) $\leq 1 \text{ kg/m}^2$ for non water-repellant version according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.04.03.50.10
- Quality monitored according to VDI 2055
- CE designation code: MW-EN 14303-T8 / T9-ST (+) 640-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300
$\lambda_{N,P}$	W/mK	0.039	0.045	0.054	0.064	0.077	0.092



PIPE SECTIONS

PAROC PRO SECTION WR 120

PAROC PRO SECTION 120

PAROC PRO SECTION WR 120 ALUOCOAT

PAROC PRO SECTION 120 ALUOCOAT

Concentric, dimensionally accurate stone wool pipe sections, in one or two segments, slotted on one side



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

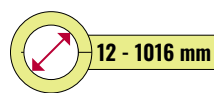
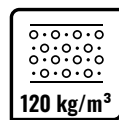
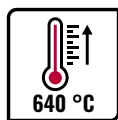
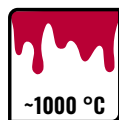


APPLICATION

- Pipelines for industrial and power plants, district heating and exhaust pipes, technical systems, chimneys

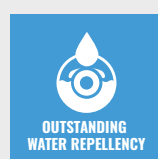
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.04.04.60.12
- Quality monitored according to VDI 2055
- CE designation code: MW-EN 14303-T8 / T9-ST (+) 640-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300	400
$\lambda_{N,P}$	W/mK	0.041	0.047	0.054	0.063	0.073	0.085	0.110



PIPE SECTIONS

PAROC PRO SECTION WR 140

PAROC PRO SECTION 140

PAROC PRO SECTION WR 140 ALUOCOAT

PAROC PRO SECTION 140 ALUOCOAT

PAROC Pro Section 140 is a non-combustible stonewool pipe section for industrial pipe lines



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

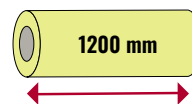
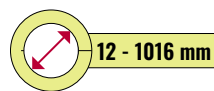
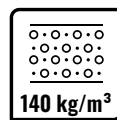
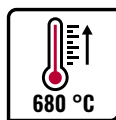
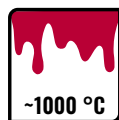


APPLICATION

- Pipework for Industry and power plants, district heating and exhaust lines

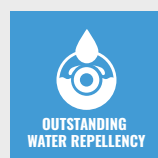
TECHNICAL SPECIFICATIONS

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- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.04.04.80.14
- Quality monitored according to VDI 2055
- CE designation code: MW-EN 14303-T8/T9-ST(+)-680-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300	400
$\lambda_{N,P}$	W/mK	0.041	0.047	0.054	0.063	0.073	0.085	0.110



PIPE SECTIONS

PAROC PRO CURVE WR 100

PAROC PRO CURVE 100

PAROC PRO CURVE WR 100 ALUcoat

PAROC PRO CURVE 100 ALUcoat

Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

Prefabricated stone wool insulation element for pipe elbows where the risk of CUI (corrosion under insulation) is present

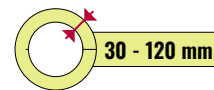
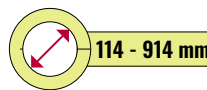
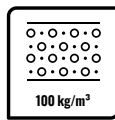
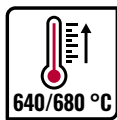
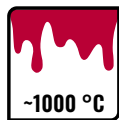


APPLICATION

- Insulation of pipe elbows

TECHNICAL SPECIFICATIONS

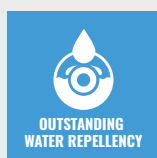
- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.08.03.50.10
- Quality monitored according to VDI 2055
- CE designation code: MW-EN 14303-T8 / T9-ST (+) 640-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



		Available dimensions PAROC Pro Curve (WR) 100												
mm		114'	140'	168'	219'	273'	324'	356'	406'	457'	508'	612'	762'	914'
Inner diameter of pipe	30	x	x	x	x	x	x	x	x	x	x			
	40	x	x	x	x	x	x	x	x	x	x	x		
	50	x	x	x	x	x	x	x	x	x	x	x	x	x
	60		x	x	x	x	x	x	x	x	x	x	x	x
	70		x	x	x	x	x	x	x	x	x	x	x	x
	80			x	x	x	x	x	x	x	x	x	x	x
	90			x	x	x	x	x	x	x	x	x	x	x
	100			x	x	x	x	x	x	x	x	x	x	x
120				x			x							

Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300
$\lambda_{N,P}$	W/mK	0.039	0.045	0.054	0.064	0.077	0.092



Watch our video on energy efficiency with PAROC Pro Sections!



PIPE SECTIONS

PAROC PRO CURVE WR 120

PAROC PRO CURVE 120

PAROC PRO CURVE WR 120 ALUCOAT

PAROC PRO CURVE 120 ALUCOAT



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

Prefabricated stone wool insulation element for pipe elbows where the risk of CUI (corrosion under insulation) is present



APPLICATION

- Insulation of pipe elbows

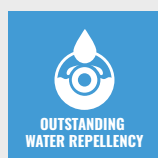
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.08.04.40.12 (120)
- Quality monitored according to VDI 2055
- CE designation code: MW-EN 14303-T8 / T9-ST (+) 640-WS1-CL10
 MW-EN 14303-T8 / T9-ST (+) 680-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)




Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300	400
$\lambda_{N,P}$	W/mK	0.041	0.047	0.054	0.063	0.073	0.085	0.110



Watch our video on energy efficiency with PAROC Pro Sections!



PIPE SECTIONS

PAROC PRO CURVE WR 140

PAROC PRO CURVE 140

PAROC PRO CURVE WR 140 ALUCLAD

PAROC PRO CURVE 140 ALUCLAD

Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

Prefabricated stone wool insulation element for pipe elbows where the risk of CUI (corrosion under insulation) is present

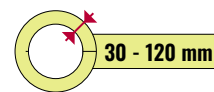
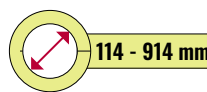
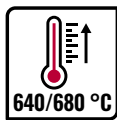
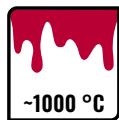


APPLICATION

- Insulation of pipe elbows

TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.08.04.80.14 (140)
- Quality monitored according to VDI 2055
- CE designation code: MW-EN 14303-T8 / T9-ST (+) 680-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



		Available dimensions PAROC Pro Curve (WR) 140												
mm		114'	140'	168'	219'	273'	324'	356'	406'	457'	508'	612'	762'	914'
Inner diameter of pipe	30	x	x	x	x	x	x	x	x	x	x			
	40	x	x	x	x	x	x	x	x	x	x	x		
	50	x	x	x	x	x	x	x	x	x	x	x	x	x
	60		x	x	x	x	x	x	x	x	x	x	x	x
	70		x	x	x	x	x	x	x	x	x	x	x	x
	80			x	x	x	x	x	x	x	x	x	x	x
	90			x	x	x	x	x	x	x	x	x	x	x
	100			x	x	x	x	x	x	x	x	x	x	x
120			x				x							

Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300	400
λ _{N,P}	W/mK	0.041	0.047	0.054	0.063	0.073	0.085	0.110



Watch our video on energy efficiency with PAROC Pro Sections!



PIPE SECTIONS

PAROC PRO SECTION WR DL 100

PAROC PRO SECTION DL 100

PAROC PRO SECTION WR DL 100 ALUCOAT

PAROC PRO SECTION DL 100 ALUCOAT



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

Stonewool pipe section in two layers for industrial pipelines

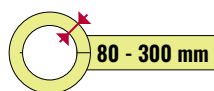
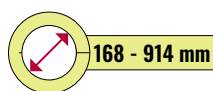
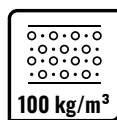
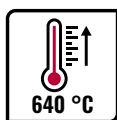
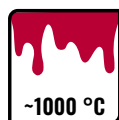


APPLICATION

- Thermal insulation of industrial pipework for higher insulation thicknesses or where there is required insulation in two layers

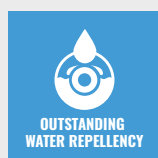
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.08.03.50.10
- Reaction to Fire, Euroclass A₁_L
- Chloride Ions, Cl- < 10 ppm
- CE designation Code MW-EN 14303-T8/T9-ST(+)-640-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300
$\lambda_{N,P}$	W/mK	0.039	0.045	0.054	0.064	0.077	0.092



PIPE SECTIONS

PAROC PRO SECTION WR DL 120

PAROC PRO SECTION DL 120

PAROC PRO SECTION WR DL 120 ALUCOAT

PAROC PRO SECTION DL 120 ALUCOAT



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

Stonewool pipe section in two layers for industrial pipelines

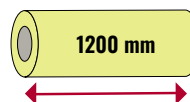
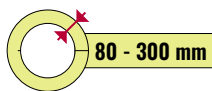
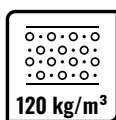
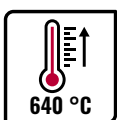
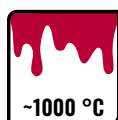


APPLICATION

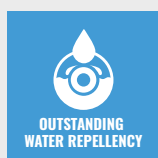
- Thermal insulation of industrial pipework for higher insulation thicknesses or where there is required insulation in two layers

TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.04.04.60.12
- Reaction to Fire, Euroclass A₁
- Chloride Ions, Cl- < 10 ppm
- CE designation Code MW-EN 14303-T8/T9-ST(+)-640-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



t	°C	50	100	200	250	300	400
$\lambda_{N,P}$	W/mK	0.041	0.047	0.063	0.073	0.085	0.110



PIPE SECTIONS

PAROC PRO SECTION WR DL 140

PAROC PRO SECTION DL 140

PAROC PRO SECTION WR DL 140 ALUCOAT

PAROC PRO SECTION DL 140 ALUCOAT



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

Stonewool pipe section in 2 layers for industrial pipe lines

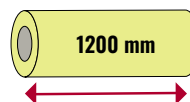
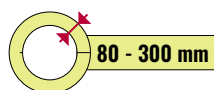
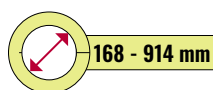
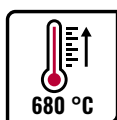
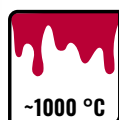


APPLICATION

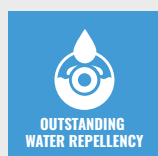
- Thermal insulation of industrial pipework for higher insulation thicknesses or where there is required insulation in two layers

TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.04.04.80.14
- Reaction to Fire, Euroclass A₁
- Chloride Ions, Cl- < 10 ppm
- CE designation Code MW-EN 14303-T8/T9-ST(+)-680-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



t	°C	50	100	200	300	400
$\lambda_{N,P}$	W/mK	0.041	0.047	0.063	0.085	0.110



PIPE SECTIONS

PAROC PRO SECTION WR DL1

PAROC PRO SECTION DL1

PAROC PRO SECTION WR DL1 ALUCOAT

PAROC PRO SECTION DL1 ALUCOAT



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

Stonewool pipe section in 2 layers for industrial pipe lines

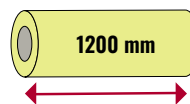
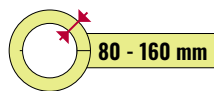
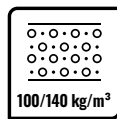
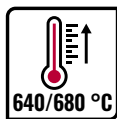
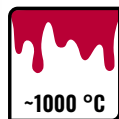


APPLICATION

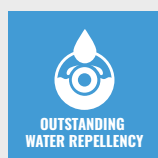
- Thermal insulation of industrial pipework for high insulation thicknesses or where there is required insulation in two layers

TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.04.03.50.10 (100)
10.04.04.80.14 (140)
- Reaction to Fire, Euroclass A1_L
- Chloride Ions, Cl- < 10 ppm
- CE designation Code
PS140: MW-EN 14303-T8/T9-ST(+)-680-WS1-CL10;
PS100: MW-EN 14303-T8/T9-ST(+)-640-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



t	°C	50		100		150		200		250		300		400	
		PS140	PS100	PS140	PS100	PS140	PS100	PS140	PS100	PS140	PS100	PS140	PS100	PS140	PS100
λ _{N,P}	W/mK	0.039	0.041	0.047	0.045	0.054	0.054	0.063	0.064	0.073	0.077	0.085	0.092	0.110	



PIPE SECTIONS

PAROC PRO LOCK WR 100 PAROC PRO LOCK 100

Stonewool pipe section with a z-joint on the longitudinal and circumferential seams



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

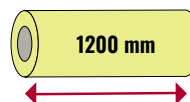
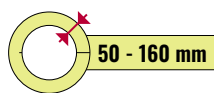
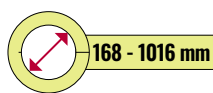
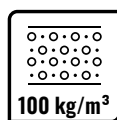
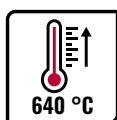
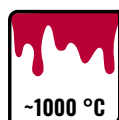


APPLICATION

- Pipework for Industry and power plants, district heating and exhaust lines

TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS-quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.04.03.50.10
- Quality monitored according to VDI 2055
- CE-designation code: MW-EN 14303-T8/T9-ST(+)-640-WS1-CL10



Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300
$\lambda_{N,P}$	W/mK	0.039	0.045	0.054	0.064	0.077	0.092



PIPE SECTIONS

PAROC PRO LOCK WR 140 PAROC PRO LOCK 140

Stonewool pipe section with a z-joint on the longitudinal and circumferential seams



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

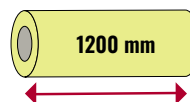
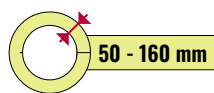
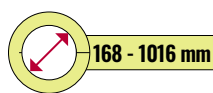
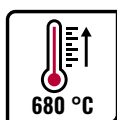
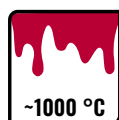


APPLICATION

- Thermal insulation of industrial pipework at high temperatures

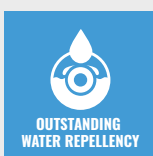
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS-quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.04.04.80.14
- Quality monitored according to VDI 2055
- CE-designation code: MW-EN 14303-T8/T9-ST(+)-680-WS1-CL10



Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300	400
$\lambda_{N,P}$	W/mK	0.041	0.047	0.054	0.063	0.073	0.085	0.110



SAVING TIME AND MONEY

PAROC Pro Lock (WR) gives same advantages of double layer insulation in one application (single-layer solution) – saving time and money. Through its innovative z-lock, cut into the ends and down the length of the section, heat losses and installation times can be reduced*. This insulation solution is unique and only supplied by Paroc.

