

PreNoise® light

predicting noise from service equipment in buildings

Why PreNoise® light?

The web app PreNoise® light, allows you to perform prediction calculations based on DIN EN 12354-5. For every measurement of a wastewater system according to DIN EN 14366-1 at Fraunhofer IBP in Stuttgart, you will receive a coded file alongside the test report upon request. This file can be opened and read using the PreNoise® light software. PreNoise® light allows you to change the properties of the installation wall. You can choose from various wall materials and thicknesses, as well as adjust the room dimensions.

The advantage of a prediction with PreNoise® lies in the fact that it provides an early-stage approximation of the acoustic performance of the planned object, thus allowing for the selection of a suitable wastewater system with the required noise protection level already in the planning phase. This enables more accurate predictions compared to the comparative values provided in test reports, thereby avoiding later construction defects or unnecessary and expensive noise protection solutions.

What we can do for you

- Measurement of the wastewater system in our test laboratory according DIN EN 14366-1.
- Data evaluation and
- preparation of the digital data package for PreNoise® light.

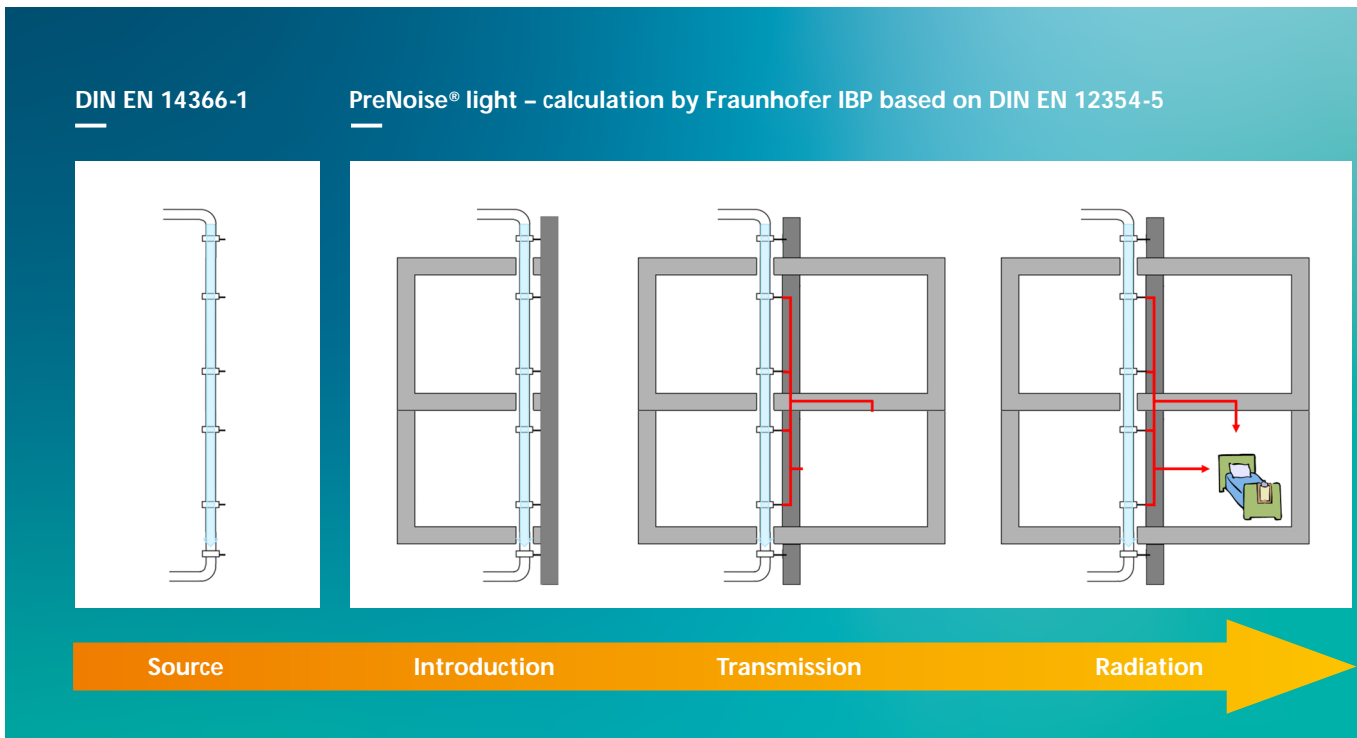
What you can do

- Load the digital data package into PreNoise® light.
- Change the installation wall and room dimensions according your needs.
- Use the predicted values for planning/comparison.

If your project requires more detailed calculations using the advanced version of PreNoise®, please contact our team for further assistance.

*Symbol image of a wastewater system
in a multi-storey residential building.
© Fraunhofer IBP*

**PreNoise**
light www.prenoise.app



Settings for PreNoise® light

Material of the installation wall	concrete, limestones, bricks, light concrete, aerated concrete blocks
Thickness of the installation wall	9 cm to 27 cm (in 2 cm increments)
Room size (L × W × H)	L, W: 2 m to 5 m; H: 2 m to 3 m (25 cm inc.)

Framework for PreNoise® light

Room configuration	Laboratory P12 at Fraunhofer IBP in Stuttgart
Prediction model	Fraunhofer IBP, based on DIN EN 12354-5 (calculation in one third octave bands)
Required source data	Blocked Force ($L_{Fb,eq}$) and airborne sound power level (L_{wa}) in one third octave bands
Results	Single number quantities $L_{Aeq,n}$ and $L_{Aeq,nT}$ (sum levels for 50 Hz – 5000 Hz)

Flow diagram of a prediction using PreNoise® light for calculating the radiated airborne sound in a sensitive room. Initially, according to DIN EN 14366-1, input data (source) is required to conduct a prediction. First, the introduced power is calculated from the source data together with the receiver component, and then the transmission within the building up to the sensitive room. © Fraunhofer IBP

Contact

PreNoise® developer team
Building Acoustics
Department Acoustics

Fraunhofer Institute
for Building Physics IBP
Nobelstr. 12
70569 Stuttgart, Germany

support@prenoise.app



www.ibp.fraunhofer.de/en/expertise/acoustics/building-acoustics.html

