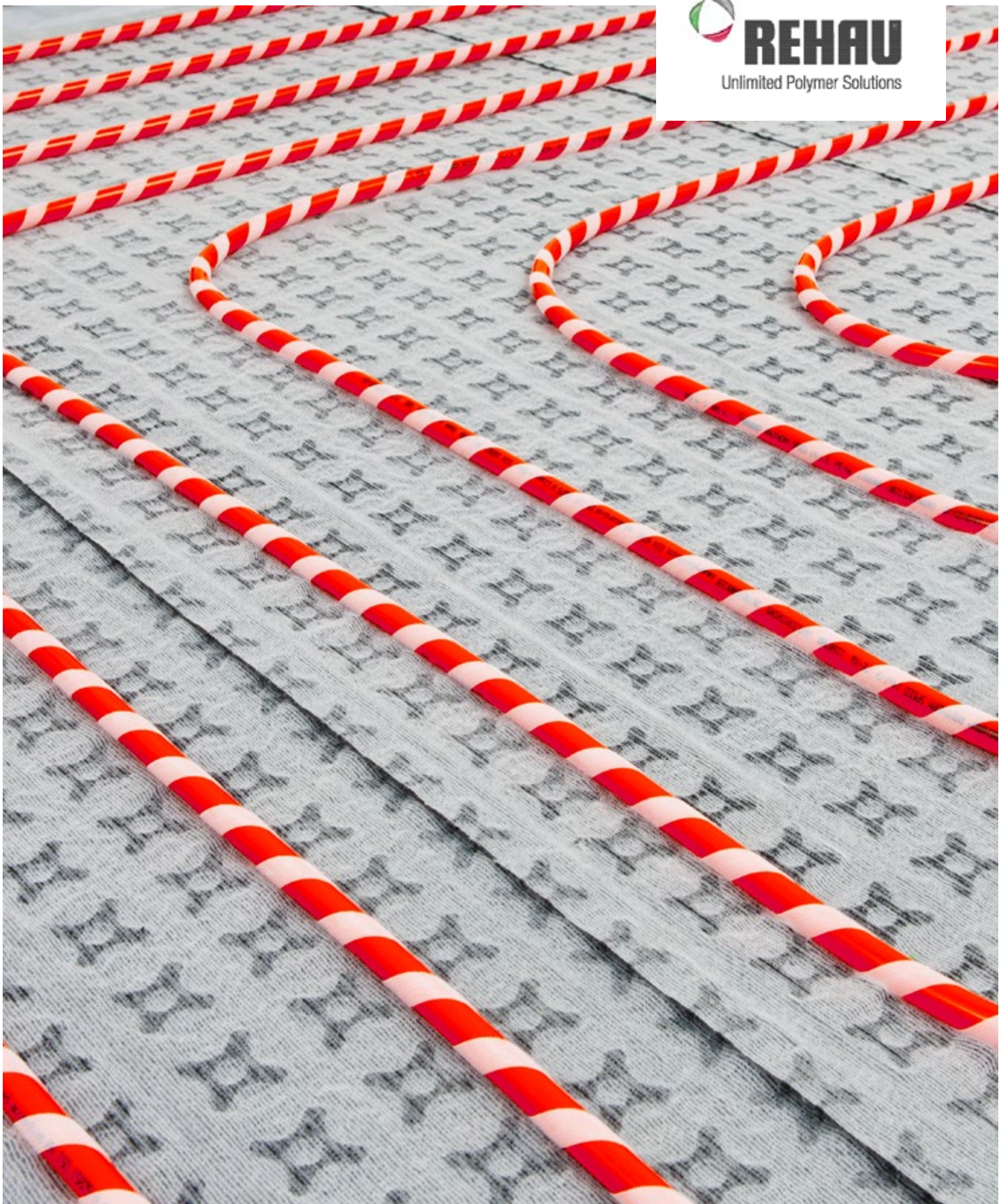




REHAU

Unlimited Polymer Solutions



RAUPEX[®] SPEED SYSTEM

Installation Guide

INFORMATION AND SAFETY INSTRUCTIONS

Validity

The installation instructions are valid for North America.

Other applicable technical information

- Floor heating/cooling
- System basics, pipe and connection
- RAUPEX SPEED system

Pictograms and logos



Important information that must be taken into account

Version of installation manual

For your own safety and in order to ensure correct application of our products, please check regularly whether an updated version of the installation instructions is available. The date of issue of your installation instructions is always printed on the bottom right of the back cover. The current version of the installation instructions is available from your REHAU sales office or can be downloaded via the Internet at www.na.rehau.com/resourcecenter.