*based on internal calculations (e. g PAROC Calculus 2023)

There are a great number of opportunities within the industrial sector for reducing thermal losses. Far too often, specifications from previous projects that are decades out of date are simply adopted without prior consideration. Performing insulation for industrial processes can contribute to energy and CO₂ savings, reduction of emission and efficiency of processes.

Steam and other hot fluids are often channeled through pipelines and installations in industrial plants. For optimum production processes, retaining heat is important.

PAROC PRO LOCK (WR) – AN EXCELLENT SOLUTION FOR PIPES!

PAROC Pro Lock (WR) simulates overlapping double layers in one application.

Optimising energy consumption is a priority in all industrial plants as it support optimal functionality, efficiency, and profits.

When operating temperatures exceed 250 °C, or required thickness exceeds 160 mm, overlapping double layer insulation is often required. Paroc offers double layer solutions, but through innovation also offers its Pro Lock option, which simulates overlapping double layers in one application.

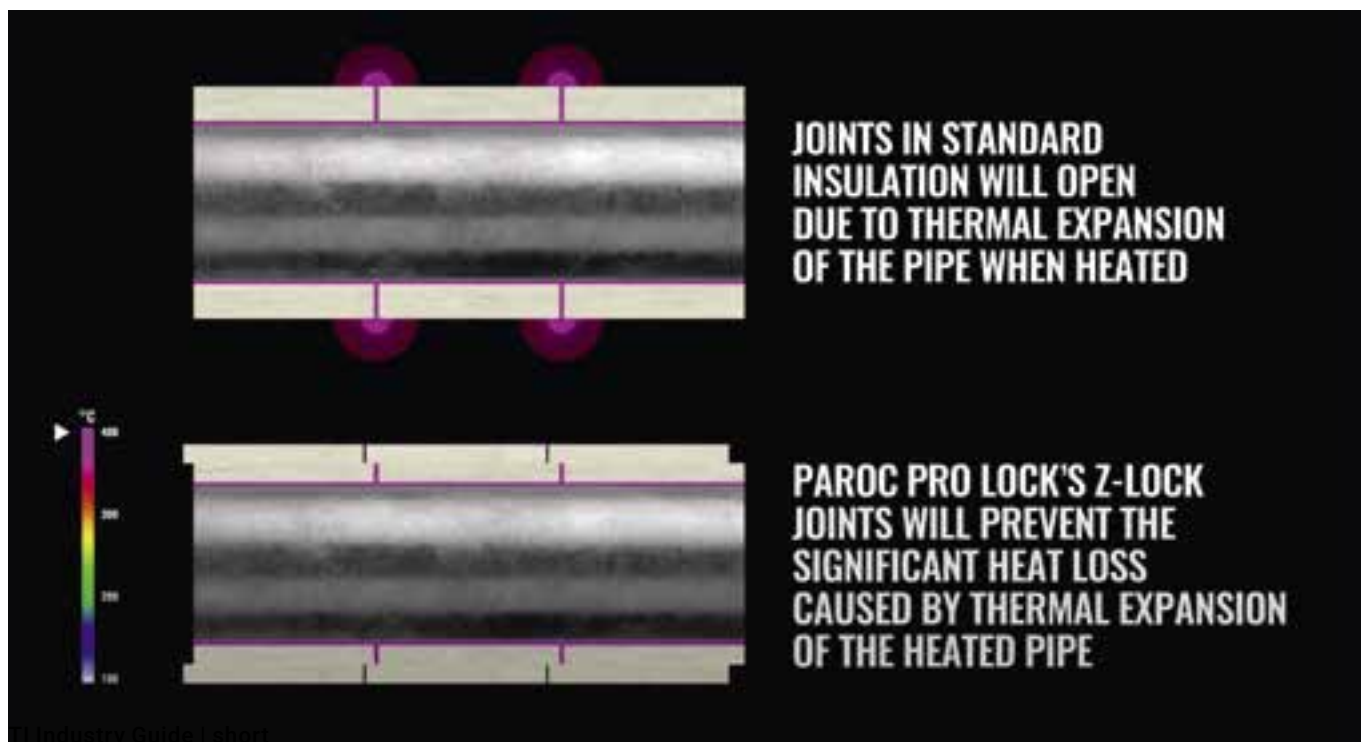
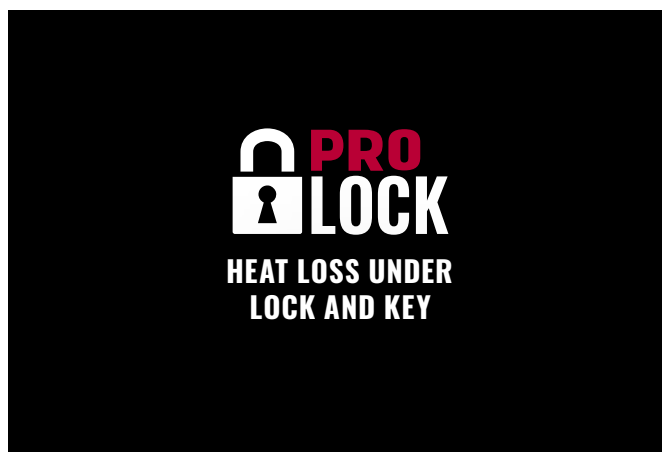
Industrial pipelines are insulated efficiently using the PAROC Pro Lock industrial pipe section. Expansions of the pipeline at high temperatures are offset by the z-lock cut into the ends and down the length of the section, and heat losses are reduced. Compatible double layer segments may be used for pipe bends, which offers optimal insulation for the entire pipeline.

For most applications, PAROC Pro Lock WR 100 is suitable. However, when temperatures exceed 350 °C is PAROC Pro Lock WR 140 is recommended.

BENEFITS COMPARED TO WIRED MATS:

- **Outstanding solution minimizing thermal leaks**
- **Thin insulation solution**
 - Less surface area and cladding material
 - Takes less space in processes
 - Lower installation costs, less installation time (compared to 2 layer solution)
- **No supporting structure for cladding needed**
- **Thermal expansion of metal pipe does not open the z-lock joints**
- **Reduction in down-time on the plant during maintenance**

*compared to standard pipe insulation (internal testing)



BENDS AND SEGMENTS

PAROC PRO SEGMENT WR 100

PAROC PRO SEGMENT 100

PAROC PRO SEGMENT WR 100 ALUcoat

PAROC PRO SEGMENT 100 ALUcoat

Ready cut segment for medium and big size pipe elbows made of non-combustible stone wool pipe section



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

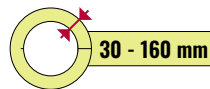
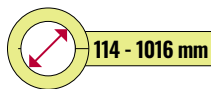
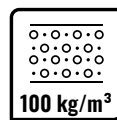
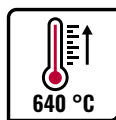
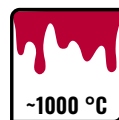


APPLICATION

- Outstanding insulation solution for big pipe elbows without heat bridges

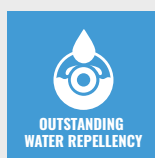
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.08.03.50.10
- Quality monitored according to VDI 2055
- CE designation code: MW-EN 14303-T8 / T9-ST (+) 640-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300
$\lambda_{N,P}$	W/mK	0.039	0.045	0.054	0.064	0.077	0.092



BENDS AND SEGMENTS

PAROC PRO SEGMENT WR 120

PAROC PRO SEGMENT 120

PAROC PRO SEGMENT WR 120 ALUOCOAT

PAROC PRO SEGMENT 120 ALUOCOAT

Ready cut segment for medium and big size pipe elbows made of non-combustible stone wool pipe section



Accessories (pages 84 - 87):

PAROC Pro Knife XTK001/003

PAROC CUI Spacers

PAROC Galvanised Wire

PAROC Pallet Hoods

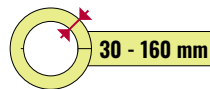
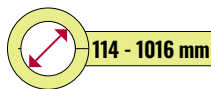
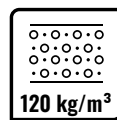
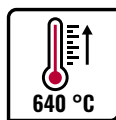
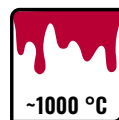


APPLICATION

- Outstanding insulation solution for big pipe elbows without heat bridges

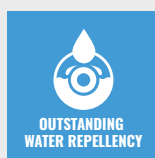
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.08.04.60.12
- Quality monitored according to VDI 2055
- CE designation code: MW-EN 14303-T8 / T9-ST (+) 640-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300	400
$\lambda_{N,P}$	W/mK	0.041	0.047	0.054	0.063	0.073	0.085	0.110



BENDS AND SEGMENTS

PAROC PRO SEGMENT WR 140

PAROC PRO SEGMENT 140

PAROC PRO SEGMENT WR 140 ALUOCOAT

PAROC PRO SEGMENT 140 ALUOCOAT

Ready cut segment for medium and big size pipe elbows made of non-combustible stone wool pipe section



Accessories (pages 84 - 87):

PAROC Pro Knife XTK001/003

PAROC CUI Spacers

PAROC Galvanised Wire

PAROC Pallet Hoods

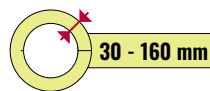
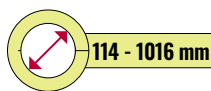
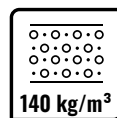
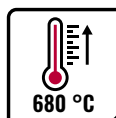
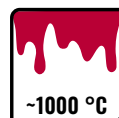


APPLICATION

- Outstanding insulation solution for big pipe elbows without heat bridges

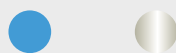
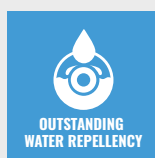
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.08.04.80.14
- Quality monitored according to VDI 2055
- CE designation code: MW-EN 14303-T8 / T9-ST (+) 680-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300	400
$\lambda_{N,P}$	W/mK	0.041	0.047	0.054	0.063	0.073	0.085	0.110



BENDS AND SEGMENTS

PAROC PRO SEGMENT WR DL 100

PAROC PRO SEGMENT DL 100

PAROC PRO SEGMENT WR DL 100 ALUCOAT

PAROC PRO SEGMENT DL 100 ALUCOAT

Cut segment in double layer for medium and big size pipe elbows in high temperature made of non-combustible stone wool pipe section



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods



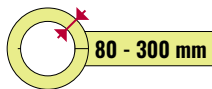
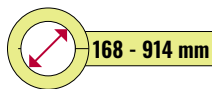
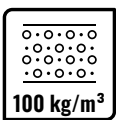
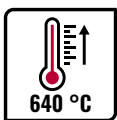
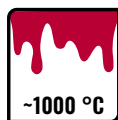
APPLICATION

- Outstanding insulation solution for big pipe elbows without heat bridges



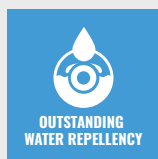
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.08.03.50.10
- Reaction to Fire, Euroclass A₁
- Chloride Ions, Cl⁻ < 10 ppm
- CE designation Code MW-EN 14303-T8/T9-ST(+)-640-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300
$\lambda_{N,P}$	W/mK	0.039	0.045	0.054	0.064	0.077	0.092



BENDS AND SEGMENTS

PAROC PRO SEGMENT WR DL 120

PAROC PRO SEGMENT DL 120

PAROC PRO SEGMENT WR DL 120 ALUCOAT

PAROC PRO SEGMENT DL 120 ALUCOAT



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

Cut segment in double layer for medium and big size pipe elbows in high temperature made of non-combustible stone wool pipe section

