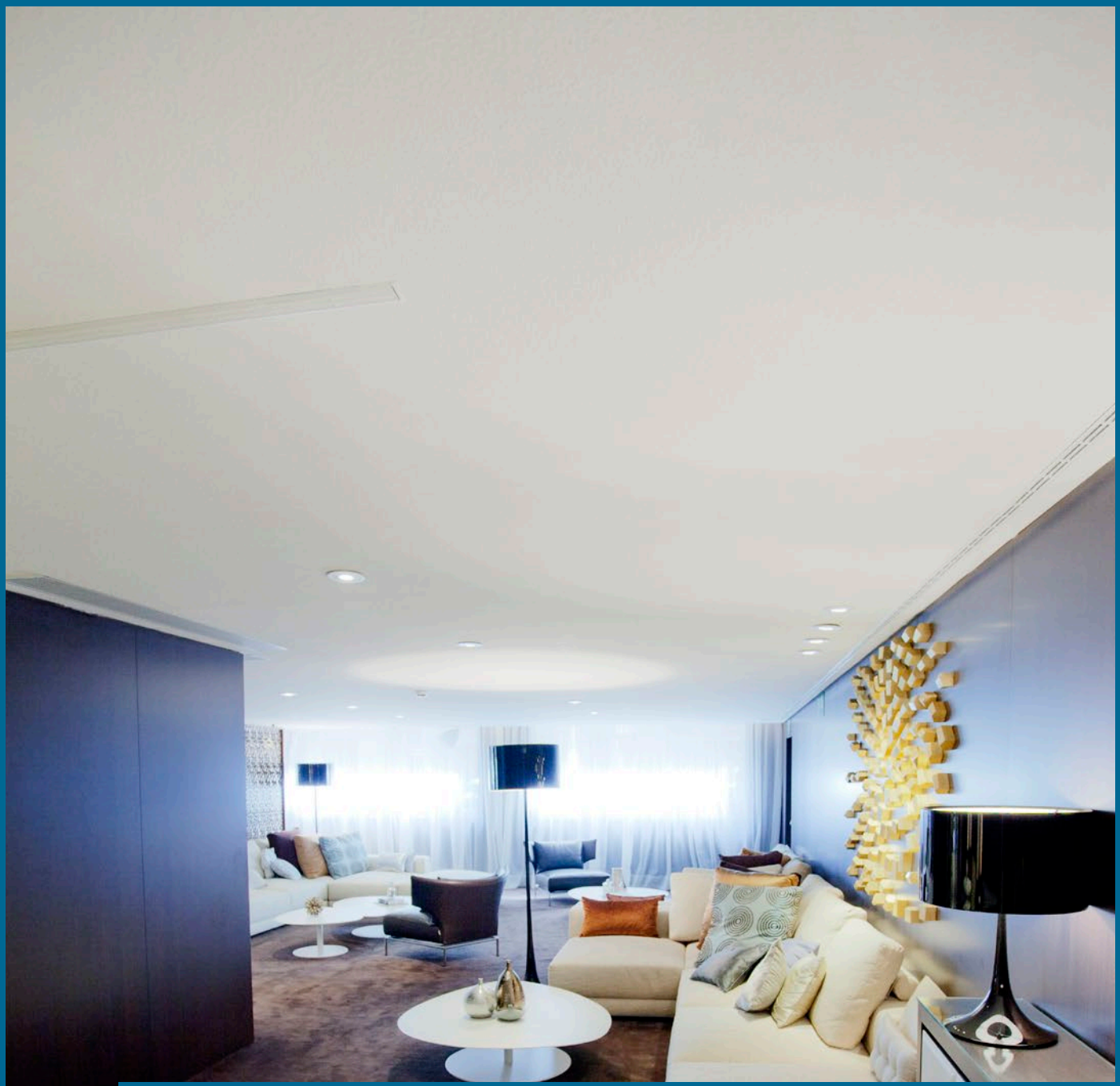


Installation Guide

ROCKFON® System Mono Acoustic™

ROCKWOOL Rockfon®

CREATE AND PROTECT®

ROCKFON® System Mono Acoustic™ – Installation Guide

Contents

Introduction

System overview

Description
ROCKFON Mono Acoustic Direct is an aesthetically pleasing seamless ceiling offering excellent sound absorption properties (αw = 1,00, Class A). ROCKFON Mono Acoustic Direct panels have a thickness of 40 mm and are mounted directly to a suspended gypsum ceiling using ROCKFON SwiftFix.

