PROJECT →

Slotfelt Barn, Denmark

The barn's reconstruction included a new thatched roof.

Architect
Praksis Arkitekter with Steffen Søndergaard
Location
Møgeltønder, Denmark

By Hugh Strange

The 12m-high Slotfelt Barn towers above the surrounding flat marshlands on the outskirts of Møgeltønder, in the south-west Danish corner of the Jutland peninsula. Built in the 1870s, the building was used to dry crops but wet rot in the timber structure has prompted a total reconstruction. The new building, owned by Denmark's Prince Joachim, now houses a small cultural centre displaying local history and hosting temporary exhibitions and musical events.

The distinctive curved roof rafters were reconstructed by bolting a number of thin layers of timber together to form a single laminated structure. These almost reach to the ground and, to prevent future rot, are raised above floor level, sitting on boulders set into the surrounding earth. The new thatched roof replaces a corrugated metal roof and is attached to the timbers with thick cotton cord fixed via horizontal battens, a construction that accommodates structural movements of almost half a metre resulting from the strong local winds. Within the space sit three movable boxes made of black fibreglass that house toilets and projection equipment.

The original hard mud flooring has been replaced by a 60mm-thick terrazzo floor, cast in a single 300sq m piece. A concrete floor slab was cast up to the perimeter low-level brick walls. Insulation, reinforcement and underfloor heating pipes were fixed to this before a screed was cast, onto which a mesh sheet was attached.

Large pebbles were collected from the surface of the surrounding fields and cut to form a flat face before being laid by hand onto the mesh and bonded with a dollop of mortar. A terrazzo mix incorporating smaller locally sourced pebbles was then poured, eventually levelling at the height of the cut stones. The floor was then ground smooth. Great care was taken while placing the stones to ensure their flat top surfaces were level so as to minimise grinding.

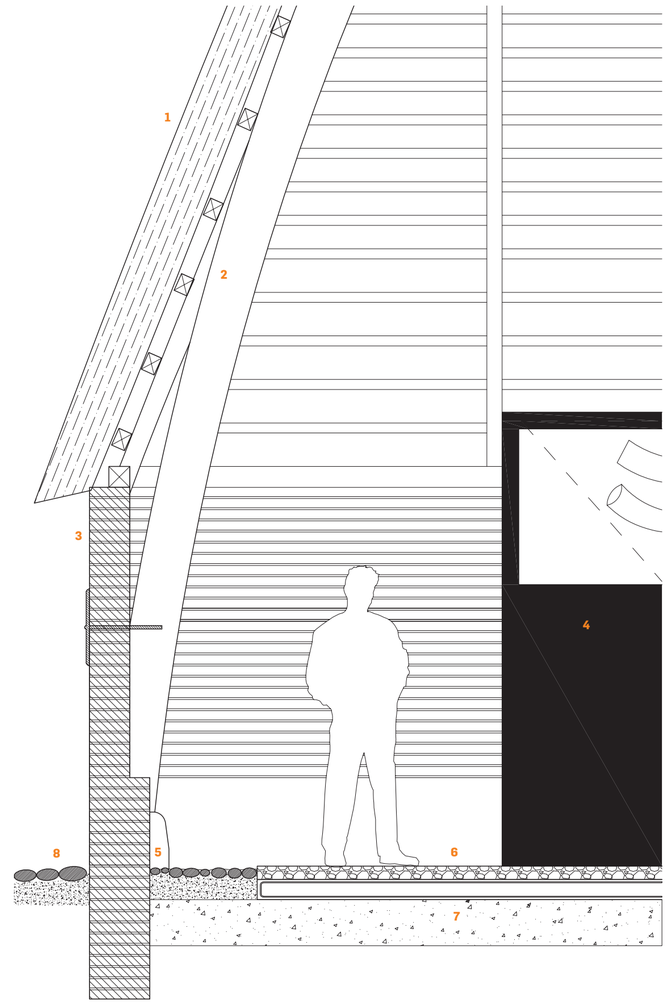
Brass movement strips form a cross, dividing the floor into four equal parts. A border strip, encompassing the bases of the roof timbers, is formed by bedding uncut pebbles in a gravel base. At the main thresholds, large granite blocks have been laid to cross over these edge strips, allowing disabled access into the building.

Finally the floor was treated with linseed oil, bringing out a rich finish of a variety that belies the uniform dullness of the uncut field stones as found.

PROJECT TEAM
Architect
Praksis Arkitekter
with Steffen Søndergaard
Client
Prince Joachim
Structural engineer
Keld Abrahamsen
Services engineer (lighting)
Jesper Garde Kongshaug
Terrazzo flooring
Peter Bendsen

PHOTOS: CHRISTINA CAPETILLO

The terrazzo floor surface was ground smooth before a linseed oil treatment was applied to bring out its rich finish.



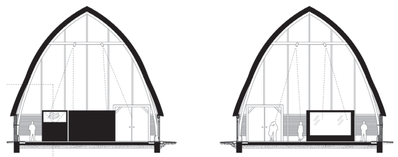
Detail section

1 Thatched roof fixed with thick cotton cord to battens
2 Large curved rafters of bolted-together timber planks bearing on large field-stone footings
3 Single wall brick
4 Black fibreglass movable boxes
5 Large natural field stones as footings
6 Insitu terrazzo flooring on membrane, oiled finish
7 Concrete foundation with underfloor heating system
8 External path and internal border to terrazzo: small natural field stones embedded in loose gravel

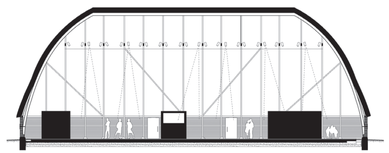
A border strip incorporates uncut pebbles bedded in a gravel base.

Large pebbles were laid by hand and bonded with mortar to the mesh sheet.

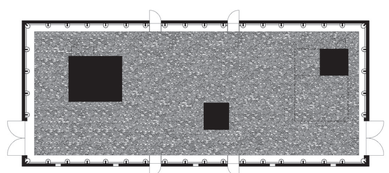
The curved rafters are formed of thin layers of timber bolted together.



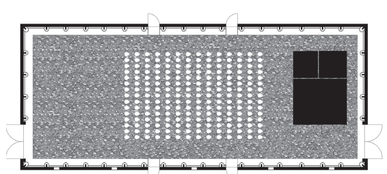
Short sections



Long section



Floor plan showing three movable elements



Floor plan showing seating configuration