Intended use

RAUPEX SPEED may only be configured, installed and operated as described in this manual and the corresponding technical information. Any other use is deemed to be inappropriate and is therefore not permissible.

Safety instructions and operating manual

- For your own safety and that of others, read the safety instructions and the installation manual carefully and completely before commencing installation.
- Keep the manual and ensure that it is always available.
- If you do not understand the safety instructions or the individual installation regulations or if there is any uncertainty with regard to their content, please contact your local REHAU sales office.
- **Ignoring the safety instructions may cause injury or property damage.**

Observe the applicable national and international routing, installation, accident prevention and safety regulations and the instructions in this installation manual when installing piping systems and electrical components and equipment. Our applications engineering department must be consulted in the case of areas of application which deviate from those described in this installation manual and the technical information (special applications). Contact your REHAU sales office.

Requirements with regard to personnel

- Only authorized and trained persons are permitted to install our systems.

General precautionary measures

- Keep your workplace clean and free of objects which could get in your way.
- Ensure that your workplace is adequately lit.
- Keep children, pets and unauthorized persons away from tools and the installation locations. This is particularly important when carrying out renovation work in occupied areas.
- Use only the components intended for the respective REHAU system. The use of components that are not part of the system or the use of tools that are not part of the REHAU installation system may result in accidents or other hazards.
- Avoid open flame in the work area.

Work clothes

- Wear suitable work clothes, protective goggles, safety shoes, helmet and a hair net if you have long hair.
- Do not wear clothes or jewelry that could become caught up in moving parts.
- Wear a safety helmet when performing installation work at or above head height.

During installation

- Always read and observe the operating instructions of the REHAU installation tools and all other technical information.
- The REHAU pipe cutters have a sharp blade. Store and handle them to ensure that there is no danger of injury.
- Maintain a safe distance between the hand holding the pipe and the cutting tool when cutting pipes.

RAUPEX SPEED SYSTEM

System Components



Fig. 1-1 RAUPEX SPEED Mat R

- RAUPEX SPEED Mat R
- 1/2 in. RAUPEX SPEED O₂ Barrier pipe
- RAUPEX horizontal uncoiler
- RAUPEX SPEED door spreader with pipe guide

Accessories

- RAUPEX pipe cutters
- Utility knife
- Adjust wrenches



Fig. 1-2 RAUPEX SPEED O₂ Barrier pipe



Fig. 1-3 RAUPEX horizontal uncoiler



Fig. 1-4 RAUPEX SPEED door spreader with pipe guide

PROCESSING INSTRUCTIONS

The RAUPEX SPEED hook-and-loop mat has a coating of adhesive on the bottom which allows it to be installed on different insulation materials and substrates. The hook part of “hook and loop fasteners” on the top of the mat combined with the RAUPEX SPEED O₂ Barrier pipes ensure very fast installation times.

D Compared to the installation of conventional system insulation plates for pipe floor heating and cooling, the installation of RAUPEX SPEED hook-and-loop mat is very different. To ensure that you and your installers achieve the best results with this new innovative installation system, we advise an introductory training session on site by your REHAU sales representative when installing RAUPEX SPEED for the first time. Contact your REHAU sales office for assistance.

Proper use

The RAUPEX SPEED hook-and-loop mat is intended for use with radiant heating or radiant cooling inside buildings. The mat can be installed on different types of insulating materials or suitable grounds.

D The insulation material or the suitable ground must be dust-free and free of rough dirt.

Suitable insulating materials and grounds

Suitable insulating materials as substrate:

- Expanded polystyrene EPS
- Polyurethane insulation panels
- Wood fiber insulation boards

Suitable supporting substrates:

- Screeds
- Concrete
- Ceramic floor coverings
- Plaster and cement slabs
- Fiberboard, chipboard and plywood

D Mineral fiber insulating materials, loose fills and similar insulating materials are not suitable as substrates for RAUPEX SPEED hook-and-loop mat.

General information

The following conditions must be observed for processing RAUPEX SPEED hook-and-loop mat as a roll:

- Store products inside in a dry area.
- Do not expose RAUPEX SPEED hook-and-loop mat to direct sunlight.
- The processing temperature of the products is ± 32 to 113°F (± 0 to +45°C).