The installation must be completed in accordance with the ROCKFON Mono Acoustic system installation guide. To conserve fire- and acoustical properties, ROCKFON Mono Acoustic Direct should only be installed by certified system installers.

Installation order
1. Installing the suspended gypsum ceiling (not part of this installation guide)
2. Installing ROCKFON Mono Acoustic panels
3. Filling the joints with ROCKFON Mono Acoustic Tape and ROCKFON Mono Powder Filler
4. Sanding of joints
5. Protective masking of the room: walls, floors as well as furniture
6. Spraying the ROCKFON Mono Ready Mix Render

Technical data

Suspension depth

Module size	Module thickness	Minimum suspension depth
1200x1200	40mm	40mm with direct installation

System weight per m²

Panel
6,0 kg*

** Total weight incl. ROCKFON SwiftFix, ROCKFON Mono Acoustic Panel, ROCKFON Mono Acoustic Powder Filler and ROCKFON Mono Acoustic Ready Mix Render will be 10 kg/m².*

General recommendations

Job site conditions
ROCKFON Mono Acoustic Direct must be installed in a closed and covered location.

The air temperature during installation and drying time must be between 15 °C - 40 °C and the relative humidity must not exceed 80 %.
The use of a fan convector unit, ventilator and dehumidifier is recommended if the natural conditions of the site do not allow suitable temperatures and humidity levels. The use of these devices allows the drying time to be significantly reduced.
However, ROCKFON advises against using a hot air blower that is too powerful, produces excessive heat or that could result in too fast drying, as this may cause cracking. This type of device may only be used within a safe distance from the ROCKFON Mono Acoustic Direct ceiling as the goal is to heat the air rather than the ceiling directly.

Substrate requirements (suspended gypsum ceiling)
- The suspended gypsum ceiling must be able to carry the load of the ROCKFON Mono Acoustic Direct ceiling which is 10 kg/m² (SwiftFix + panel + filler + Ready Mix Render) without additional service integration.
- The suspended gypsum ceiling must be flat. The maximum surface flatness tolerance is 2mm over one meter and 5mm over five meters. This tolerance is valid for all directions.
- Separation joints in the building must be respected in both the suspended gypsum ceiling as in the ROCKFON Mono Acoustic Direct ceiling.
- When used for large dimension ceilings, ROCKFON Mono Acoustic ceilings must be installed with a movement joint. The maximum surface area between these joints is limited to 300m2, and the largest dimension must not exceed 25m. The movement must be respected in the suspended gypsum ceiling as well.

Before installation
- ROCKFON Mono Acoustic Direct should only be installed by certified system installers. (Please contact ROCKFON for contact details of your nearest certified installer or visit us at www.rockfon.com.)
- Please take care that all components required for the installation are available on the jobsite. All components are made specifically for the ROCKFON Mono Acoustic Direct system. Installers must use only the items described in this document.
- Please make sure that a detailed plan for service integration (e.g. light fixtures, inspection hatches, ventilation) is available before installation.

During installation
- Service integration needs to be taken into account while installing the gypsum panels as well as mounting the ROCKFON Mono Acoustic Direct panels.
- Please take care that there is no level difference between individual ROCKFON Mono Acoustic Direct panels.
- All joints of the ROCKFON Mono Acoustic Direct ceiling must be absolutely flat before the Ready Mix Render can be applied.

After installation
- ROCKFON Mono Acoustic is a finished ceiling. No paint or other treatment should be added after spraying the Ready Mix Render.
- It is important to avoid producing dust during and after the installation of the ceiling.

