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Facoltà di
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SEZIONE OPERE REALIZZATE BUILT PROJECTS SECTION

**Vincitore ex aequo
Equal Winner**

Casa in terra battuta
Rammed earth house

**Progettista
Designer**
Rauch Martin & Boltshauser Roger

**Committente
Client**
Privato
Private

**Localizzazione
Location**
Schlins (Austria)

**Realizzazione
Date**
2008

Segreteria del Premio

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With the construction of the Rammed Earth House by the company "Lehm Ton Erde Baukunst GmbH" (Soil Clay Earth Building Art Ltd.) the attempt has been made to visualize a sensible cycle within an industrial framework. Comparing the value of human work with the use of energy and the value of materials in industrial construction methods that are rapidly spreading all over the world may prove an interesting object for further studies.

The main theme of the project is an unpretentious earth house adapted to European demands and living standards. It is a realisation of the traditional earth house in its matter-of-course simplicity, its material-adequate use, the pure effect and genuineness of material, which meets the demand on modern living standards. The role of earthen architecture in Austria and economically similar European countries is essentially different from the one in low-wage countries. Whereas in the latter case rammed earth constructions are an economically attractive way of building, in Europe rammed earth is primarily interesting as a means of design. The reason for this is the difference in the economic systems, particularly in the value of human work as compared to energy. In building with earth the added value lies in the craftsmanship, not in the material or energy.

Project data: You can find the building in Schlins this is a small village in western Austria. The planning has been performed jointly by Architect Roger Boltshauser, Zürich & Martin Rauch, Schlins. The earth building has about 140 m² living floor space with studios of 30 m². The volume accounts for 120 m³ rammed earth, there are three storeys in load-bearing construction. The thickness of the walls is 45 cm plus 10 cm insulation, made of reed, on the inner side of the wall. The insulation is covered by 3 cm clay plastering which contains the heating pipes. The ceiling is stepped up with wooden beams. Regarding statics, in every floor there is a ring beam made of reinforced Trass lime (which is a historical and low energy consuming concrete) as is the lintel.

Building technique and architecture

Owing to the excellent composition of the local soil (i.e. weathered dolomite sedimentation) the excavated material could be used for building directly in its natural humid condition and without any further processing. Hence, the excavated material was only sieved and mixing was not necessary. So the excavation pit became a 100 per cent supplier of building material.

Due to the high compaction rate of the material realised by means of an improved modern shuttering technique an increased static load-bearing capacity was achieved.

Protection from humidity has supreme priority in earth construction. In this project also those parts that are in contact with the natural soil (mainly the cellar) have been made of loam, sealed by a bitumen coating on the outside.

Soil structures in our part of the world are often not visible as such from outside. Soil used to be covered by plastering or cladding, not only for protection against weathering, but also deliberately because of image reasons (“soil is the building material of the poor”).

Nonetheless, it is well known that soil has excellent qualities regarding indoor climate regulation. It is becoming more important not only because of ecological reasons, but also due to the increasing demand for a healthy living environment. Ecological as well as aesthetic considerations are the determining factors for the use of the various loam construction techniques. Architectural principles concerning the materials used prescribe that loam houses should be noticeable and recognisable as a loam structure, even from the outside, notwithstanding its exposure to climate and weathering.

Modern architectural language often calls for large window openings. This can be achieved in combination with concrete. A sensible combination of materials and their adequate use widens the architectural possibilities – each material for its best application. The appropriate combination of the two materials, based on their high friction values, increases the resistance of the building to earthquakes.



