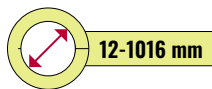
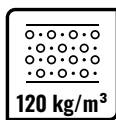
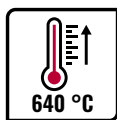
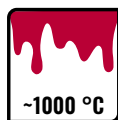


APPLICATION

- Outstanding insulation solution for big pipe elbows without heat bridges

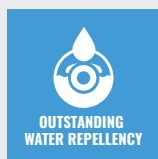
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.08.04.60.12
- Reaction to Fire, Euroclass A₁
- Chloride Ions, Cl- < 10 ppm
- CE designation Code MW-EN 14303-T8/T9-ST(+)-640-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300	400
$\lambda_{N,P}$	W/mK	0.041	0.047	0.054	0.063	0.073	0.085	0.110



BENDS AND SEGMENTS

PAROC PRO SEGMENT WR DL 140

PAROC PRO SEGMENT DL 140

PAROC PRO SEGMENT WR DL 140 ALUCOAT

PAROC PRO SEGMENT DL 140 ALUCOAT

Cut segment in double layer for medium and big size pipe elbows in high temperature made of non-combustible stone wool pipe section



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

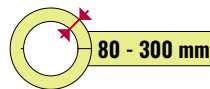
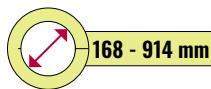
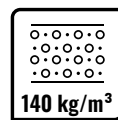
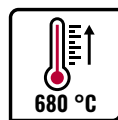
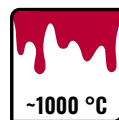


APPLICATION

- Outstanding insulation solution for big pipe elbows without heat bridges

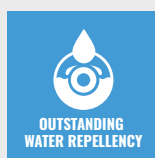
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- Reaction to Fire, Euroclass A₁
- Chloride Ions, Cl- < 10 ppm
- CE designation Code MW-EN 14303-T8/T9-ST(+)-680-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300	400
$\lambda_{N,P}$	W/mK	0.041	0.047	0.054	0.063	0.073	0.085	0.110



BENDS AND SEGMENTS

PAROC PRO SEGMENT WR DL1

PAROC PRO SEGMENT DL1

PAROC PRO SEGMENT WR DL1 ALUCOAT

PAROC PRO SEGMENT DL1 ALUCOAT

Cut segment in double layer for medium and big size pipe elbows in high temperature made of non-combustible stone wool pipe section



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

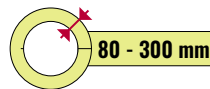
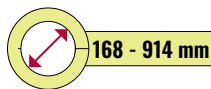
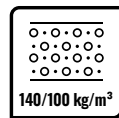
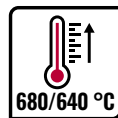
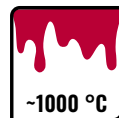


APPLICATION

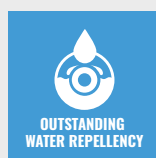
- Thermal insulation of pipe elbows in industrial pipework

TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.08.03.50.10 (100)
10.08.04.80.14 (140)
- Reaction to Fire, Euroclass A1_L
- Chloride Ions, Cl- < 10 ppm
- CE designation Code
PS140: MW-EN 14303-T8/T9-ST(+)-680-WS1-CL10
PS100: MW-EN 14303-T8/T9-ST(+)-640-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



t	°C	50		100		150		200		250		300		400	
		PS140	PS100	PS140	PS100	PS140	PS100	PS140	PS100	PS140	PS100	PS140	PS100	PS140	PS100
λ _{N,P}	W/mK	0.039	0.041	0.047	0.045	0.054	0.054	0.063	0.064	0.073	0.077	0.085	0.092	0.110	



PIPE BENDS AND SEGMENTS

PAROC PRO BEND WR 100

PAROC PRO BEND 100

PAROC PRO BEND WR 100 ALUCOAT

PAROC PRO BEND 100 ALUCOAT

Prefabricated insulation component made of stonewool



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

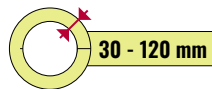
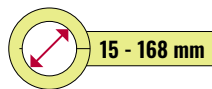
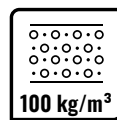
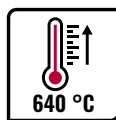
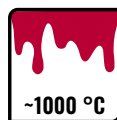


APPLICATION

- Thermal insulation of industrial pipework at high temperatures

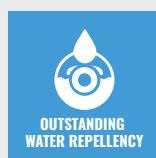
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.08.03.50.10
- Reaction to Fire, Euroclass A₁
- Chloride Ions, Cl⁻ < 10 ppm
- CE designation Code MW-EN 14303-T8/T9-ST(+)-640-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300
λ _{N,P}	W/mK	0.039	0.045	0.054	0.064	0.077	0.092



PIPE BENDS AND SEGMENTS

PAROC PRO BEND WR 120

PAROC PRO BEND 120

PAROC PRO BEND WR 120 ALUCOAT

PAROC PRO BEND 120 ALUCOAT



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

Prefabricated insulation component made of stonewool

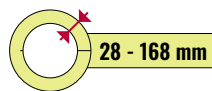
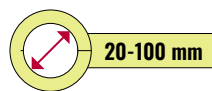
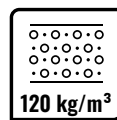
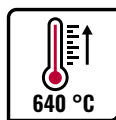
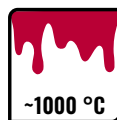


APPLICATION

- Thermal insulation of industrial pipework at high temperatures

TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.08.04.60.12
- Reaction to Fire, Euroclass A₁
- Chloride Ions, Cl⁻ < 10 ppm
- CE designation Code MW-EN 14303-T8/T9-ST(+)-640-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300	400
λ _{N,P}	W/mK	0.041	0.047	0.054	0.063	0.073	0.085	0.110



PIPE BENDS AND SEGMENTS

PAROC PRO BEND WR 140

PAROC PRO BEND 140

PAROC PRO BEND WR 140 ALUCOAT

PAROC PRO BEND 140 ALUCOAT



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC CUI Spacers
 PAROC Galvanised Wire
 PAROC Pallet Hoods

Prefabricated insulation component made of stonewool

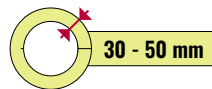
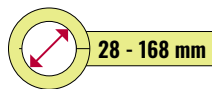
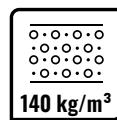
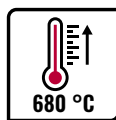
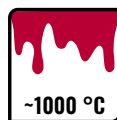


APPLICATION

- Thermal insulation of industrial pipework at high temperatures

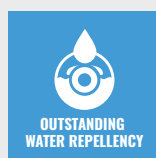
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 13472
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.08.04.80.14
- Reaction to Fire, Euroclass A₁
- Chloride Ions, Cl⁻ < 10 ppm
- CE designation Code MW-EN 14303-T8/T9-ST(+)-680-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN ISO 8497

t	°C	50	100	150	200	250	300	400
$\lambda_{N,P}$	W/mK	0.041	0.047	0.054	0.063	0.073	0.092	0.110



LAMELLA MATS

PAROC PRO LAMELLA MAT ALUCOAT

Stonewool lamella mat laminated on one side with a grid-reinforced aluminum foil



Accessories (pages 84 - 87):
 PAROC AluCoat Tape
 PAROC Marine Tape Gerband 705
 PAROC Hvac Dots
 PAROC Head Pins Insulated
 PAROC Spatula
 PAROC Welding Device
 PAROC Pro Knife XTK001/003
 PAROC Galvanised Wire
 PAROC Pallet Hoods

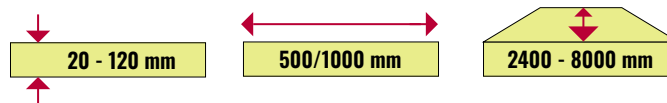
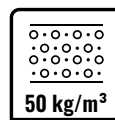
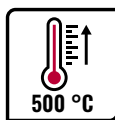
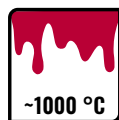


APPLICATION

- A high flexural and compressive strength allows a support structure-free laying of pipelines, tanks, boilers, in industrial and power plants, district heating lines

TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 250 °C for water-repellent version according to EN 1609
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 1609
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.03.02.99.05
- Quality monitored according to VDI 2055
- Compressive strength > 10 kPa according to EN 826
- Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)
- CE designation code: MW-EN 14303-T4-ST (+) 500-WS1-MV2-CL10



t	°C	50	100	200	300	400	500
$\lambda_{N,P}$	W/mK	0.045	0.055	0.081	0.120	0.169	0.230

LAMELLA MATS

PAROC PRO LAMELLA MAT 80 ALUCOAT

Non-combustible stone wool insulation for thermal and condensation insulation of ventilation ducts and equipment. It has a reinforced aluminium foil facing



Accessories (pages 84 - 87):

- PAROC AluCoat Tape
- PAROC Marine Tape Gerband 705
- PAROC Hvac Dots
- PAROC Head Pins Insulated
- PAROC Spatula
- PAROC Welding Device
- PAROC Pro Knife XTK001/003
- PAROC Galvanised Wire
- PAROC Pallet Hoods

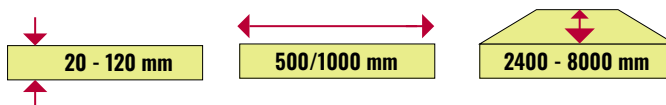
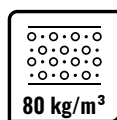
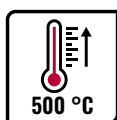
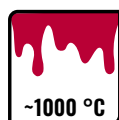


APPLICATION

- A high flexural and compressive strength allows a support structure-free laying of pipelines, tanks, boilers, in industrial and power plants, district heating lines

TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 250 °C for water-repellent version according to EN 1609
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 1609
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.03.02.99.08
- Quality monitored according to VDI 2055
- Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)
- CE designation code: MW-EN 14303-T4-ST (+) 500-WS1-MV2-CL10



t	°C	10	50	100	200	300	400	500
$\lambda_{N,P}$	W/mK	0.042	0.047	0.055	0.074	0.100	0.132	0.179

LAMELLA MATS

PAROC PRO LAMELLA MAT 100 ALUCOAT

Stonewool lamella mat laminated on one side with a grid-reinforced aluminum foil



Accessories (pages 84 - 87):

- PAROC AluCoat Tape
- PAROC Marine Tape Gerband 705
- PAROC Hvac Dots
- PAROC Head Pins Insulated
- PAROC Spatula
- PAROC Welding Device
- PAROC Pro Knife XTK001/003
- PAROC Galvanised Wire
- PAROC Pallet Hoods

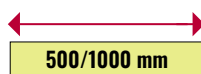
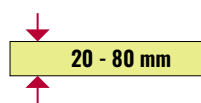
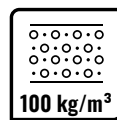
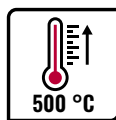
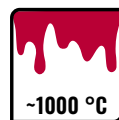


APPLICATION

- A high flexural and compressive strength allows a support structure-free laying of pipelines, tanks, boilers, in industrial and power plants, district heating lines

TECHNICAL SPECIFICATIONS

- Water absorption <math>< 0,1 \text{ kg/m}^2</math> at temperatures up to 250 °C for water-repellent version according to EN 1609
- Water Absorption, Short Term WS, (Wp) $\leq 1 \text{ kg/m}^2$ for non water-repellant version according to EN 1609
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.03.02.99.10
- Quality monitored according to VDI 2055
- Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)
- CE designation code: MW-EN 14303-T4-ST (+) 500-WS1-MV2-CL10



t	°C	10	50	100	200	300	400	500
$\lambda_{N,P}$	W/mK	0.042	0.047	0.055	0.074	0.100	0.132	0.179

WIRED MATS

PAROC PRO WIRED MAT WR 550

PAROC PRO WIRED MAT 550

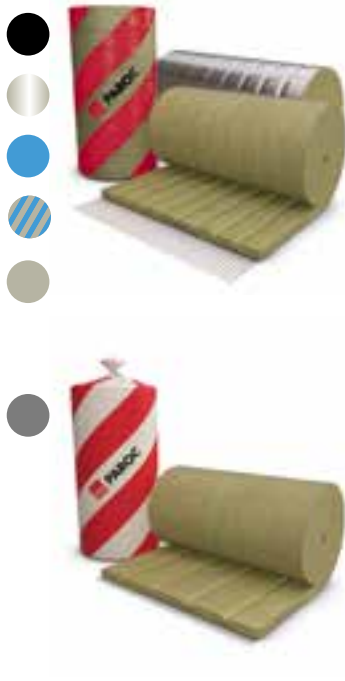
PAROC PRO WIRED MAT 550 AL1

PAROC PRO WIRED MAT WR 550 AL1

Stonewool wired mat with galvanized net. Available also with stainless steel net and/or sewing wire with water-repellent features



Accessories (pages 84 - 87):
 PAROC Pro Cladding Support
 PAROC HT Tape
 PAROC Galvanised Wire
 PAROC Pallet Hoods

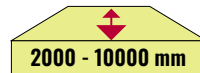
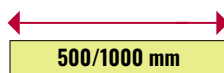
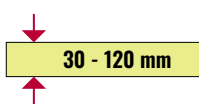
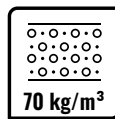
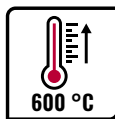
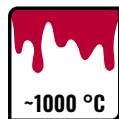


APPLICATION

- Pipelines, containers, boilers, apparatus, in industrial and power plants, district heating lines

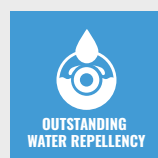
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 250 °C for water-repellent version according to EN 1609
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 1609
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.01.02.40.08
- Quality monitored according to VDI 2055
- Non-flammable
- CE designation code: MW-EN 14303-T2-ST (+) 640-WS1-CL10



t	°C	10	50	100	200	300	400	500	600
$\lambda_{N,P}$	W/mK	0.037	0.042	0.049	0.067	0.093	0.126	0.166	0.215

COMBINE WITH PAROC PRO CLADDING SUPPORT (WR) 100 AND (WR) 140 TO REDUCE HEAT LOSS AND THERMAL BRIDGES. CAN SUBSTITUTE STANDARD METAL RINGS UNDER HEAVY METAL CLADDING.