Incident light
Critical light conditions such as incident/side light should be avoided on all suspended monolithic ceilings as unevenness in the ceiling will directly become visible in such conditions. In terms of ROCKFON Mono Acoustic Direct this means that incident/side light might cause visible joints. When these situations occur on the jobsite special attention is required.

Handling
For an optimised work environment, we recommend installers always observe common work practices and follow the installation advise as shown on our packaging.

ROCKFON System Mono Acoustic components

ROCKFON Mono Acoustic panels

ROCKFON System Mono Acoustic Direct panels are made from high-density stone wool and are also finished with a white fleece on the visible side. The reverse is not provided with an anti-ageing, high performance membrane since the panel is mounted directly to the soffit. This panel may under no circumstances be used for suspended solutions!

ROCKFON SwiftFix

ROCKFON SwiftFix is a high quality dispersion adhesive showing a strong adhesion to plasterbords. It is packaged in 12 kg buckets. Shelf life in unopened packaging is 12 months.

ROCKFON Mono Acoustic Tape and ROCKFON Mono Acoustic Powder Filler

The 40mm wide ROCKFON Mono Acoustic Tape and ROCKFON Mono Acoustic Powder Filler are specially designed to ensure strong, optimal joints between the ROCKFON Mono Acoustic panels. Each tape roll is 150m. The Powder Filler is packaged in 15 kg paper bags. Shelf life in unopened packaging is 9 months.

ROCKFON Mono Acoustic Ready Mix Render

Manufactured in white as standard. The Ready Mix Render is packaged in 20 kg buckets. Shelf life in unopened packaging is 12 months.

Prohibited

— All accessories are specially developed to guarantee a perfect aesthetic and acoustic result with the ROCKFON Mono Acoustic panel. ROCKFON prohibits the use of accessories other than those sold for that purpose.

Attention

! The ROCKFON Mono Acoustic Ready Mix Render, the ROCKFON Mono Acoustic Powder Filler and the ROCKFON SwiftFix must be stored at temperatures between 5 °C and 25 °C.

System components and brute consumption guide per m^2

ROCKFON Mono Acoustic panels in module 1200x1200mm	ROCKFON Mono Acoustic Tape R40//150	ROCKFON® SwiftFix™	ROCKFON Mono Acoustic Powder Filler	Ready Mix Render high pressure application (20 kg/bucket)
0,7 pcs.	1,7 lm	2,2 - 2,5 kg	0,4-0,5 kg	White 1,2-1,4 kg*

** In critical light conditions, higher consumption may be required.*

ROCKFON System Mono Acoustic components

ROCKFON Mono Acoustic inspection hatches

To provide access towards the plenum ROCKFON has developed two standard inspection hatches.

The square hatches are made out of an aluminum frame with an integrated ROCKFON Mono Acoustic panel, which can be sprayed with Ready Mix Render to create a similar surface as the rest of the seamless ceiling.

Dimensions square hatches:
400x400mm
600x600mm

Consult ROCKFON in order to get more information about our ROCKFON Mono Acoustic inspection hatches.

Details of the ROCKFON Mono Acoustic inspection hatches can be found in the ROCKFON System Mono Acoustic solution library.

This hatch requires a void space of 10cm. For opening, lift the total hatch 5cm and slide it (above the grid) a few centimeters to the side, then rotate the opposite side of the hatch downwards.

System installation

Installation of ROCKFON Mono Acoustic Direct panels 1200x1200mm (Glued application)

Installation Guide
The ROCKFON Mono Acoustic Direct panels are glued to a suspended gypsum ceiling using ROCKFON SwiftFix, which is ready to use.

Pre-treatment
- The substrate should be flat, solid and firm.
- Any paint or plaster layers must have durable adhesion strength.
- The substrate must be dry, clean and free of condensation, dust and grease.
  For very absorbent substrates, a primer is recommended.

