

## THE SOUND APPROACH TO DRAINAGE RAUPIANO PLUS acoustic soil and waste solution

CREMAN RAUPIANO PLUS A-10°C 1017db

**REHAU** MY SAFE CHOICE

## REHAU RAUPIANO PLUS.

Three layers of innovation.

Inner layer made of PP - Abrasion-resistant and low friction - Chemical-resistant





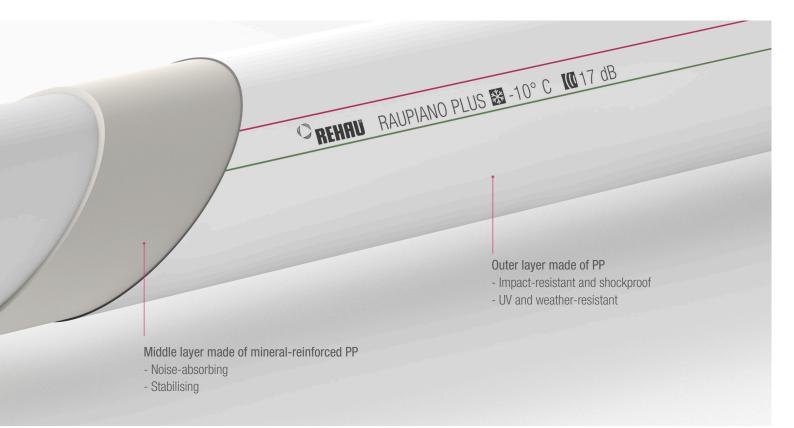


REHAU NOISE PROTECTION PLUS.





REHAU FIRE PROTECTION PLUS.



## **COMPLETE, COMPATIBLE, DURABLE AND RELIABLE.** Many words, one system: RAUPIANO PLUS.

### Complete and universal.

The extensive range of pipes, fittings and accessories ensures universal suitability from single-family homes to large commercial buildings. All dimensions from DN 32 to DN 200 and can be connected directly or by using our wide range of adapters to any other pipe system.

## 2 Patented structure sound damping.

The patented 2-part acoustic bracket significantly reduces the transmission of the structure-borne sound component into the wall. The toggle latch in combination with a fixed closing distance always ensure the optimal closing force around the pipe every single time. The specially shaped rubber linings create a self-centering function of both bracket parts to each other and therefore for the pipe. A uniform space is reliably formed between pipe and brackets which maximises the sound dampening performance.

## Impact and cold-resistant.

The outstanding impact and cold resistance ensures optimal suitability for construction sites – even at low temperatures. Proven impact resistance down to -10  $^{\circ}$ C.

#### 4 Durable, reliable and chemical-resistant.

The high ring stiffness makes the pipes robust for transport, storage and handling. This simplifies installation and prevents horizontally installed pipes from sagging. Underground installation is no problem due to the exceptional rigidity. The material offers high chemical resistance at pH values between 2 and 12.

#### 5 Sturdy and functional.

The extremely smooth and abrasion-resistant inner layer of the pipe prevents deposits and scaling, while a special coating reduces friction. The UV-resistant outer layer of the pipe system boasts exceptional shock resistance and weathering resistance.

### 6 Pressure-resistant to 2 bar.

The RAUPIANO push-fit lock prevents the push-fit connection from being pulled out in case of internal pressures of up to 2 bar. It secures interior stormwater pipes against increased pressure loads.



## **FAST INSTALLATION.** Installation times reduced to a minimum.

RAUPIANO PLUS is not only technically, but in many cases also the better solution economically – from single-family homes to large buildings.

## Better planning and installation.

Eliminating potential sources of errors in the planning and installation, as well as reducing the installation effort required speeds up installation by up to 30 % compared with SML cast-iron pipes.

# MORE MORE EASILY.

With RAUPIANO PLUS system components.

#### Installation accelerator:

- The same planning and installation as with traditional systems
- Substantially lighter than SL cast-iron pipes with greater dimensional stability
- Fast, simple and precise cutting to length made easy by scale printed on pipe
- Transition to other pipe system with and without adapters
- Proven push-fit joint

**30%** faster installation with RAUPIANO PLUS

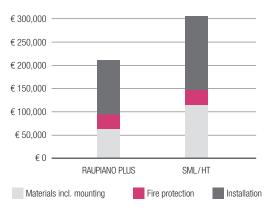


## **ECONOMICAL INSTALLATION.** System advantages that pay off.

#### Not just fast. Affordable too:

With RAUPIANO PLUS, installed costs can be reduced by as much as a third when compared to the conventional combination of SML cast-iron and HT plastic pipes. This means that building drainage with maximum noise and fire protection in multi-storey buildings can make sense for the plumbing contractor as well.

The cost savings for installation and materials were demonstrated by a large building with 313 residential units. The investor and contractor assessed installation with SML and HT pipes.