WIRED MATS

PAROC PRO WIRED MAT WR 660

PAROC PRO WIRED MAT 660

PAROC PRO WIRED MAT 660 ALUcoat

PAROC PRO WIRED MAT WR 660 ALUcoat

PAROC PRO WIRED MAT 660 AL1

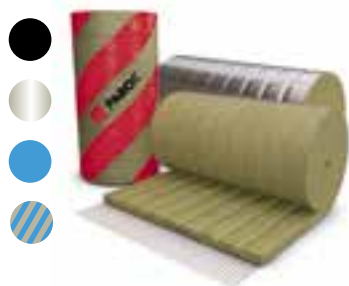
PAROC PRO WIRED MAT WR 660 AL1

Stonewool mat with wire thread quilting on galvanized wire mesh



Accessories (pages 84 - 87):

- PAROC Pro Knife XTK001/003
- PAROC HT Tape
- PAROC Head Pins Insulated
- PAROC Head Pins
- PAROC Pro Cladding Support

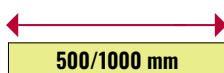
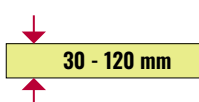
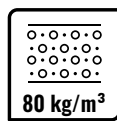
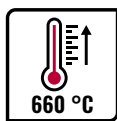
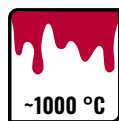


APPLICATION

- Pipelines, containers, boilers, apparatus, in industrial and power plants, district heating lines

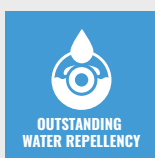
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 250 °C for water-repellent version according to EN 1609
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 1609
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.01.02.50.08
- Quality monitored according to VDI 2055
- CE designation code: MW-EN 14303-T2-ST (+) 660-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



t	°C	50	100	200	300	400	500	600	660
λ _{N,P}	W/mK	0.040	0.046	0.062	0.084	0.111	0.146	0.190	0.213

COMBINE WITH PAROC PRO CLADDING SUPPORT (WR) 100 AND (WR) 140 TO REDUCE HEAT LOSS BAND THERMAL BRIDGES. CAN SUBSTITUTE STANDARD METAL RINGS UNDER HEAVY METAL CLADDING.



**only available in certain markets*

WIRED MATS

PAROC PRO WIRED MAT 80 COMFORT*

PAROC PRO WIRED MAT LE 80

PAROC PRO WIRED MAT LE 80 COMFORT*

Stonewool mat with wire thread quilting on galvanized wire mesh



Accessories (pages 84 - 87):

- PAROC Pro Knife XTK001/003
- PAROC HT Tape
- PAROC Head Pins Insulated
- PAROC Head Pins
- PAROC Pro Cladding Support

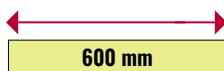
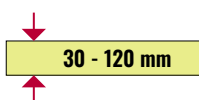
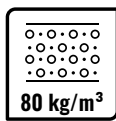
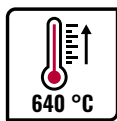
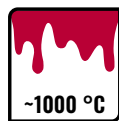


APPLICATION

- Pipelines, containers, boilers, apparatus, in industrial and power plants, district heating lines

TECHNICAL SPECIFICATIONS

- Short-term water absorption by partial immersion, W_p , $<1,0\text{kg/m}^2$ according to EN 1609
- The content of water-leachable chlorides does not exceed 10ppm according to EN 13468
- CE designation code: MW-EN 14303-T2-ST (+) 640-WS1-CL10



COMBINE WITH PAROC PRO CLADDING SUPPORT (WR) 100 AND (WR) 140 TO REDUCE HEAT LOSS BAND THERMAL BRIDGES. CAN SUBSTITUTE STANDARD METAL RINGS UNDER HEAVY METAL CLADDING.



*only available in certain markets

WIRED MATS

PAROC PRO WIRED MAT WR 680

PAROC PRO WIRED MAT 680

PAROC PRO WIRED MAT 680 ALUcoat

PAROC PRO WIRED MAT WR 680 ALUcoat

PAROC PRO WIRED MAT 680 AL1

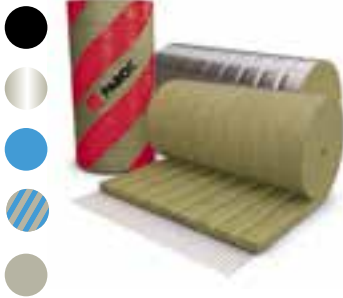
PAROC PRO WIRED MAT WR 680 AL1

Stonewool mat with wire thread quilting on galvanized wire mesh



Accessories (pages 84 - 87):

- PAROC Pro Knife XTK001/003
- PAROC HT Tape
- PAROC Head Pins Insulated
- PAROC Head Pins
- PAROC Pro Cladding Support

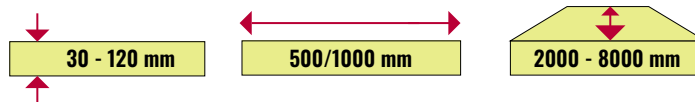
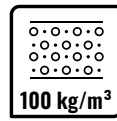
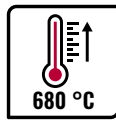
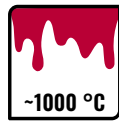


APPLICATION

- Pipelines, containers, boilers, apparatus, in industrial and power plants, district heating lines

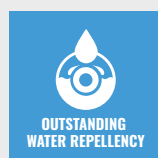
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 1609 and EN 12087
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 1609
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.01.03.60.10
- Quality monitored according to VDI 2055
- CE designation code: MW-EN 14303-T2-ST (+) 680-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



t	°C	50	100	150	200	250	300	400	500	600	680
λ _{N,P}	W/mK	0.039	0.045	0.051	0.059	0.068	0.078	0.102	0.131	0.167	0.196

COMBINE WITH PAROC PRO CLADDING SUPPORT (WR) 100 AND (WR) 140 TO REDUCE HEAT LOSS BAND THERMAL BRIDGES. CAN SUBSTITUTE STANDARD METAL RINGS UNDER HEAVY METAL CLADDING.



**only available in certain markets*

WIRED MATS

PAROC PRO WIRED MAT 100 COMFORT*

PAROC PRO WIRED MAT LE 100

PAROC PRO WIRED MAT LE 100 COMFORT*

Stonewool mat with wire thread quilting on galvanized wire mesh



Accessories (pages 84 - 87):

- PAROC Pro Knife XTK001/003
- PAROC HT Tape
- PAROC Head Pins Insulated
- PAROC Head Pins
- PAROC Pro Cladding Support

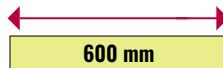
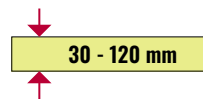
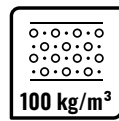
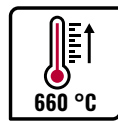
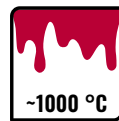


APPLICATION

- Pipelines, containers, boilers, apparatus, in industrial and power plants, district heating lines

TECHNICAL SPECIFICATIONS

- Short-term water absorption by partial immersion, W_p , $<1,0\text{kg/m}^2$ according to EN 1609
- The content of water-leachable chlorides does not exceed 10ppm according to EN 13468
- CE designation code: MW-EN 14303-T2-ST (+) 660-WS1-CL10



COMBINE WITH PAROC PRO CLADDING SUPPORT (WR) 100 AND (WR) 140 TO REDUCE HEAT LOSS BAND THERMAL BRIDGES. CAN SUBSTITUTE STANDARD METAL RINGS UNDER HEAVY METAL CLADDING.



*only available in certain markets

WIRED MATS

PAROC PRO WIRED MAT WR 700 TH1

PAROC PRO WIRED MAT 700 TH1

PAROC PRO WIRED MAT 700 ALUCOAT TH1

PAROC PRO WIRED MAT WR 700 ALUCOAT TH1

PAROC PRO WIRED MAT 700 AL1 TH1

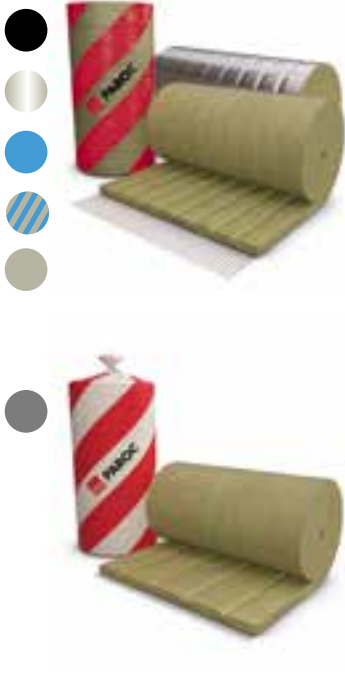
PAROC PRO WIRED MAT WR 700 AL1 TH1

Stonewool mat with wire thread quilting on galvanized wire mesh



Accessories (pages 84 - 87):

- PAROC Head Pins Insulated
- PAROC Head Pins
- PAROC Pro Cladding Support
- PAROC Galvanised Wire
- PAROC Pallet Hoods

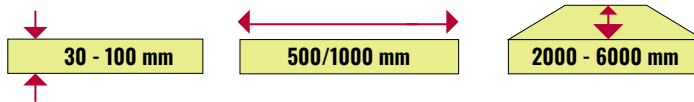
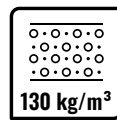
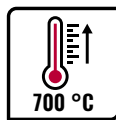
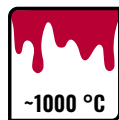


APPLICATION

- Pipelines, containers, boilers, apparatus, in industrial and power plants, district heating lines

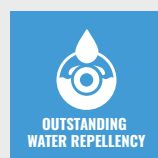
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 1609 and EN 12087
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 1609
- AS quality according to EN 13468 and AGI Q 132
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.01.04.60.13
- Quality monitored according to VDI 2055
- CE designation code: MW-EN 14303-T2-ST (+) 680-WS1-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



t	°C	50	100	200	300	400	500	600	700
$\lambda_{N,P}$	W/mK	0.041	0.046	0.059	0.077	0.100	0.128	0.161	0.196

COMBINE WITH PAROC PRO CLADDING SUPPORT (WR) 100 AND (WR) 140 TO REDUCE HEAT LOSS BAND THERMAL BRIDGES. CAN SUBSTITUTE STANDARD METAL RINGS UNDER HEAVY METAL CLADDING.



LOOKING FOR TEMPERATURE RESISTANCE?

W2 - stainless steel wire mesh and thread; **SW2** - galvanized wire mesh and stainless steel thread

PAROC Pro Wired Mat 550 W2 and PAROC Pro Wired Mat 550 SW2

PAROC Pro Wired Mat 660 W2 and PAROC Pro Wired Mat 660 SW2

PAROC Pro Wired Mat 680 W2 and PAROC Pro Wired Mat 680 SW2

PAROC Pro Wired Mat 700 W2 TH1 and PAROC Pro Wired Mat 700 SW2 TH1

SLABS

PAROC PRO ROOF SLAB WR 20 kPa

PAROC PRO ROOF SLAB 20 kPa

Non-combustible stonewool slab



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC Pallet Hoods
 PAROC Head Pins
 PAROC Welding Device



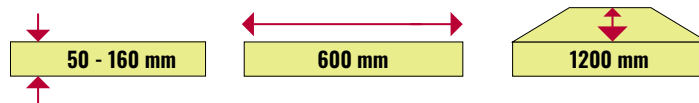
It is designed to withstand working loads during installation and maintenance (20 kPa)

APPLICATION

- Industrial tank roofs. It is designed to withstand working loads during installation and maintenance

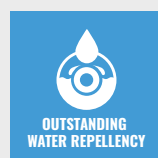
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 1609
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 1609
- Water soluble ions < 10 ppm according to EN 14303:2009+A1:2013 (EN 13468)
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.07.04.99.09
- Compressive strength > 20 kPa according to EN 14303:2009+A1:2013 (EN 826)
- CE designation code: MW-EN 14303-T5-CS(10)20-ST(+)-640-WS1-CL10



Nominal value of the thermal conductivity λ according to DIN EN 12667

t	°C	50	100	200	300	400	500
$\lambda_{N,P}$	W/mK	0.039	0.045	0.062	0.084	0.112	0.144



SLABS

PAROC PRO ROOF SLAB WR 50 kPa PAROC PRO ROOF SLAB 50 kPa

Non-combustible stonewool slab for industrial tank roofs.