Application
The ROCKFON SwiftFix is ready to use.
1. The ROCKFON SwiftFix has to be applied all over the backside of the ROCKFON Mono Acoustic Direct panel using a notched trowel of 6 or 8 mm.
2. Start with the installation of the first panel in the middle of the room.
3. Press the panel firmly but carefully against the gypsum ceiling. This should be done using a foam-padded plasterer's trowel. Please make sure to press the entire panel to establish a good connection.
4. Continue with the installation of the ROCKFON Mono Acoustic Direct panels using a staggered lay-out.
5. Be sure that there is no level difference between individual panels as this would lead to unpleasing aesthetics.

Perimeter panels
- The edge cuts must be no more than 2mm shorter than the actual dimension in order to guarantee optimum perimeter finish.
- At the perimeter always use a cut to size tile (no TE-edge at perimeter).

Application of the glue / Material consumption

ROCKFON Mono Acoustic Direct panel 1.200 x 1.200 mm

Material consumption: 2,2 – 2,5 kg/m²

Notched trowel of 6 or 8 mm

Check

! During and after installation of the panels, it is recommended that the surface level and flatness of the ceiling be checked. The maximum tolerance is 2mm over one metre and 5mm over five metres. This tolerance is valid for all directions.

Caution

!! If an edge cut is too long, the installer will have to force the panel in, which can result in damage to the fleece. Conversely, if an edge cut is too short it can leave a gap that is too large to guarantee an optimum and quick finish during installation of the acrylic filler.

System installation

ROCKFON Mono Acoustic Tape and ROCKFON Mono Acoustic Powder Filler

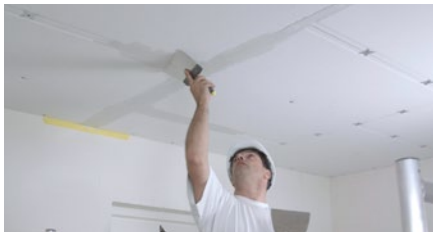
Tools required

- Soft finishing knife (150mm)
- Soft finishing knife (240mm)
- Scaffolding
- Mixer
- Ventilator
- Site light
- Rotating blades for mixing filler
- Dehumidifier (optional)
- Fan convector unit (optional)

Application of the ROCKFON Mono Acoustic Powder Filler
Before the ROCKFON Mono Powder Filler can be applied, it needs to be mixed with clean water following the instructions on the bag. Add 8,25 L Water per 15 kg bag Powder Filler.

1. *Lay the filler on the joints*

2. *While the filler is still wet, position the tape on the joints*



3. *Load the thinned edge with filler*

4. *Once the first coat dries*, apply a second coat of filler to all joints and fasteners to guarantee good overall evenness*

The product has a limited open time and will be less easy to use after 2hrs. The open time varies dependent on the job site conditions.

Consumption
The consumption of filler is approximately 0,4 - 0,5 kg/m^2. The maximum width of the filler is 200mm. Attention: this usage amount is theoretical. It is calculated for a flat ceiling and does not take into account the specific layout of the worksite.

The presence of downstands, light troughs, floating edges (island zone) or an unusual room shape may result in additional consumption. For example, the treatment of a plasterboard bulkhead connected to a ROCKFON Mono Acoustic ceiling using reinforced tape leads to additional consumption of the joint finish.

Drying time
The drying time of our product depends heavily on the jobsite conditions. Temperature should be between 5 - 40C and relative humidity preferably 60%, but should not exceed 80%. In the below table approx. drying times of the filler in different conditions are indicated. Good air circulation, use of a fan heater or a dehumidifier ensures faster drying process.

Drying time ROCKFON Mono Acoustic Powder Filler in hours

		Relative Humidity (%)		
		50	60	75
Temperature (*C)	10	10,5	14	20
	20	8	10	15
	30	5,5	7	12

Recommendations

\+ For the finishing phase, ROCKFON recommends the use of suitable scaffolding and additional lighting apparatus in all circumstances. A scaffolding platform adjusted to the correct height and appropriate lighting will be more comfortable for the installer and result in faster, quality installation of the joints.

Check

! Keep the specific design/layout of the project in mind when calculating the amount to be used.

