The conveying rate of the mortar mixture, the metering of the accelerator, the rotational velocity of the continuous mixer, and the movement of the printing head here were controlled via a computer program.

The conveying and printing of the mortar mixture took place without problems, and without any instances of blocking or clogging.

The temperature of the hydrous mortar mixture was about 19°C, that of the ambient air about 21°C.

Throughout the printing operation, the pressure in the hose for conveying the fresh mortar was in the 3-6 bar range.

After about 12 hours, the pipe was raised, using carrying belts and a crane, onto a transport pallet, and was transported to a storage site without any damage.

After seven days, the pipe was destroyed using a heavy hammer, and the fragments were inspected. The fibers were uniformly distributed and the fracture faces did not show any cavities or defect sites, the fracture faces were not oriented in one specific direction, and the applied layers showed equally good connection to one another as within the same layer.

Inventive example 2

Inventive example 1 was repeated, using 2.15 kg of Fibraflex fibers instead of the Kuralon™ fibers.

The fresh mortar had a slump of 305 mm, measured according to DIN EN 1015-3 after the raising of the slump cone without lifts of the flow table.

In this experiment, a nozzle 110 mm long and 12 mm wide was used instead of the circular nozzle.

Printing took place in an analogous manner to example 1, but to produce not a pipe but instead a wall of about 500 mm in height, about 600 mm in width and about 110 mm in thickness, in layers with a height in each case of about 15 mm. The fiber-containing mortar mixture was conveyed and printed without problems, and without instances of blockage or clogging.

After about 2 days, parts were broken out of the wall. The fracture edges showed no preferred direction; the contact areas between the layers were not