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC Pallet Hoods
 PAROC Head Pins
 PAROC Welding Device



It is designed to withstand working loads during installation and maintenance (50 kPa)

APPLICATION

- For industrial tank roofs. It is designed to withstand working loads during installation and maintenance

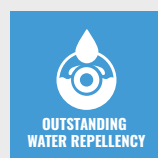
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 1609
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 1609
- Water soluble ions < 10 ppm according to EN 14303:2009+A1:2013 (EN 13468)
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.07.05.90.15
- Compressive strength > 50 kPa according to EN 14303:2009+A1:2013 (EN 826)
- CE designation code: MW-EN 14303-T5-CS(10)50-ST(+)-700-WS1-CL10



Nominal value of the thermal conductivity λ according to DIN EN 12667

t	°C	50	100	200	300	400	500	600
$\lambda_{N,P}$	W/mK	0.041	0.046	0.059	0.077	0.099	0.128	0.162



SLABS

PAROC PRO ROOF SLAB 80 kPa*

Non-combustible stonewool slab for industrial tank roofs.



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC Pallet Hoods
 PAROC Head Pins Insulated
 PAROC Head Pins



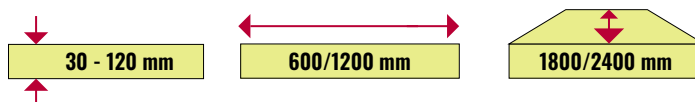
It is designed to withstand working loads during installation and maintenance (80 kPa)

APPLICATION

- For industrial tank roofs. It is designed to withstand working loads during installation and maintenance

TECHNICAL SPECIFICATIONS

- Water soluble ions < 10 ppm according to EN 14303:2009+A1:2013 (EN 13468)
- LABS conformity, tested according to VDMA 24364: 2018-05
- AGI designation code: 10.07.99.90.18
- Compressive strength > 80 kPa according to EN 14303:2009+A1:2013 (EN 826)
- CE designation code: MW-EN 14303-T5-CS(10)80-ST(+)660-WS1-CL10



Nominal value of the thermal conductivity λ according to DIN EN 12667

t	°C	50	100	200	300	400	500	600
$\lambda_{N,P}$	W/mK	0.044	0.048	0.060	0.076	0.095	0.116	0.141

*only available in certain markets

SLABS

PAROC PRO SLAB WR 350

PAROC PRO SLAB 350

PAROC PRO SLAB 350 ALUCOAT

PAROC PRO SLAB WR 350 ALUCOAT

Non-combustible stonewool insulation slab



Accessories (pages 84 - 87):

- PAROC Pro Knife XTK001/003
- PAROC Pallet Hoods
- PAROC Head Pins Insulated
- PAROC Head Pins
- PAROC Welding Device
- PAROC AluCoat Tape
- PAROC HT Tape

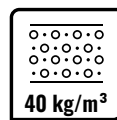
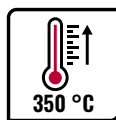
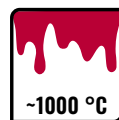


APPLICATION

- Insulation of boilers (walls and penthouses), vessels, tanks (walls), flue ducts, equipment and filters

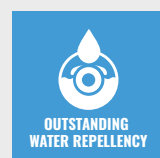
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 1609
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 1609
- Water soluble ions < 10 ppm according to EN 14303:2009+A1:2013 (EN 13468)
- LABS conformity according to VDMA 24364
- AGI designation code: 10.07.99.20.04
- Quality monitored according to VDI 2055
- CE designation code:
MW-EN 14303-T3-ST (+) 350-WS1-CL
MW-EN 14303-T3-ST(+)-350-WS1-MV2-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN 12667

t	°C	50	100	150	200	300	350
λ _{N,P}	W/mK	0.042	0.053	0.066	0.083	0.125	0.148



SLABS

PAROC PRO SLAB WR 450

PAROC PRO SLAB 450

PAROC PRO SLAB 450 ALUCOAT

PAROC PRO SLAB WR 450 ALUCOAT

Non-combustible stonewool insulation slab



Accessories (pages 84 - 87):

- PAROC Pro Knife XTK001/003
- PAROC Pallet Hoods
- PAROC Head Pins Insulated
- PAROC Head Pins
- PAROC Welding Device
- PAROC AluCoat Tape
- PAROC HT Tape

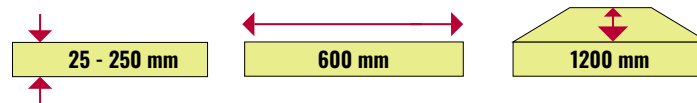
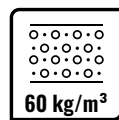
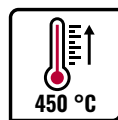
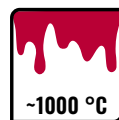


APPLICATION

- Insulation of boilers (walls and penthouses), vessels, tanks (walls), flue ducts, equipment and filters

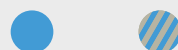
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 1609
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 1609
- Water soluble ions < 10 ppm according to EN 14303:2009+A1:2013 (EN 13468)
- LABS conformity according to VDMA 24364
- AGI designation code: 10.07.01.30.06
- Quality monitored according to VDI 2055
- CE designation code:
MW-EN 14303-T3-ST (+) 450-WS1-CL 10
MW-EN 14303-T5-ST(+)-450-WS1-MV2-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN 12667

t	°C	50	100	150	200	300	400	450
$\lambda_{N,P}$	W/mK	0.040	0.047	0.056	0.067	0.095	0.129	0.149



SLABS

PAROC PRO SLAB WR 640

PAROC PRO SLAB 640

PAROC PRO SLAB 640 ALUCOAT

PAROC PRO SLAB WR 640 ALUCOAT

Non-combustible stonewool insulation slab



Accessories (pages 84 - 87):

- PAROC Pro Knife XTK001/003
- PAROC Pallet Hoods
- PAROC Head Pins Insulated
- PAROC Head Pins
- PAROC Welding Device
- PAROC AluCoat Tape
- PAROC HT Tape

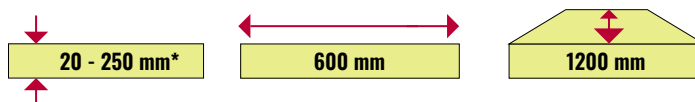
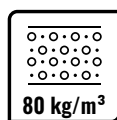
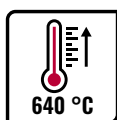
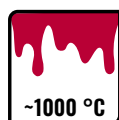


APPLICATION

- Insulation of boilers (walls and penthouses), vessels, tanks (walls), flue ducts, equipment and filters

TECHNICAL SPECIFICATIONS

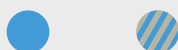
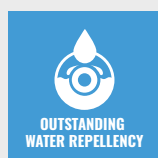
- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 1609
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 1609
- Water soluble ions < 10 ppm according to EN 14303:2009+A1:2013 (EN 13468)
- LABS conformity according to VDMA 24364
- AGI designation code: 10.07.02.30.08
- CE designation code:
MW-EN 14303-T3-ST (+) 640-WS1-CL 10
MW-EN 14303-T5-ST(+)+640-WS1-MV2-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN 12667

t	°C	50	100	150	200	300	400	500	600	640
$\lambda_{N,P}$	W/mK	0.039	0.045	0.053	0.062	0.084	0.112	0.144	0.185	0.203

*25 - 250 mm for AluCoat version



SLABS

PAROC PRO SLAB WR 660

PAROC PRO SLAB 660

PAROC PRO SLAB 660 ALUCOAT

PAROC PRO SLAB WR 660 ALUCOAT

Non-combustible stonewool insulation slab



Accessories (pages 84 - 87):

- PAROC Pro Knife XTK001/003
- PAROC Pallet Hoods
- PAROC Head Pins Insulated
- PAROC Head Pins
- PAROC Welding Device
- PAROC AluCoat Tape
- PAROC HT Tape

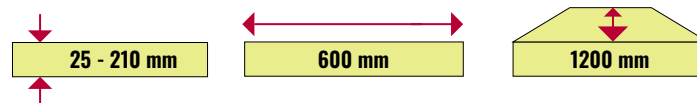
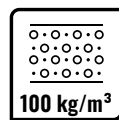
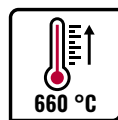
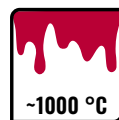


APPLICATION

- Insulation of boilers (walls and penthouses), vessels, tanks (walls), flue ducts, equipment and filters

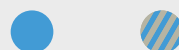
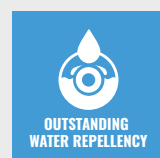
TECHNICAL SPECIFICATIONS

- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 1609
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 1609
- Water soluble ions < 10 ppm according to EN 14303:2009+A1:2013 (EN 13468)
- LABS conformity according to VDMA 24364
- AGI designation code: 10.07.02.40.10
- CE designation code:
MW-EN 14303-T2-ST (+) 660-WS1-CL 10
MW-EN 14303-T5-ST(+)+660-WS1-MV2-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN 12667

t	°C	50	100	150	200	300	400	500	600	660
λ _{N,P}	W/mK	0.039	0.045	0.052	0.060	0.081	0.107	0.140	0.175	0.200



SLABS

PAROC PRO SLAB WR 680

PAROC PRO SLAB 680

PAROC PRO SLAB 680 ALUCOAT

PAROC PRO SLAB WR 680 ALUCOAT

Non-combustible stonewool insulation slab



Accessories (pages 84 - 87):

- PAROC Pro Knife XTK001/003
- PAROC Pallet Hoods
- PAROC Head Pins Insulated
- PAROC Head Pins
- PAROC Welding Device
- PAROC AluCoat Tape
- PAROC HT Tape

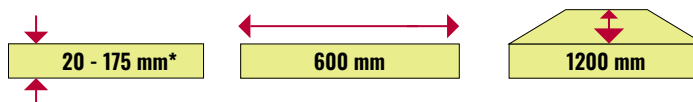
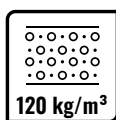
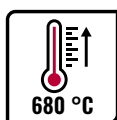
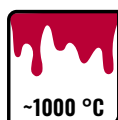


APPLICATION

- Insulation of boilers (walls and penthouses), vessels, tanks (walls), flue ducts, equipment and filters

TECHNICAL SPECIFICATIONS

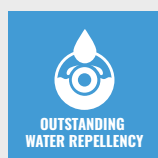
- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 1609
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 1609
- Water soluble ions < 10 ppm according to EN 14303:2009+A1:2013 (EN 13468)
- LABS conformity according to VDMA 24364
- AGI designation code: 10.07.03.70.12
- CE designation code:
MW-EN 14303-T2-ST (+) 680-WS1-CL 10
MW-EN 14303-T5-ST(+)+680-WS1-MV2-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN 12667

t	°C	50	100	150	200	300	400	500	600	680
$\lambda_{N,P}$	W/mK	0.041	0.046	0.052	0.059	0.077	0.099	0.128	0.162	0.192

*25 - 170 mm for AluCoat version



SLABS

PAROC PRO SLAB WR 700

PAROC PRO SLAB 700

PAROC PRO SLAB 700 ALUCOAT

PAROC PRO SLAB WR 700 ALUCOAT

Non-combustible stonewool insulation slab



Accessories (pages 84 - 87):

- PAROC Pro Knife XTK001/003
- PAROC Pallet Hoods
- PAROC Head Pins Insulated
- PAROC Head Pins
- PAROC Welding Device
- PAROC AluCoat Tape
- PAROC HT Tape

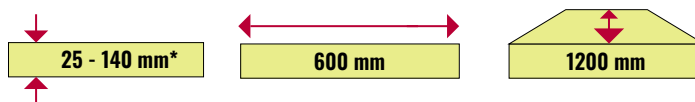
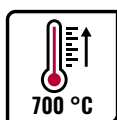
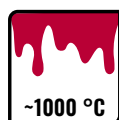


APPLICATION

- Insulation of boilers (walls and penthouses), vessels, tanks (walls), flue ducts, equipment and filters