! During this phase, it is recommended that the amount of filler applied is carefully checked to guarantee evenness of the joint after drying.

Attention

! The second coat of filler can only be done when the first coat is completely dry. Non-compliance with this will result in serious defects in the quality of the joint.

Caution

!! Tape that is not properly stuck or pressed into the joint can result in serious joint quality defects.

System installation

Joint check

1. Light up the area to check:
Position a high-power lamp in front of the ceiling area to be checked.

2. Position the finishing knife:
It must be a perfectly clean 350mm knife, and should be placed vertically under the sanded joints.

- Negative result:
The presence of a beam of light will indicate a lack of quality on the joint. This will need to be rectified in order to attain the quality expected of a ROCKFON Mono Acoustic joint.

- Positive result:
The absence of a beam of light indicates perfect evenness of the joint. It is ready to be sanded.

Attention

! A clean 350mm finishing knife and a high-power lamp are required in order to adequately check the quality of the joints.

Check

! In order to check the quality of a joint, a knife must be used to show surface level and flatness defects or bumps. Follow the checking instructions shown opposite.

Question

? *Is it possible to correct a joint defect if the ceiling is finished?*

YES! It is always possible to correct it but the work is more difficult. It is much easier to correct a joint before spraying the finishing coat.

System installation

Sanding

Tools required

- Protective mask
- Scaffolding
- Site light
- Sanding block (120x70mm)
- Sanding handle (230x110mm)
- Long-neck sander with rigid flat surface
- Safety goggles
- Sandpaper (120 grain)
- Connected vacuuming system

Sanding techniques
To guarantee quality sanding, the installer must use the long-neck sander for large surfaces.
The sanding block and handle are reserved for perimeter sanding work and for small retouches.
The chosen sandpaper must have 120 grade grit.

Repeat joint check
A final joint check is highly recommended before applying the final Ready Mix Render. Although it is always possible to correct unevenness, the work is more difficult once Ready Mix Render has been applied. It is much easier to correct a joint before spraying the finishing coat.

Recommendations

+ For the sanding phase, ROCKFON recommends the use of suitable scaffolding and additional lighting apparatus in all circumstances. A scaffolding platform adjusted to the correct height and appropriate lighting will be more comfortable for the installer and facilitate faster, better quality sanding.

+ It is strongly recommended to connect the long-reach sander to a dedicated vacuum system to provide maximum cleanliness and offer maximum protection.

Attention

! ROCKFON recommends the use of a long-reach sander equipped with a rigid sanding platform (ref. no. 495 168) such as FESTOOL PLANEX LHS 225 EQ-PLUS or equivalent.

System installation

Perimeter finish and site masking

Tools required

- Adhesive masking tape
- Sealant pump gun
- Protection film e.g. polyethylene
- Acrylic sealant cartridge
- Site light
- Scaffolding

Vertical protection installation

Recommendations

\+ The necessity of masking will depend on the site progress. The need to protect the floor, furniture or walls will vary for each situation. This chapter only covers the installation of vertical protections against walls.

Caution

!! The placement of the adhesive masking tape determines the quality of the edge finish during the spray phase. If it is set too low, the installer risks spraying the wall. If it is set too high, the ceiling will not be completely protected.

Prohibited

— Never use silicone joints. These particular joints cannot be painted and prevent a perfect finish during the spray phases. Use acrylic sealant. Further information and details can be found in the ROCKFON System Mono Acoustic solution library.

System installation

ROCKFON Mono Acoustic Ready Mix Render

Tools required

- Protective mask
- Safety goggles
- Mixer
- Rotating blade for mixing the Ready Mix Render
- Spray machine for high pressure application (type Euromair CP10 or equivalent)

Consumption

The nett consumption is 1,2 kg/m^2. To realize this consumption with high pressure application (max. 3,5 bar) the brute amount of Ready Mix Render applied is 1,2 - 1,4 kg/m^2 for the Ready Mix Render.