Special processing instructions

Because RAUPEX SPEED hook-and-loop mat has an adhesive layer beneath, it is not necessary to use an additional adhesive strip on the top to attach the mats to one another. RAUPEX SPEED hook-and-loop mat is sealed to prevent ingress of water used for mixing screed by the adhesive overlap. The following directions must be observed:

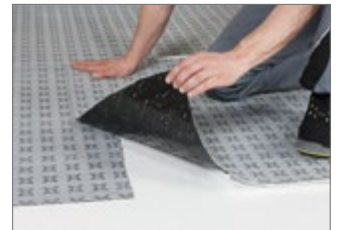
D Minimum overlaps of the RAUPEX SPEED hook-and-loop mat as roll:

- 1.9 in (5 cm) minimum overlap on longitudinal edge
- 3.9 in (10 cm) minimum overlap on cross edge

The overlaps of the hook-and-loop mat must be firmly pressed down with the foot.

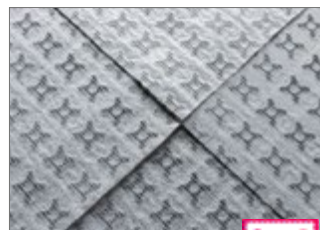


Roll with 1.9 in (5 cm) minimum overlap on longitudinal edge



Roll with 3.9 in (10 cm) minimum overlap on cross edge

D Cross joints must be avoided when laying RAUPEX SPEED cross joints. Depending on the installation conditions, the installation components must be offset to one another.



Roll joints with cross joints



Roll joints without cross joints



INSTALLING RAUPEX SPEED HOOK-AND-LOOP MAT ROLL

1. Prepare hook-and-loop mat roll.

- Remove self-adhesive roll from foil bag.
- Cut the adhesive tape with cutter.



2. Align self-adhesive roll.

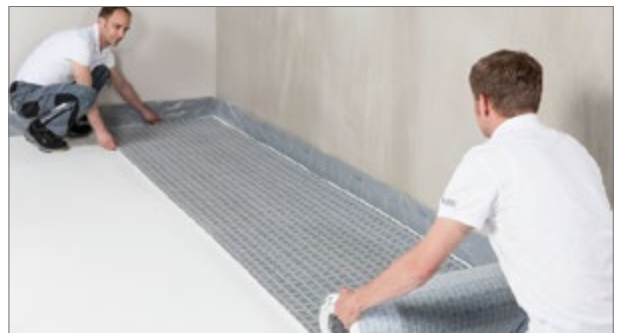
- Lay the self-adhesive roll flat to the wall or the substrate and roll out and align 6.5 to 9.8 ft (2 to 3 m).



- Align the roll approx. 1.9 in (2 cm) from the wall and parallel to the wall.



D One person can align the self-adhesive roll parallel in rooms up to approx. 16.4 ft (5 m) long. In larger rooms with wall lengths > 16.4 ft (5 m), two persons should align the roll.



3. Fix hook-and-loop mat roll.

- Walk on the aligned self-adhesive roll on the face side and lift the start of the roll.
- Remove the cover foil on the bottom of the roll over approx. 11.8 in (30 cm) and fold it smooth to the back.



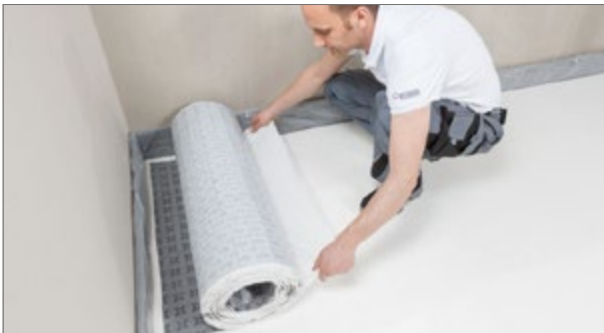
- Attach the roll with the freed adhesive area on the insulation layer or substrate and press it down evenly. Glue the foil foot of the edge insulation strip on the side at the same time.



Keep a distance of approx. 1.9 in (2 cm) to the rear side of the surrounding wall.



- Roll the roll straight backwards to the adhesive position after fixing it to the face side.



4. Glue self-adhesive roll.

- Unroll hook-and-loop mat evenly and parallel to the wall and continuously and evenly pull off the cover foil. "Walk in front of the roll" when unrolling the hook-and-loop mat. Glue the folded foil foot of the REHAU edge insulation strip 8/150 continuously to the hook-and-loop mat at the same time.