TECHNICAL SPECIFICATIONS

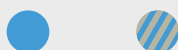
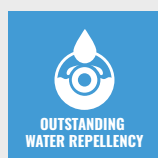
- Water absorption < 0,1 kg/m² at temperatures up to 300 °C for water-repellent version according to EN 1609
- Water Absorption, Short Term WS, (Wp) ≤ 1 kg/m² for non water-repellant version according to EN 1609
- Water soluble ions < 10 ppm according to EN 14303:2009+A1:2013 (EN 13468)
- LABS conformity according to VDMA 24364
- AGI designation code: 10.07.05.90.15
- CE designation code:
MW-EN 14303-T3-ST (+) 700-WS1-CL 10
MW-EN 14303-T5-ST(+)+700-WS1-MV2-CL10
- AluCoat version: Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN 12667

t	°C	50	100	150	200	300	400	500	600	700
$\lambda_{N,P}$	W/mK	0.041	0.046	0.052	0.059	0.077	0.099	0.128	0.162	0.200

*25 - 140 mm for AluCoat version



MATS

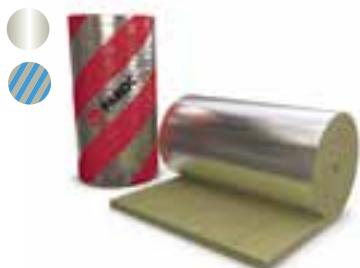
PAROC PRO MAT (WR) 350 PAROC PRO MAT (WR) 350 ALUCOAT

Non-combustible stone wool mat for industrial applications



Accessories (pages 84 - 87):

- PAROC AluCoat Tape
- PAROC Alu Tape
- PAROC Head Pins
- PAROC Head Pins Insulated
- PAROC Pro Knife XTK001/003
- PAROC Welding Device
- PAROC Galvanised Wire
- PAROC Pallet Hoods

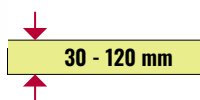
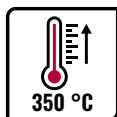
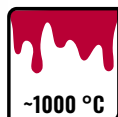


APPLICATION

- Thermal insulation of flat or irregularly shaped equipment where surface temperature is rather low

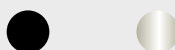
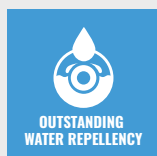
TECHNICAL SPECIFICATIONS

- Water absorption, short term $\leq 1 \text{ kg/m}^2$ according to EN 13472
- Surface temperature of the facing must not exceed $80 \text{ }^\circ\text{C}$
- AGI designation code: 10.06.99.99.50
- CE designation code:
MW-EN 14303-T2-ST(+)-350-WS1-CL10
MW-EN 14303-T2-ST(+)-350-WS1-MV2- CL10
- AluCoat version: Surface temperature of the facing must not exceed $80 \text{ }^\circ\text{C}$ (temperature restriction determined in accordance with heat resistance adhesive)



t	°C	50	100	150	200	250	300	350
$\lambda_{N,P}$	W/mK	0.042	0.053	0.066	0.083	0.102	0.125	0.148

COMBINE WITH PAROC PRO CLADDING SUPPORT (WR) 100 AND (WR) 140 TO REDUCE HEAT LOSS AND THERMAL BRIDGES. CAN SUBSTITUTE STANDARD METAL RINGS UNDER HEAVY METAL CLADDING.



MATS

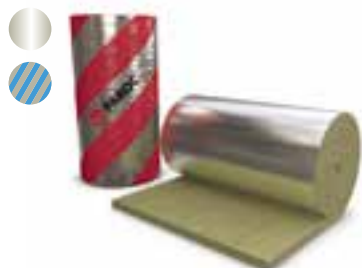
PAROC PRO MAT (WR) 640 PAROC PRO MAT (WR) 640 ALUCOAT

Non-combustible stone wool mat for industrial applications



Accessories (pages 84 - 87):

- PAROC AluCoat Tape
- PAROC Alu Tape
- PAROC Head Pins
- PAROC Head Pins Insulated
- PAROC Pro Knife XTK001/003
- PAROC Welding Device
- PAROC Galvanised Wire
- PAROC Pallet Hoods

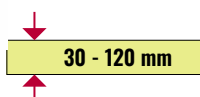
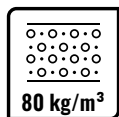
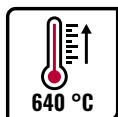
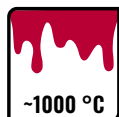


APPLICATION

- Thermal insulation of flat or irregularly shaped equipment where surface temperature is rather low
- For thermal insulation purposes when insulating flat or irregularly shaped equipment

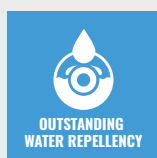
TECHNICAL SPECIFICATIONS

- Water absorption, short term $\leq 1 \text{ kg/m}^2$ according to EN 13472
- Surface temperature of the facing must not exceed $80 \text{ }^\circ\text{C}$
- AGI designation code: 10.06.99.99.80
- CE designation code:
MW-EN 14303-T2-ST(+)-640-WS1-CL10
MW-EN 14303-T2-ST(+)-640-WS1-MV2- CL10
- AluCoat version: Surface temperature of the facing must not exceed $80 \text{ }^\circ\text{C}$ (temperature restriction determined in accordance with heat resistance adhesive)



t	°C	50	100	150	200	300	400	500	600	640
$\lambda_{N,P}$	W/mK	0.040	0.046	0.053	0.062	0.084	0.111	0.146	0.190	0.205


COMBINE WITH PAROC PRO CLADDING SUPPORT (WR) 100 AND (WR) 140 TO REDUCE HEAT LOSS AND THERMAL BRIDGES. CAN SUBSTITUTE STANDARD METAL RINGS UNDER HEAVY METAL CLADDING.



MATS

PAROC PRO MAT (WR) 660
PAROC PRO MAT (WR) 660 ALUCOAT

Non-combustible stone wool mat for industrial applications



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC Welding Device
 PAROC Pallet Hood
 PAROC Head Pins
 PAROC Galvanised Wire

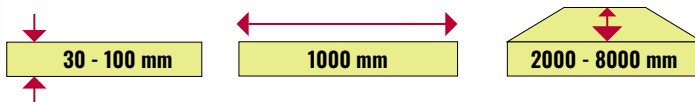


APPLICATION

- Thermal insulation of flat or irregularly shaped equipment where surface temperature is rather low

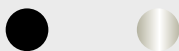
TECHNICAL SPECIFICATIONS

- Water absorption, short term $\leq 1 \text{ kg/m}^2$ according to EN 13472
- Surface temperature of the facing must not exceed $80 \text{ }^\circ\text{C}$
- AGI designation code: 10.06.99.99.10
- CE designation code:
 MW-EN 14303-T2-ST(+)-660-WS1-CL10
 MW-EN 14303-T2-ST(+)-660-WS1-MV2- CL10
- AluCoat version: Surface temperature of the facing must not exceed $80 \text{ }^\circ\text{C}$ (temperature restriction determined in accordance with heat resistance adhesive)



t	°C	50	100	150	200	300	400	500	600	680
$\lambda_{N,P}$	W/mK	0.039	0.045	0.051	0.059	0.078	0.102	0.131	0.167	0.196

COMBINE WITH PAROC PRO CLADDING SUPPORT (WR) 100 AND (WR) 140 TO REDUCE HEAT LOSS AND THERMAL BRIDGES. CAN SUBSTITUTE STANDARD METAL RINGS UNDER HEAVY METAL CLADDING.

MATS

PAROC PRO LOOSE MAT (WR) 600

Stonewool mat with low binder content



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC Welding Device
 PAROC Pallet Hood
 PAROC Head Pins
 PAROC Galvanised Wire



APPLICATION

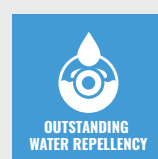
- Irregular shapes and filling when stone wool need to be used as a loose wool insulation

TECHNICAL SPECIFICATIONS

- Water absorption, short term $\leq 1 \text{ kg/m}^2$ according to EN 13472
- CE designation code: MW-EN 14303-T2-ST(+/250)600-WS1-CL10
- AGI designation code: 10.06.99.99.07



t	°C	50	100	150	200	300	400	450
$\lambda_{N,P}$	W/mK	0.040	0.047	0.056	0.067	0.095	0.129	0.149



MATS

PAROC PRO LOOSE MAT (WR) 660

Stonewool mat with low binder content



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC Welding Device
 PAROC Pallet Hood
 PAROC Head Pins
 PAROC Galvanised Wire

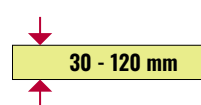
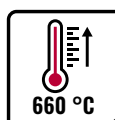
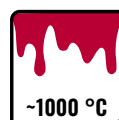


APPLICATION

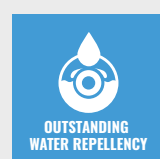
- Irregular shapes and filling when stone wool need to be used as a loose wool insulation

TECHNICAL SPECIFICATIONS

- Water absorption, short term $\leq 1 \text{ kg/m}^2$ according to EN 13472
- CE designation code: MW-EN 14303-T2-ST(+)-600-WS1-CL10
- AGI designation code: 10.06.99.99.10



t	°C	50	100	150	200	250	300	400	450
$\lambda_{N,P}$	W/mK	0.040	0.047	0.056	0.067	0.080	0.095	0.129	0.149



MATS

PAROC PRO LOOSE WOOL

Stone wool mat with low binder content



Accessories (pages 84 - 87):
 PAROC Pro Knife XTK001/003
 PAROC Welding Device
 PAROC Pallet Hood
 PAROC Head Pins
 PAROC Galvanised Wire

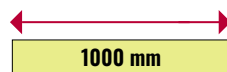
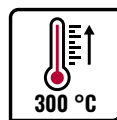
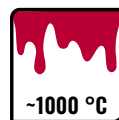


APPLICATION

- Stone wool mat with low binder content for insulation of irregularly formed structures and devices

TECHNICAL SPECIFICATIONS

- Water absorption, short term $\leq 1 \text{ kg/m}^2$ according to EN 13472
- CE designation code: MW-EN 14303-T2-ST(+/250)300-WS1-CL10



t	°C	50	100	150	200	300
$\lambda_{N,P}$	W/mK	0.042	0.053	0.066	0.083	0.125

PAROC CLAD SYSTEM: INSULATION SOLUTION FOR PIPEWORK AND DUCTWORK APPLICATIONS

IMPERMEABLE TO WATER, SALT WATER RESISTANT*, RESISTANT AGAINST HAIL IMPACT**

In today's world, insulation systems that are economically, efficient through time saving installation across a wide range of applications, are in demand.

The Clad-System by PAROC effectively insulates pipework and ventilation systems quickly with a durable multiple layer composite facing. It helps protect PAROC stone wool against moisture and substances.

As a result of the high temperature resistance of our Pro stone wool products which is the base insulation material for the Clad-System, it can be used on temperatures up to 680 °C (PAROC Pro Clad sections). Therefore, it helps protect against temperature losses on high temperature systems and steam lines for example.

COMPREHENSIVE TEST REPORTS AVAILABLE

In order to increase the range of applications the Clad-Film underwent specific tests. For example, testing included for safety of use in food industry applications (food contact applications according to EC 1935/2004, EU 10/2011, EC 2023/2006 as well as the German Food and essential Commodities and Animal Feed Code, or LFGB for short).

In addition, the Clad-Surface is smooth, easy to clean and due to its resistance to chemical substances - provides bacteria no ground on which to grow on, so it can be used in laboratories and clean rooms.

* see [PAROC Clad independent test report](#); not to be installed in permanent splash-zone

** IBS test certificate available

The Clad-System by PAROC can also be used in coastal applications, since its resistance to salt air and salt water* has been proven along with successful puncture resistance testing in accordance with DIN EN14477.

Another major advantage of the Clad-Surface can be found when personal protection is of importance. Due to a high emission ratio (ϵ 0.65) of the Clad-Film, insulation thicknesses can be reduced when compared to insulation in conjunction with metal cladding (low emissivity), resulting in a cost saving.

UNLOCKING FURTHER APPLICATION POSSIBILITIES

PAROC Clad-System offers a light weight and solution. Perfectly suited for multiple applications. The system can be used to insulate pipework, equipment and ventilation systems, mechanical protection even in areas where space is limited or tight, which make inflexible metal covering systems difficult to use.

Installation of the Clad-System is made easy by comprehensive instructions, specific accessories such as matching tapes, Clad Dots (circular prefabricated tape for covering fastenings and cut-outs), along with documentation and test reports.