It is possible to apply the Ready Mix Render on surfaces other than the ROCKFON Mono Acoustic itself, such as plasterboard and concrete beams. However, once treated, these surfaces will not offer any acoustic benefit, but will provide the same finish as the ROCKFON Mono Acoustic to give a homogenous appearance.

Stirring and mixing of ROCKFON Mono Acoustic Ready Mix Render

- Stir up the Ready Mix Render in the bucket
- Empty the contents of the bucket into the mixing tank

Check

! The only method of checking the Ready Mix Render consumption is to count the buckets used as spraying progresses.

This simple and efficient operation can become complex on large surfaces, hence dividing into sections is recommended.

For example, by dividing a 180 m^2 ceiling into three 60 m^2 sections, the theoretical consumption indicates a spray of 78 kg per section, or approximately 4 buckets.

As the spray is done in three coats, it is recommended that a little more than one bucket be sprayed per coat and per 60 m^2 section.

Check

! Take into account the specific layout/design of the project and the depth of the tank/pipe for the calculation.

Depending on the machine type, the tank/pipe bottom corresponds to a certain loss of Ready Mix Render finish associated with the initial filling.

Treating a 500mm plasterboard downstand with the ROCKFON Mono Acoustic finish coat along a 30 m facade results in additional consumption of 20 kg, or one box of Ready Mix Render.

Attention

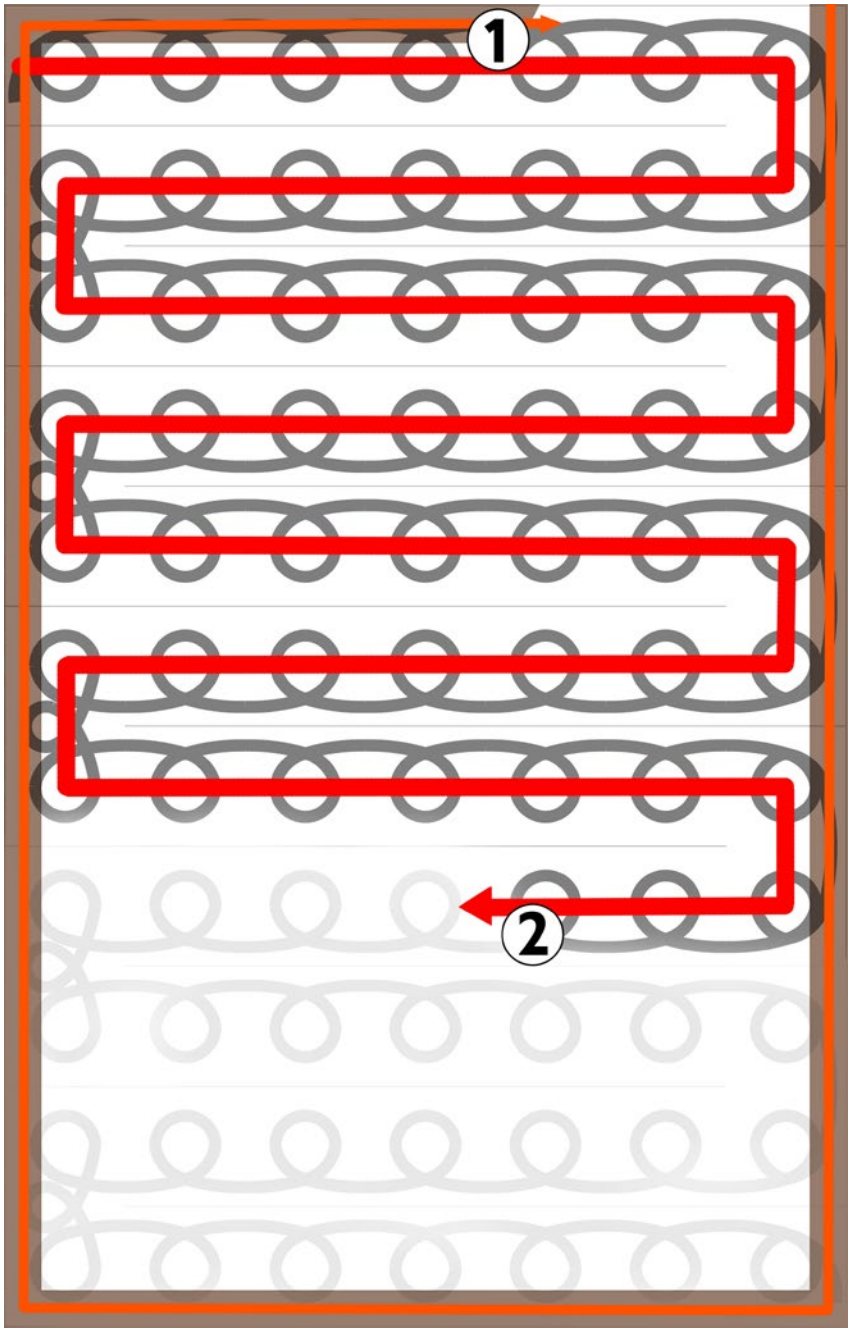
! Even if the Ready Mix Render has a pasty texture in the packaging, it is not necessarily ready to use. It must be mixed in accordance with the directions outlined in this chapter.

