



Stapel Castle Photos: Facade, Picture Gallery and Piano Room

## Restoration of the Art Studio in Stapel Castle

Sound insulation and new underfloor heating for undisturbed creativity

### Materials Used

OSB  
Cemwood Woodchip Levelling Fill  
Wood Fibre Boards 10 mm  
PhoneStar STANDARD TRI Sound Insulation 12.5 mm  
PowerFloor Slimline Underfloor Heating 20 mm  
Wolf Decoupling Plate 4 mm  
Industrial Finished Flooring



### Object and Task

New designs for a well-known sporting goods company are created in the art studio in Stapel Castle in Havixbeck (NRW). In order to enhance the creative atmosphere, it was agreed that the floor would be upgraded acoustically and that an effective underfloor heating system would be installed. The original historic floorboards were to remain in position.

### Solution

Firstly OSB boards were laid on the floor to protect the original floorboards. Then the floor was levelled with a bed of the insulating Cemwood woodchips. Next 10 mm thick wood fibre boards were laid over the levelling bed to improve the impact sound insulation. To reduce both airborne and impact sound through the floor, PhoneStar ST TRI was glued to the wood fibre. Then the PowerFloor Slimline underfloor heating plates were glued to PhoneStar and the Wolf Decoupling Plate was bonded to the UFH plate. Lastly an industrial type flooring was laid as the finished flooring.



1. Cemwood levelling bed on OSB board - below wood fibre boards



2. PhoneStar ST TRI on wood fibre boards



3. Decoupling plate bonded to PowerFloor Slimline UFH



4. Studio with finished industrial type flooring

## Result of this PhoneStar and PowerFloor Project

Very effective soundproofing was achieved by using the slim PhoneStar ST TRI so that no noise was heard between the art studio and the apartment below. The overall configuration achieved an impact sound reduction of 30 dB, which corresponds to about a 1000-fold reduction in the sound intensity. A modern, efficient, slim heating system was achieved with the PowerFloor Slimline underfloor heating system. The Wolf Decoupling Plate on top of PowerFloor meant that a wide variety of floor coverings could have been used. The totally dry construction meant that the complete upgrading project was carried out very quickly and no additional moisture was brought into the old building.

Wolf Bavaria organised an 'Architects' Day NR' in the renovated rooms after all the upgrade works were completed. It provided an excellent opportunity for Wolf Bavaria to showcase their innovative products and to answer the architects' questions. Our partner companies, Cemwood, mbakustik and Steico also used the occasion to share their latest product news.

During the break, Baroness Dr. Mechthild Raitz von Frenzt led guests on a tour of the castle which was built in 1819-1828. After the event, Mr. Axel Reimers demonstrated the full functionality of a traditional veneer saw.

Sound Insulation

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