PAROC CLAD SYSTEM: WATER RESISTANT INSULATION SYSTEM:

- works also in saltwater environment
- with weather protection assistance cover film
- applicable for food industry
- replaces steel sheets
- resistant against hail impact

MINIMUM
INSTALLATION
TEMPERATURE:

10 °C



CLAD-SYSTEM

PAROC PRO SECTION (WR) 140 CLAD T

Stonewool pipe section with a fibre reinforced aluminium coating



Accessories (pages 82, 84 - 87):

- PAROC Clad Tape
- PAROC Pro Knife XTK001/003
- PAROC Pallet Hoods
- PAROC Galvanized Wire
- PAROC Spatula
- PAROC CUI Spacers

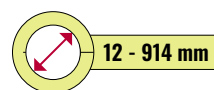
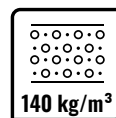
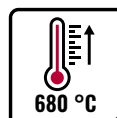
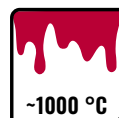


APPLICATION

- Thermal insulation of outdoor pipelines
- Due to a [weather-resistant](#) aluminium coating, outdoor installation without additional cladding systems; additionally the mineral wool is protected from mechanical loads, moisture as well as chemical [substances \(as named in declaration\)](#)

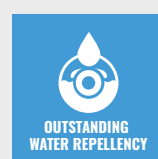
TECHNICAL SPECIFICATIONS

- Water-repellent according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- The surface temperature of the lamination must be limited to 80 °C
- AGI designation code: 10.04.04.80.14
- CE designation Code: MW-EN 14303-T8/T9-ST(+)-680-WS1-MV2-CL10
- PAROC Pro WR products are tested according to LABS conformity standard VDMA 24364
- Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)
- Resistant against hail impact



Nominal value of the thermal conductivity λ according to DIN EN 12667

t	°C	50	100	150	200	300	400
$\lambda_{N,P}$	W/mK	0.041	0.047	0.054	0.063	0.085	0.110



CLAD-SYSTEM

PAROC PRO COMBI (WR) 140 CLAD T

Prefabricated insulation component made of stonewool with a fibre reinforced aluminium coating



Accessories (pages 82, 84 - 87):
PAROC Pro Knife XTK001/003
PAROC CUI Spacers

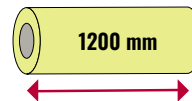
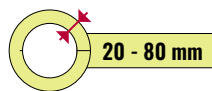
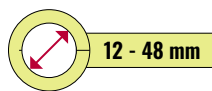
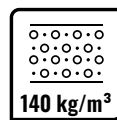
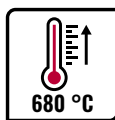
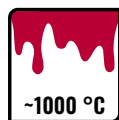


APPLICATION

- Thermal insulation of outdoor pipelines
- Due to a [weather-resistant](#) aluminum coating, outdoor installation without additional cladding systems; additionally the mineral wool is protected from mechanical loads, moisture as well as chemical [substances \(as named in declaration\)](#)

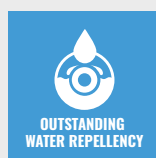
TECHNICAL SPECIFICATIONS

- Water-repellent according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- The surface temperature of the lamination must be limited to 80 °C
- AGI designation code: 10.04.04.80.14
- CE designation Code: MW-EN 14303-T8/T9-ST(+)-680-WS1-MV2-CL10
- PAROC Pro WR products are tested according to LABS conformity standard VDMA 24364
- Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)
- Resistant against hail impact



Nominal value of the thermal conductivity λ according to DIN EN 12667


t	°C	50	100	150	200	300	400
$\lambda_{N,P}$	W/mK	0.041	0.047	0.054	0.063	0.085	0.110



CLAD-SYSTEM

PAROC PRO BEND (WR) 140 CLAD

Prefabricated insulation component made of stonewool with a fibre reinforced aluminium coating



Accessories (pages 82, 84 - 87):
PAROC Pro Knife XTK001/003
PAROC CUI Spacers

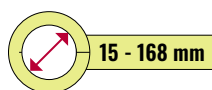
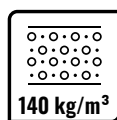
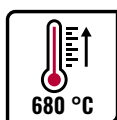
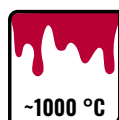


APPLICATION

- Thermal insulation of outdoor pipelines
- Due to a [weather-resistant](#) aluminum coating, outdoor installation without additional cladding systems; additionally the mineral wool is protected from mechanical loads, moisture as well as chemical [substances \(as named in declaration\)](#)

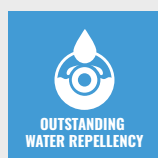
TECHNICAL SPECIFICATIONS

- Water-repellent according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- The surface temperature of the lamination must be limited to 80 °C
- AGI designation code: 10.04.04.80.14
- CE designation Code: MW-EN 14303-T8/T9-ST(+)-680-WS1-MV2-CL10
- PAROC Pro WR products are tested according to LABS conformity standard VDMA 24364
- Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN 12667

t	°C	50	100	150	200	300	400
$\lambda_{N,P}$	W/mK	0.041	0.047	0.054	0.063	0.085	0.110



CLAD-SYSTEM

PAROC PRO SEGMENT (WR) 140 CLAD

Ready cut segment for medium and big size pipe elbows made of non-combustible stone wool pipe section with a fibre reinforced aluminium coating



Accessories (pages 82, 84 - 87):
PAROC Pro Knife XTK001/003
PAROC CUI Spacers

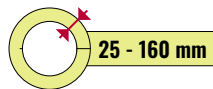
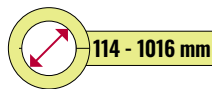
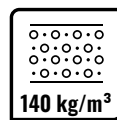
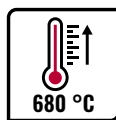
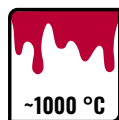


APPLICATION

- Thermal insulation of outdoor pipelines
- Due to a [weather-resistant](#) aluminum coating, outdoor installation without additional cladding systems; additionally the mineral wool is protected from mechanical loads, moisture as well as chemical [substances \(as named in declaration\)](#)

TECHNICAL SPECIFICATIONS

- Water-repellent according to EN 13472
- AS quality according to EN 13468 and AGI Q 132
- The surface temperature of the lamination must be limited to 80 °C
- AGI designation code: 10.04.04.80.14
- CE designation Code: MW-EN 14303-T8/T9-ST(+)-680-WS1-MV2-CL10
- PAROC Pro WR products are tested according to LABS conformity standard VDMA 24364
- Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)



Nominal value of the thermal conductivity λ according to DIN EN 12667

t	°C	50	100	150	200	300	400
$\lambda_{N,P}$	W/mK	0.041	0.047	0.054	0.063	0.085	0.110



CLAD-SYSTEM

PAROC PRO LAMELLA MAT (WR) CLAD

Stonewool lamella mat with a fibre reinforced aluminium coating



Accessories (pages 82, 84 - 87):

- PAROC Clad Tape
- PAROC Clad Dots
- PAROC Head Pins Insulated
- PAROC Pro Knife XTK001/003
- PAROC Welding Device
- PAROC Pallet Hoods
- PAROC Pro Roof Wedge (WR)
- PAROC Galvanized Wire
- PAROC Spatula

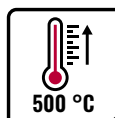
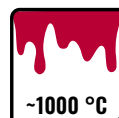


APPLICATION

- Outdoor insulation of ventilation ducts, pipelines and containers;
- The insulation system does not require any further cladding systems; additionally
- The mineral wool is protected from mechanical loads, moisture and chemical [substances \(as named in declaration\)](#)

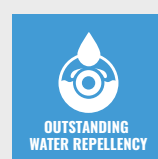
TECHNICAL SPECIFICATIONS

- Water-repellent according to EN 1609
- AS quality according to EN 13468 and AGI Q 132
- AGI designation code: 10.03.02.99.05
- Compressive strength > 10 kPa according to EN 826
- The surface temperature of the lamination must be limited to 80 °C
- CE designation Code: MW-EN 14303-T4-CS(10)10-ST(+500-WS1-MV2-CL10
- PAROC Pro WR products are tested according to LABS conformity standard VDMA 24364
- Surface temperature of the facing must not exceed 80 °C (temperature restriction determined in accordance with heat resistance adhesive)
- Resistant against hail impac



Nominal value of the thermal conductivity λ according to DIN EN 12667

t	°C	10	50	100	200	300	400	500
$\lambda_{N,P}$	W/mK	0.039	0.045	0.055	0.081	0.120	0.169	0.230



CLAD-SYSTEM ACCESSORIES

PAROC CLAD DOTS

PAROC Clad Dots are the optimal solution when it comes to cover pins' heads



Application

- Maximum surface temperature where PAROC Clad Dots will be applied must not exceed 80 °C

Ø mm	Piece / roll	Rolls per box
90	100	6

PAROC CLAD TAPE

Water resistant butyl rubber tape with very high adhesion and ageing resistance



Application

- Recommended for closing joint on installations with Clad faced products.
The butyl sealing tape can be used as moisture and diffusion barriers
- PAROC Clad Tape gives a great finish
- Maximum surface temperature where PAROC Clad Tape will be applied must not exceed 80 °C

Length mm	Width mm	Rolls per box
10000	30	20
10000	50	12
10000	75	8
10000	100	6

PAROC CLAD ALU TAPE

Weather resistance acrylic tape based on a special thermoplastic laminate compound with pure aluminum and PVC



Application

- The tape provides excellent ageing resistance and is ideal e. g. for sealing the joints of PAROC Clad faced elbows. Recommended for outdoor applications.
- Clad Alu Tape gives a great finish
- Maximum surface temperature where PAROC Clad Tape will be applied must not exceed 80 °C

Length m	Width mm	Rolls per box
50	50	12

PAROC PRO ROOF WEDGE (WR)

Stonewool wedge plate with a gradient of at least 3%. The length measure corresponds to the longitudinal direction of the duct.



Thickness mm	Length mm	Width mm
25/60	600	1200
42/60	600	1200



Additional accessories:
PAROC Spatula
PAROC Head Pins Insulated

OUTER DIAMETER FOR PIPE INSULATION: PIPE SECTIONS AND SEGMENTS

Inner diameter mm	Nominal insulation thickness, mm															
	20	25	30	40	50	60	70	80	90	100	110	120	130	140	150	160
	Outer diameter, mm															
12/15	52	62	72	92	115											
18	62	72	82	102	115	141										
22	62	72	82	102	128	141	167	180								
28	72	82	92	102	128	154	167	193								
35	72	82	92	115	141	154	180	193	219	232						
42	82	92	102	128	141	167	180	206	219	245						
48	92	102	115	128	154	167	193	206	232	245						
54	92	102	115	128	154	180	193	219	232	258						
57	102	102	115	141	154	180	193	219	232	258						
60	102	115	115	141	154	180	206	219	245	258						
64	102	115	128	141	167	180	206	219	245	258	284	310				
70	115	115	128	154	167	193	206	232	245	271	284	310				
76	115	128	141	154	180	193	219	232	258	271	297	310				
84			141	167	180	206	219	245	258	284	310	323				
89	128	141	154	167	193	206	232	245	271	284	310	323				
102	141	154	167	180	206	219	245	258	284	297	323	336				
108		154	167	193	206	232	245	271	284	310	323	349				
114		167	180	193	219	232	258	271	297	310	336	349				
121		167	180	206	219	245	258	284	297	323	336	362				
127		180	193	206	232	245	271	284	310	323	349	362				
133		180	193	219	232	258	271	297	310	336	349	375				
140		193	206	219	245	258	284	297	323	336	362	375				
156		206	219	232	258	271	297	310	336	362	375	401				
159		206	219	245	258	284	297	323	336	362	375	401				
168		219	232	245	271	284	310	323	349	362	388	414				
178		232	232	258	284	297	323	336	362	375	401	414				
194		245	258	271	297	310	336	349	375	388	414					
208			271	284	310	323	349	362	388	414	427					
219			284	297	323	336	362	375	401	414	440	453	479	505	518	544
230			284	310	336	349	375	388	414	427	453	466	492	505	531	544
240			297	323	336	362	375	401	414	440	466	479	505	518	544	557
245			310	323	349	362	388	401	427	440	466	479	505	531	544	570
259			323	336	362	375	401	414	440	453	479	505	518	544	557	583
273			336	349	375	388	414	427	453	479	492	518	531	557	570	596
289			349	375	388	414	427	453	466	492	505	531	544	570	583	609
295			349	375	401	414	440	453	479	492	518	531	557	570	596	609
305			362	388	401	427	440	466	479	505	531	544	570	583	609	622
324			388	401	427	440	466	479	505	518	544	570	583	609	622	648
356			414	440	453	479	492	518	531	557	570	596	622	635	661	674
371			427	453	466	492	505	531	557	570	596	609	635	648	674	687
377			440	453	479	492	518	531	557	583	596	622	635	661	674	700
406			466	492	505	531	544	570	583	609	622	648	661	687	700	726
426			492	505	531	544	570	583	609	622	648	661	687	700	726	752
457			518	531	557	583	596	622	635	661	674	700	713	739	752	778
479			544	557	583	596	622	635	661	674	700	713	739	765	778	804
490			544	570	596	609	635	648	674	687	713	726	752	765	791	804
508			570	583	609	622	648	674	687	713	726	752	765	791	804	830
533				609	635	648	674	687	713	739	752	778	791	817	830	856
558				635*	661	674	700	713	739	752	778	804	817	843	856	882
612				687*	713	726	752	778	791	817	830	856	869	895	908	934
630				713*	726	752	765	791	804	830	856	869	895	908	934	947
665				739*	765	791	804	830	843	869	882	908	921	947	960	986
714					817	830	856	869	895	908	934	960	973	999	1012	1038*
720					817	843	856	882	895	921	934	960	986	999	1025	1038*
762					856	882	908	921	947	960	986	999	1025	1038	1064*	1077*
813					908	934	947	973	999	1012	1038	1051	1077	1090	1116*	1129*
822					921	947	960	986	999	1025	1038	1064	1077	1103	1116	1142
914					1012	1038	1051	1077	1090	1116	1129	1155	1168	1194	1220	
1016							1155	1181	1194	1220						

Blank box - not made
414 Underlined - delivered hinged or halves (F1) according to request (F1 disallows AluCoat T)
427 Red - delivered only in halves (F1)
 Not made with facings

 Not made in 140 kg density
635* Red with asterisk - not made in WR 140 kg density
 Boundary of selection available with facing AluCoat T
 Boundary of selection available as Pro Lock

ACCESSORIES

PAROC PALLET HOODS



Application

- Protective hood is great for covering pallets against dirt, moisture and dust

Length [mm]	Width [mm]	Max. pallet size [in mm]	PU
1600	1200	1200 x 1200	10
2900	3300	2300 x 1150 and 2400 x 1000	1

PAROC PRO KNIFE – XTK 001



- Particularly suitable for cutting PAROC products (Clad systems)
- Number scale on the blade (determination of insulation thickness)

Blade	Grind blade	Item
approx.300 mm	Serrated edge (serrated)	XTK 001

PAROC PRO KNIFE – XTK 003



- Suitable for cutting PAROC products
- Number scale on the blade (determination of insulation thickness)

Blade	Grind blade	Item
approx.300 mm	Smooth finish	XTK 003

PAROC GALVANIZED WIRE

Galvanized wire for spiral winding of pipe sections etc.