System installation

ROCKFON Mono Acoustic Ready Mix Render

Spraying

- The nozzle must be 0,80 - 1,00 m from the ceiling.
- Treat the peripheries by following a slow and linear motion along the perimeter of the room.
- By regular rotations of the nozzle, apply a first coat of approximately 0,4 kg/m² onto the ceiling.
- Progress in areas of about 0,6 m, depending on the diameter of rotation. The layers should cover each other to provide good coverage.
- After the first spray coat has completely dried, repeat this procedure and apply a second coat of 0,4 kg/m².
- After the second spray coat has completely dried, repeat this procedure and apply a final coat of 0,4 kg/m².



Recommendations

+ ROCKFON recommends the use of a spray machine such as EUROMAIR CP 10 but it is also possible to use equivalent machines. Airless spray equipment is not allowed. Please contact ROCKFON for more info on the specifications of the machinery.

+ During the spray phases, the nozzle must be between 0,80 - 1,00 m from the surface to be sprayed. A scaffolding platform adjusted to the correct height and appropriate lighting will be more comfortable for the installer and facilitate a faster, quality spray finish.

+ If the surface to be sprayed is large, it is recommended that it be divided into sections in order to control the Ready Mix Render consumption. The presence of columns, windows or beams can help with this division.

Recommendations

+ The drying time depends on the conditions of the site. To learn what ROCKFON recommends, see page 3.

Drying time

The drying time of our product depends heavily on the jobsite conditions. Temperature should be between 5 - 40C and relative humidity preferably 60%, but should not exceed 80%. In the below table approx. drying times of the render in different conditions are indicated. Good air circulation, use of a fan heater or a dehumidifier ensures faster drying process.

Drying time ROCKFON Mono Acoustic Ready Mix Render in hours

		Relative Humidity (%)		
		50	60	75
Temperature (°C)	10	6	7	11
	20	4,5	5,5	8
	30	3,5	4,5	7

System maintenance

Servicing

ROCKFON System Mono Acoustic ceilings require only minor maintenance, and the amount will depend on the use of the room in which it is installed. ROCKFON Mono Acoustic ceilings should only be installed by authorised system installers. (Please contact ROCKFON for contact details of your nearest authorised installer or visit us at **www.rockfon.com**). Any small repairs and surface processing must be carried out exclusively by authorised installers.

It is possible to apply the ROCKFON Mono Acoustic Ready Mix Renderon surfaces other than the ROCKFON Mono Acoustic panels, such as plasterboard and concrete beams. However, once treated, these surfaces will not offer any acoustic benefit, but will provide the same finish as the ROCKFON Mono Acoustic to give a homogenous appearance.