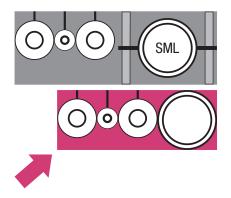
The calculation was based on the list of materials. The installation times were taken from an external, independent study by Innung Spengler, Sanitär- und Heizungstechnik in Munich.

## REHAU PROFIT PLUS.

With RAUPIANO PLUS system components.

### Up to 35 % space savings:

Compared to SML, RAUPIANO PLUS frees up more valuable living space through measurably lower space requirements.



#### Installation in the tightest spaces:

The large support brackets required for cast iron stacks are not required any longer. The slim RAUPIANO PLUS mounting system offers ample installation freedom – even in tight quarters.



## **COMPREHENSIVE INSTALLATION.** The system for premium noise protection. Verified by the Fraunhofer Institute.

Quieter than the ticking of a watch: At just 17 dB(A)\* RAUPIANO PLUS comes in significantly below the minimum legal requirement for noise protection in sanitation installations. It even easily fulfils the more stringent VDI 4100 standard.

## Standards, thresholds and guidelines:

- DIN 4109 legally binding minimum requirement: 30 dB(A) in Germany
- DIN 4109, supplement 2 proposals for increased sound insulation: 25 dB(A)
- VDI 4100: 2012-10 recommendations for increased sound insulation: 24 dB(A), noise protection level III

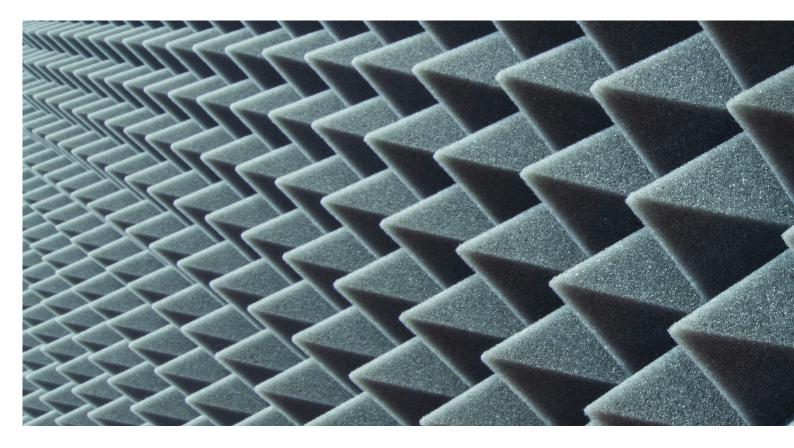
\*Measurement of noise from waste drainage installations in a standardised test facility. The measurements were conducted in a basement, behind the installation wall with a flush volume of 4 l/s. (Source: Fraunhofer-Institut für Bauphysik, Stuttgart, Prüfbericht P-BA 6/2009)

## SILENCE AT LAST.

With RAUPIANO PLUS system components.

### Passed with flying colours:

Achieving noise protection compliance for the entire installation is particularly challenging. In addition to water drainage with RAUPIANO PLUS, the noise tests at the Fraunhofer Institute also included the drinking water installation with RAUTITAN and the sanitation equipment, including the flush technology. The result: the standard was easily met. RAUPIANO PLUS and RAUTITAN offer system-tested noise protection to meet the highest standards. **17dB** Install comfort with RAUPIANO PLUS



## **INNOVATIVE INSTALLATION.** For whisper-quiet building drainage.



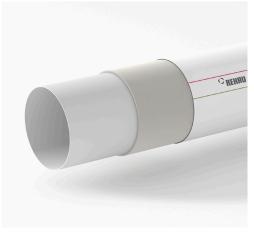
» RAUPIANO PLUS is always the best choice for noise protection. «

Thomas Herp TGA has headed the technical building services engineering office of Herp Ingenieure GmbH & Co. KG in Salach for 25 years.

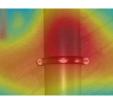
## Multi-layer technology significantly reduces sound levels.

The exceptionally rigid middle layer of RAUPIANO PLUS pipes with sound-absorbing filler materials increases the mass (pipe density 1.9 g/cm), substantially reducing the sound level.

All components – the pipes, the moulded pieces and the mounting equipment – eliminate noise emission with RAUPIANO PLUS.







RAUPIANO PLUS

Standard HT-PP

Lowest noise level

Highest noise level

The recordings were made at the Fraunhofer Institute with an acoustic camera and are used to visualise sound.

## REHAU NOISE PROTECTION PLUS.

With RAUPIANO PLUS system components.

#### Targeted weight optimisation where it matters.

The RAUPIANO bends have thicker walls in the area where it matters, which reduces the generation of airborne noise.

Moreover, the hydraulically optimised inner contours of the branches minimise flow noise.

### Patented acoustic bracket isolates structure-borne noise.

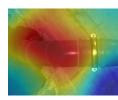
Thepipe support technology takes on a special importance because it forms the connection to the installation wall. The noise-damping REHAU acoustic bracket, which consists of a supporting clamp and a fixing clamp, significantly minimises structure-borne sound transmission to the installation wall.