Thickness [mm]	About number [of coils]	Package [kg]
0.70	250	25

PAROC SPATULA

Plastic spatula for supporting pressure and for optical smoothing of the tape



Length [mm]	Width [mm]	PU Pieces / box
100	70	20

PAROC CUI SPACERS



- Silicone distance block qualified for high-temperature environment, placed on a PTFE belt (PAROC CUI Belt). Together, these constitute an elegant solution for minimizing corrosion under insulation (CUI).

ACCESSORIES

PAROC HEAD PINS INSULATED



Application

- Fastening of PAROC products

Technical specifications

- Pin made of St37 copper-plated
- Plate made of St37 galvanized
- Resistant against hail impact

Length mm	Plate diameter [mm]	Number of pieces/box
19.0	30	1000
22.2	30	1000
28.5	30	1000
30.5	30	1000
38.0	30	1000
41.0	30	1000
47.6	30	1000
50.0	30	1000
54.0	30	1000
58.0	30	1000
60.5	30	1000
62.0	30	1000
68.0	30	500
72.0	30	500
78.0	30	500
89.0	30	500
98.5	30	500
101.6	30	500

PAROC HEAD PINS



Application

- Fastening of PAROC products

Technical specifications

- Pin made of St37 copper-plated
- Plate made of St37 galvanized

Length mm	Plate diameter [mm]	Number of pieces/box
19.0	30	1000
22.2	30	1000
28.5	30	1000
30.5	30	1000
38.0	30	1000
41.0	30	1000
47.6	30	1000
50.0	30	1000
54.0	30	1000
58.0	30	1000
60.5	30	1000
62.0	30	1000
68.0	30	500
72.0	30	500
78.0	30	500
89.0	30	500
98.5	30	500
101.6	30	500

ACCESSORIES

PAROC WELDING DEVICE



Application

- The PAROC capacitor discharge welding device PPWD has been designed for welding directly through the insulation. With this, you will be able to fasten the insulation to a surface in a one process step.

Capacity	Energy supply	Welding time	Weight	Size	Warranty
132.000 µF	230 V, 10A fuse protection	from 1 to 3 ms	11 kg	430 mm x 165 mm x 180 mm	12 months

PAROC HVAC ALUCOAT TAPE

Fiberglass reinforced aluminum tape with acrylic pressure sensitive low temperature flame-retardant acrylic adhesive and siliconized release paper liner. PAROC logo printed on the surface



Application

- Great for sealing joints when using PAROC AluCoat products such as sections, lamella mats or slabs
- Gives a great finish

Technical specifications

- Surface temperature of the insulation (processing temperature) +5 °C to +40 °C
- Temperature resistance -35 °C to +120 °C
- The surface of the insulation must be dry, free of dust and grease - dry storage at an ambient temperature of +18 °C to +25 °C and protected from direct sunlight

Length mm	Width mm	Rolls per box	Cartons/pallet
25000	50	54	24
25000	75	36	24

PAROC HT TAPE

Special-purpose high temperature protection tape featuring outstanding adhesive strength. Maximal working temperature is 350 °C (peak), 250 °C (continuously)



Application

- Great for PAROC Fire Place Slabs and other high temperature applications
- Highly temperature resistant

Length mm	Width mm	Rolls per box	Cartons/pallet
50000	50	24	24
50000	80	18	24
50000	110	12	24

PAROC HVAC DOTS

A great solution for covering the head pins used on lamella mat on a duct in a fast, clean, even, moisture resistant and convenient way



Application

- Large portfolio of accessories: Complete system including PAROC Head Pin, PAROC Spatula, PAROC Hvac Lamella Mat AluCoat, PAROC Hvac Tape and PAROC Hvac Dots
- For low waste on the construction site
- Only spatula needed for fixation

Ø mm	Piece / roll	Rolls per box
60	750	8

PAROC PRO CLADDING SUPPORT 100 AND 140

Mineral wool supporting ring



Application

- Easy to use and an obvious solution which can substitute standard metal supporting rings for heavy metal claddings without creating thermal bridges
- Beneficial when using material with poor compression strength for pipe insulation

Thickness mm	Diameter mm	Maximum service temperature
50 - 120	114 - 1016	640 °C - PAROC Pro Cladding Support 100 680 °C - PAROC Pro Cladding Support 140

Other dimensions on request




PAROC TRAINS TIPCHECK EXPERTS TO SUPPORT THE INDUSTRY IN SAVING MONEY, ENERGY AND CO₂

Did you know that the energy savings potential of technical insulation in the industry is 620 PJ?

As a consequence, 15 coal-fired power plants of 500 MW could be switched off. Industrial insulation is a Best Available Technique which could help Europe's industry to reduce its energy consumption by 4%. (Source: EiiF)

From their experience, the European industrial insulation Foundation (EiiF) is convinced that there is a significant energy saving and CO₂ mitigation potential related to improved thermal insulation in industry and that this potential is currently untapped despite being cost-effective to implement. Against this background, EiiF commissioned Ecofys to identify the Energy and CO₂ savings potential of industrial insulation in EU27.

The study shows a savings potential of industrial insulation of 620 PJ for Energy and 49Mt for CO₂. This energy savings potential is equivalent to:

-  **15 coal-fired power plants of 500 MW or**
-  **The energy consumption of 10 million households or**
-  **The energy consumption of the Dutch industry.**

Source:

https://www.eiif.org/sites/default/files/2018-12/EiiF_ClimateProtectionWithRapidPayback_EN_online.pdf

The annual CO₂ reductions potential is equivalent to 18 million middle class cars each running 12.500 kilometers per year.

The potential can be tapped cost-effectively. Insulating bare surfaces to cost-effective levels and repairing damaged insulation in industries EU-wide requires initial investments of about 900 million Euro. This one time investment would represent an energy savings potential of about 460 PJ, which at current prices would save industries 3.5 billion Euros every year.

In order to provide the industry with a standardized, high quality thermal energy audit tool focusing on the thermal performance of technical insulation systems the EiiF founded the TIPCHECK Programme. TIPCHECKs quantify the amount of energy and money an industrial facility is losing with its current insulation system (including uninsulated parts).

The TIPCHECK programme is also a qualification programme for insulation experts to become EiiF certified thermal energy auditors, also known as TIPCHECK experts. Auditors that can support you in evaluating insulation systems of existing facilities, planned projects or retrofits and demonstrate how more efficient insulation could save energy, save money and contribute to a cleaner environment through reduced CO₂ emissions.

Paroc has now trained a number of Tipcheck Experts in order to increase its service level and support the market even better with energy saving advice.



More information about the Tipcheck

Ecofys is a leading consultancy agency in renewable energy, energy & carbon efficiency, energy systems & markets and energy & climate policy. They support public and corporate organisations alike to adapt to changes and identify new opportunities quickly.

The European Industrial Insulation Foundation (EiiF) is a European nonprofit foundation registered in Switzerland. It has been set up to promote and establish the use of industrial insulation as a widely understood and accepted means of achieving sustainability. Since its foundation EiiF has established itself as a resource for industries that need to reduce CO₂ emissions and save energy.



PAROC PRO PRODUCTS STANDARD COMPLIANCE

APRIL 2023



PAROC Products
for industrial applications

NAME OF STANDARD			
	PAROC Pro Pipe Sections (WR) (AluCoat)	PAROC Pro Slabs (WR) (AluCoat)	PAROC Pro Mats (WR) (AluCoat) (AL1)
CINI	✓	✓	✓
FESI	✓	✓	✓
PSK	✓	✓	✓
VDI	✓	✓	✓
DIN	✓	✓	✓
AGI	✓	✓	✓
BS	✓	✓	✓
PN	✓	✓	✓
SSG	✓	✓	✓
Norsok	✓	✓	✓
NF	✓	✓	✓
ISO	✓	✓	✓
EN	✓	✓	✓
CE	✓	✓	✓
ASTM	✓	✓	✓
Keymark	✓	✓	✓
EUCEB	✓	✓	✓
VDMA	✓	✓	✓
Other	✓	✓	✓

Paroc follows above standards and can provide advice and support on request

PAROC SALES OFFICES AND CONTACTS

Headquarter / Finland

Paroc Group Oy / Paroc Oy Ab
P.O. Box 240
FI-00181 Helsinki, Finland
Energiakuja 3
Phone: +358 46 876 8000
Email: [Contact us in Finland](#)



Belgium / The Netherlands / France

Email: [Contact us in Belgium French](#)
Email: [Contact us in Belgium Dutch](#)
Email: [Contact us in Netherlands](#)
Email: [Contact us in France](#)



Denmark

Paroc Denmark, branch of Paroc AB
Kongevejen 47
DK-3480 Fredensborg, Denmark
Tel. +45 49 12 10 00
Email: [Contact us in Denmark](#)



Estonia

AS Paroc
Pärnu mnt 158
EE-11317 Tallinn, Estonia
Tel. +372 651 8100
Email: [Contact us in Estonia](#)



Germany / Switzerland / Austria

Paroc GmbH
Heidenkampsweg 51
D-20097 Hamburg, Germany
Tel. +49 40 33 49 60000
Email: [Contact us in DACH area](#)



Latvia

SIA Paroc
Vienības gatve 109
Rīga, LV-1058, Latvia
Tel. +371 7 339053
Email: [Contact us in Latvia](#)



INTERNATIONAL CONTACTS

Business Director Industry

Peter van Zandbergen

peter.van.zandbergen@owenscorning.com

Segment Manager Industry

Rune Hagensen

rune.hagensen@owenscorning.com

Technical Support

Craig Treanor

craig.treanor@owenscorning.com

Lithuania

UAB Paroc
Savanoriu 124
03153 Vilnius, Lithuania
Tel. +370 5 2740 000
Email: [Contact us in Lithuania](#)

**Norway**

Paroc AB Norge
Rosenholmveien 25
NO-1414 Trollåsen, Norway
Tel. +47 22 64 59 00 / 01
Email: [Contact us in Norway](#)

**Poland**

Paroc Polska sp. z o.o.
ul. Gnieźnieńska 4
62-240 Trzemeszno, Poland
Tel. +48 61 468 21 90
Email: [Contact us in Poland](#)

**Sweden**

Paroc AB
SE-541 86 Skövde, Sweden
Visiting address: Bruksgatan 2
Tel. +46 500 469 000
Email: [Contact us in Sweden](#)

**The United Kingdom / Ireland**

Paroc Ltd
Technical Insulation Division
70 Tradewind Square
Liberty Place East Village
Liverpool L1 5BG
The United Kingdom
Email: [Contact us in UK & Ireland](#)



Marketing Manager Industry

Claudia Beling

claudia.beling@owenscorning.com

PAROC® stands for energy-efficient and fire resistant insulation solutions of stonewool for new and renovated buildings, marine and offshore, acoustics and other industrial applications. Behind those products, there is an 80-year history of stonewool production knowhow backed with technical insulation expertise and innovation.

Building Insulation offering covers a wide range of products and solutions for all traditional building insulation. The building insulation products are mainly used for the thermal, fire and sound insulation of exterior walls, roofs, floors and basements, intermediate floors and partitions. Sound absorbing ceilings and wall panels for interior acoustic control, as well as industrial noise control products, are available in the range.

Technical Insulation offering includes thermal, fire and sound insulation in HVAC systems, industrial processes and pipework, industrial equipment as well as shipbuilding and offshore industry.

*For more information please visit **www.paroc.com***

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Applications: December 2023
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