Overview	
Cleaning	Vacuum cleaner with soft brush at low power.
Surface discolouration	Apply a thin layer of ROCKFON Mono Acoustic Ready Mix Render.
Minor cracks and scratches	Apply a small amount of ROCKFON Mono Acoustic Ready Mix Render using a paintbrush or paint gun.
Cracks and indentations	Seal by using ROCKFON Mono Acoustic Powder Filler, then apply a small amount of ROCKFON Mono Acoustic Ready Mix Render.
Larger cracks and damage	Fill the gap with a "plug" made of ROCKFON Mono Acoustic panel, then cover the repaired spot with ROCKFON Mono Acoustic Ready Mix Render.

Prohibited

- Do not use any paints or similar products that provide a total covering over the surface, since such products will reduce the ceiling's acoustic properties.

Maintenance

Cleaning
The ROCKFON Mono Acoustic ceiling is anti-static so it does not retain dust and can easily be kept clean. To clean the panels, use a vacuum cleaner with a soft brush operating at low power. ROCKFON Mono Acoustic ceilings must not be cleaned with water or wiped with a wet cloth, etc.

Renovating
ROCKFON Mono Acoustic ceilings can be renewed/refreshed by applying a new layer of ROCKFON Mono Acoustic Ready Mix Render. For this, ROCKFON advises you to call the company that performed the initial works or a qualified ROCKFON Mono Acoustic installer. The sound absorption ratio decreases by approximately 10% with each additional layer of Ready Mix Render.

Surface discolouration
In the case of surface discolouration, apply one or more new, thin layers of ROCKFON Mono Acoustic Ready Mix Render. If the discoloured spots are due to water action (or because of deposition or tobacco smoke) the surface should be thoroughly dried and sealed prior to commencement of repairs. Approximately 0,3 kg Ready Mix Render per m^2 should be applied by using dedicated ROCKFON Mono Acoustic spraying equipment. In order to preserve the ceiling's acoustic properties, the recommended amount of Ready Mix Render should not be exceeded. The sound absorption ratio decreases by approximately 10% for each additional layer of Ready Mix Render.

System maintenance

Repairs

Any damage to a ROCKFON Mono Acoustic ceiling can always be repaired. However, the base materials that the ceiling is made of must be used. For tile reparations during the ROCKFON System Mono Acoustic installation, please refer to your local technical support for more information.

For damages that occur after the ceiling is installed, ROCKFON recommends calling upon the company that installed the original ceiling or a qualified ROCKFON System Mono Acoustic installer.

Superficial damage - Minor cracks and scratches
Superficial damage (screw holes, light impact) or minor cracks and scratches can be easily repaired using a small quantity of ROCKFON Mono Acoustic Ready Mix Render applied with a paintbrush on the damaged parts. Alternatively, a thin layer of the Ready Mix Render may be applied using a ROCKFON Mono Acoustic paint gun.

Structural damage - Larger cracks and damage
In the case of larger cracks, significant or structural damage (water damage, heavy impact) follow the procedure for replacement of entire panel fragments. In this case, the repair method is as follows:

1. Remove the damaged panel fragment by cutting it out with a knife at an angle of 60°.
2. Cut a matching "plug" out of a new ROCKFON Mono Acoustic panel and fasten the "plug" in the hole using the Mono Filler.
3. Sand the surface around the hole in order to remove the excess Ready Mix Render.
4. Apply a new layer of the filler on the seam between the "plug" and the ROCKFON Mono Acoustic panel, following the instructions set out in the system installation guide.
5. Apply the ROCKFON Mono Acoustic Ready Mix Render, following the instructions set out in the system installation guide. The Ready Mix Render layer will become "toned" which will minimise the contrast between the elements. Alternatively, apply the Ready Mix Render over the entire ceiling surface.

We believe our acoustic stone wool and metal solutions for ceilings and walls are a fast and simple way to create beautiful, comfortable and safe spaces.

Easy to install and durable, they protect people from noise and the spread of fire. They are our way of making a constructive contribution towards a sustainable future.

Create and Protect is what drives us. It means putting people first, sharing success and maintaining trust.

It's our rock-solid promise to you. At ROCKFON, Create and Protect is what we do – and it's inspired by you.

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