

# Sound and Heat Insulation with Wood and Clay

## High-Performance PFT Equipment in Combination with Natural Building Materials

A house that can optimally store heat was built of wood and clay by Holzbau Kaul, based in Kunreuth (South Germany). This business, established in 1816, focuses on the application of natural building materials, such as wood and clay. Jakob Kaul, a master carpenter, and his son Rainer, an academically qualified engineer and architect, enjoy and love the natural things in life; hence the company's motto is "Holzbau Kaul ... because wood is life".

Wood makes lightweight supporting structures that can carry considerable loads. Clay stores heat, and its surface creates a pleasant indoor climate. So Mr. Kaul decided to build the walls of this house of wooden boards in the cross-



from the bottom to the top. "Without the aid of a conveying pump, the grouting would have been very hard work," says Rainer Kaul. "The use of a machine enormously facilitated the filling with clay."



Of course, Jakob and Rainer Kaul were especially glad about a construction order concerning a one-storey, half-timbered house in Weingarts, a neighbouring village. The house should not only have a natural appearance, but also offer functional advantages, particularly with regard to heat insulation. Wood and clay are raw materials that are perfectly suitable for this purpose and optimally complement each other.

connection technique and fill the cavities formed in this way with a clay mixture. This method allows the tradesmen to even out large irregularities and projections in the existing structures. Besides, heating pipes and power cables can be installed in the shell without effort. Such a wood and clay covering enhances the heat and sound insulating effect of outside walls.

Rainer Kaul contacted PFT to obtain a machine for cavity grouting. PFT

technical consultant Otto Iff considered the PFT N 2 V mobile conveying pump the most suitable equipment for injecting clay into the cavities, which were difficult to reach in certain cases. The clay was mixed in batch quantities in a tub with a construction-site mixer, fed to the material container of the PFT N 2 V and pumped to the place of application through a 20-metre hose. Using a PFT spray gun, Holzbau Kaul systematically filled the cavities and transverse clearances of the planking, some of which contained heating pipes and power cables,

However, not only the filling work, but also the spraying of a clay plaster finish coat onto the wooden panelling was done by the PFT N 2 V, just by one push of a button. In this way, walls ensuring perfect heat storage were built in a very short time. These heat-insulating walls, which were made at a minimum expenditure of energy thanks to the use of a PFT N 2 V conveying pump, are highly optimised in terms of ecological soundness.