## **Flawless installation** quaranteed:

The toggle latch in combination with a fixed closing distance always ensure the optimal closing force around the pipe every single time. The specially shaped rubber linings create a self-centering function of both bracket parts to each other and therefore for the pipe. A uniform space is reliably formed between pipe and brackets which maximises the sound dampening performance.

## Patented pipe support technology





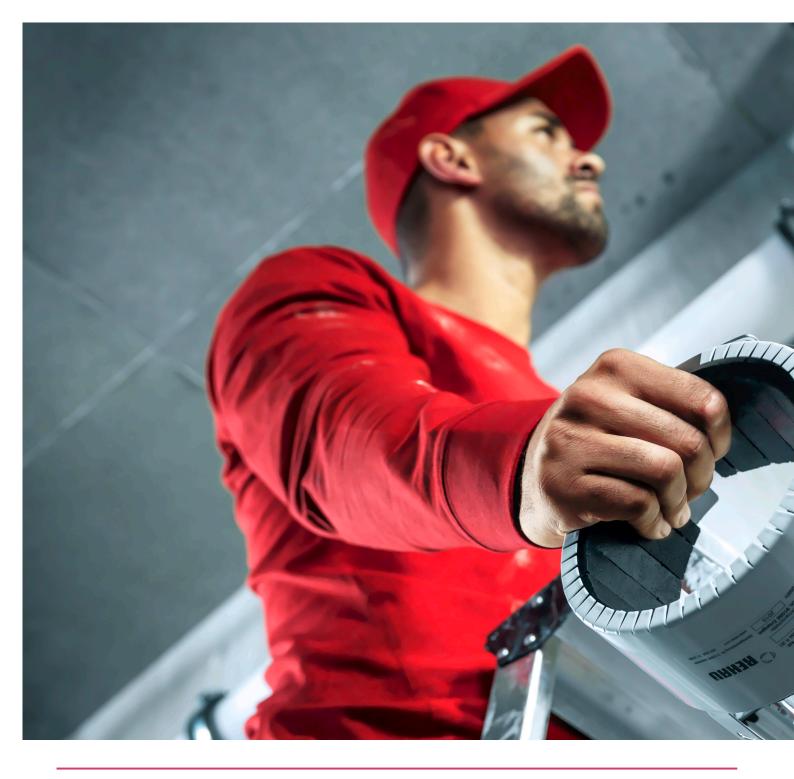
Standard HT-PP

**RAUPIANO PLUS** 

Standard HT-PP

Lowest noise level

Highest noise leve Lowest noise level Highest noise level



## **RELIABLE INSTALLATION.** Fire protection: fast, easy and standard-compliant.

Even when time is of the essence at the construction site, errors are unacceptable when it comes to fire protection. All REHAU fire protection solutions are therefore designed for easy planning, simple installation and straightforward final acceptance.

**Planning:** No need for painstaking comparisons of certifications and test results.

**Acceptance:** Correct implementation can be verified at a glance.

## FIRST-CLASS WHEN IT COUNTS.

With RAUPIANO PLUS system components.



#### **REHAU** fire protection solutions:

In case of a fire, the flames, smoke and hot gases must be contained for a minimum time so they cannot spread to other parts of the building. This means that fire protection measures are also required for every time a service pipe penetrates a wall or ceiling. Above a temperature of 160 °C, the special material expands to 18 times its normal volume and completely seals off the pipe penetrations so that they are fire, smoke and gas-tight, reliably preventing the fire from spreading to adjacent rooms.

## **Fire protection** with RAUPIANO PLUS



## SPACE-SAVING INSTALLATION. No compromises.



## Installed flush:

The fire stop pipe tape (DN 40 to 90) is designed for space-saving, flush installation in the ceiling.



## Just 30 mm thick:

Whether installed against the ceiling or wall, the fire stop collar compact (DN 50 to 125) features an impressively low construction height. The larger fire stop collar plus (DN 40 to 200) is also suitable for installation in the ceiling or wall.

# FIRE PROTECTION PLUS.

With RAUPIANO PLUS system components.



#### Good in tight spaces:

The angled fire stop collar (DN 75 to 125) is especially well-suited to tight spaces, including for pipes exiting at an angle. Installation is performed

## Single-person installation:

Fire stop tape is the clever solution for installation by a single person – without drilling and anchoring. Cut, tape, done.

#### 100 % thermal insulation:

Without compromising thermal insulation, REHAU fire protection solutions can even be used in thermally insulated ceilings, e.g. in underground car parks.



The REHAU portfolio. Systems for installation professionals:

Drinking water installation Radiator connection Building drainage Heating & cooling District heating Ground-source applications Electrical installation



The REHAU Docs app contains all relevant document about our systems. Whether you need brochures, technical information, installation instructions or a catalogue - the app provides fast access at any time. More information and download at: www.rehau.uk

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