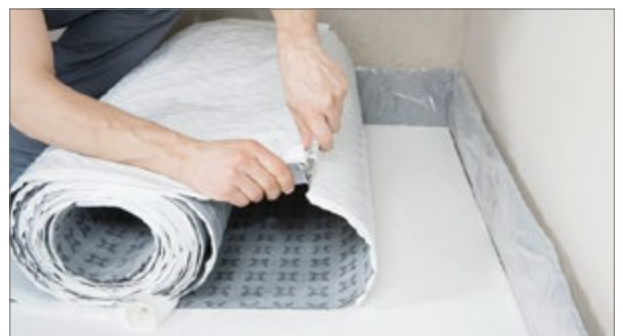
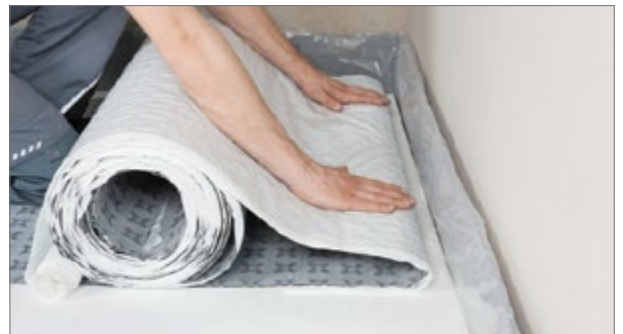


When affixing over the foil foot, do not exceed the max. allowable distance of 2.7 in (7 cm) from the back wall to the edge insulation strip.



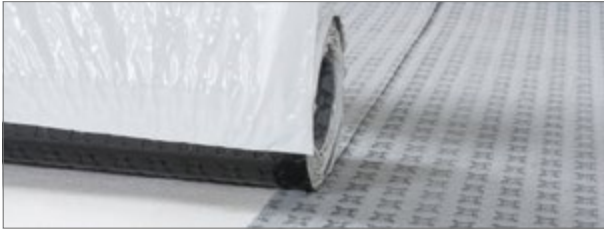
5. Cut self-adhesive roll to length.

- At the end of the room, fold the roll back and adjust it.
- Then cut it to length with the cutter.
- If necessary, roll the cut end against the roll.



6. Align adjacent roll.

- Overlap the second self-adhesive roll to the first roll with a minimum overlap of 1.9 in (5 cm) on the longitudinal edge. Align the pattern of the 1st roll and the 2nd roll flush with each other.
- Press down overlap by foot.



- Unroll the 2nd self-adhesive roll approx. 6.5 to 9.5 ft (2 to 3 m) and align parallel to the first roll while maintaining the minimum overlap of 1.9 in (5 cm).



7. Affix adjacent roll.

- See "3. Fix hook-and-loop mat roll."




8. Glue adjacent roll.

- See "4. Glue self-adhesive roll."



9. Cover the remaining areas.

- The remaining areas or wall niches can be covered with left over pieces of the hook-and-loop mat.
- Measure the installation area that is to be sealed and cut a section off the roll, while retaining the overlap.

 Cut the section for closing the remaining area to length preferably parallel to the face side of the roll with the cutter.



- Align the section and fix it to the underlying insulation layer or substrate.





If the hook-and-loop mat is cut too short, affix the end of the section flat. The remaining section of the exposed insulation or substrate can simply be covered by a piece of the hook-and-loop mat while retaining the minimum overlap.



10. Cut adjacent roll to length.

- See "5. Cut self-adhesive roll to length."

11. Place RAUPEX horizontal uncoiler outside of the room and install RAUPEX SPEED door spreader with pipe guide in door way to keep pipe from being in contact with RAUPEX SPEED mat while installing circuits.

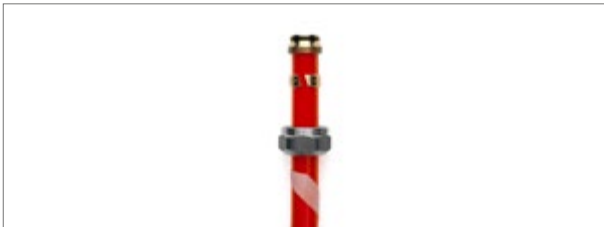
12. Remove the hook tape.

- Remove the hook tape approx. 1.9 in (5 cm) from the end of the pipe for installation pipes on the REHAU manifold.



13. Connect to manifold.

- Tighten the 1/2 in. RAUPEX R-20 brass manifold outlet (Art. 261007-101) to REHAU PRO-BALANCE® manifold. See REHAU *PRO-BALANCE Manifold Product Instructions* for proper installation.



14. Lay pipe.

- Install RAUPEX SPEED O₂ barrier pipe on the RAUPEX SPEED mat by pressing down lightly.



The RAUPEX SPEED O₂ Barrier pipe must be laid at a distance of 2.7 in (7 cm) from the wall.



15. Carry out pressure test as per REHAU *Radiant Heating Installation Guide*.

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