

HEBEL AERATED CONCRETE FOR MUSHROOM CULTIVATION



Hebel aerated concrete and mushrooms: an iron-clad duo!

Mushrooms – they are popular the world over. Healthy, rich in vitamins and minerals and, above all: delicious! Demand for mushrooms is growing and, therefore, so too is the need for production facilities. Building them using Hebel aerated concrete panels means building them according to all requirements imaginable.

Since ancient times, mushrooms have been cultivated in locations where the climate conditions are naturally ideal, like stone quarries. Nowadays, mushroom cultiva-

tion is a modern, conditioned and industrialised process. Production, sorting and processing are virtually fully automated. Only the harvest is still a manual activity.



Growing conditions: from compost to mycelium to mushroom

Mushrooms grow in a specially made compost prepared from straw, chicken and horse manure, gypsum and water. The compost is prepared in compost tunnels. Tunnel complexes often cover multiple tunnels that can each be dozens of metres long. Germinated mushroom spores then develop into mycelium, a network of thin hyphal threads that eventually permeate the compost completely. The permeated compost is spread out in a thick layer in cultivation cells and covered with a layer of mulch. The bacteria living in this layer and the climatic conditions stimulate the mycelium to form the body of the mushroom. Provided the climatic conditions in the cell remain ideal, new mushrooms appear every three to four weeks. The soil needs to be replaced regularly.



Stringent requirements...

In preparing compost and cultivating mushrooms (see text box on page 2), atmospheric density, vapour density, hygiene and resistance to chemicals are all factors subject to stringent requirements. Each compost tunnel and cultivation cell must therefore be hermetically sealed.

... that Hebel can meet

Hebel aerated concrete produced by Xella Aircrete Systems meets these requirements. Moreover, the wall, floor and roof panels manufactured from Hebel aerated concrete are strong enough to bear loads thanks to their reinforced structure. Other building methods betray their greatest weaknesses in their joints and connections. Temperature fluctuations create stresses that can cause sealed joints to tear and cracks to appear, with all the predictable consequences: worsening internal climate conditions, faltering insulation, vermin and corrosion. These are problems unknown to Hebel panels. They are glued together to form a whole structure. The interior of the compost tunnel or cultivation cell is finished with a moisture-resistant elastic coating.

The benefits of aerated concrete

Aerated concrete is a stone-like but light construction material.

It is

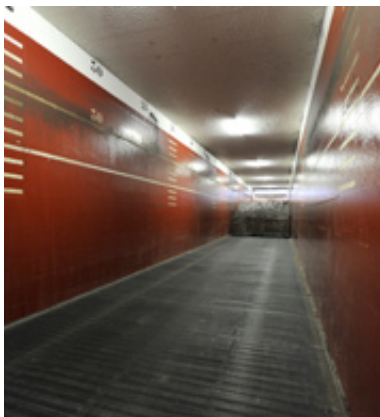
- an excellent heat insulator
- an accumulator
- extremely fire-resistant
- impervious to moisture and mould
- very durable
- light, fast and cost effective

Hebel and the environment

Hebel sheets are manufactured using all natural materials. And because their production requires limited energy, they do not impact our living environment. Furthermore, much of the aerated concrete may be re-used in the production process. Xella Aircrete Systems also strives for minimal logistics, so pollution is restricted.

The results

- A robust, sustainable structure that is guaranteed as both airtight and moisture-proof.
- A production facility that effectively shuts out unwanted outside influences and ensures optimum cultivation conditions.
- A combination of aerated concrete and coating that can withstand temperature fluctuations and changes to the water balance.
- A building that, thanks to Hebel's heat-insulating properties, ensures far lower energy consumption.
- A top rate fire-resistance.



Hebel: that's why!

So, high-quality, low investment and running costs, an especially short construction time and a sustainable result. Hebel aerated concrete wall, floor and roof panels essentially merge ancient cultivation techniques with a state-of-the-art construction system. Mushrooms and aerated concrete: an iron-clad duo!

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