

WISBA

Wienerberger Sustainable Building
Academy 2014

MENTOR

Prof. Dipl.-Ing. Florian Musso
TUM - Chair of Buildingconstruction
and Buildingmaterials

Karol Jurkanis
Tobias Sebastian Müller
Alexander Quiring
Magdalena Wölzl

SUMMARY

The main purpose of the report is to give an insight and a manual to the research process of our work.

To find an answer to the rather philosophical question „What a brick wants to be“ specific literature about brick architecture and constructions needs to be worked out. Additionally the most important brick architects and their brick works of the past and the contemporary have to be studied and analyzed.

To find a structure to work out these, we gained information about brick architecture, a scheme was developed which leads through the whole research process and allowed us to get a total overview over the research.

Following the scheme the first thing is to create a catalog.

Catalog:

These catalog consists of three parts. One part is the selection of the analyzed specific and important brick literature. The other two parts are chosen brick buildings until 1975 and after 1975 because of the oil crisis.

Analysis:

In the next step of the analysis of the brick buildings they got classified by historical and contemporary buildings and by the characteristics of their walls.

The gained knowledge of the literature and examples of the catalog helps to understand and analyze the brick architecture referring to the set up criteria we made for the analysis.

Discussion:

In the following step four discussion topics are set up.

The first topic is „**Honesty**“.

Brick walls may pretend to be a pure load bearing brick construction even so they just are brick veneer. These we considered as a not honest brick wall. Brick walls that clearly show that they are just a veneer by showing it or even producing strong joints we consider an honest brick construction.

The topic „Honesty“ is a very sensitive and interesting aspect about the language of brick architecture.

In a technical aspect the layered wall is a continuous discussion because the right way of installing and ventilating and the protection of entering rainwater can in case of disregard lead to heavy damage of the construction.

The next topic „**Load bearing**“ treats all these walls that are honestly load bearing. That means it can be a load bearing veneer that is interacting in a brick composition with also load bearing insulating bricks.

A very common use of load bearing insulating walls with a plastered surface also counts into these topic.

Another important topic is „**Surface Treatment**“.

From the past until the contemporary architecture walls can meet different kinds of surface treatment.

These reaches from specific way to lay the brick and generate a different look of the wall up to specific forms of the brick to generate a self-shading facade.

In this topic „Surface Treatment“ all the characteristics that are generated by changing the surface in a 2 or 3 dimensional way like noise reduction or light transmitting elements are found.

The last topic is „**Joints**“.

There are many ways to treat the joints of a brick building in order to change its character and style. There are many different kind of joints in a building like expansion joints, horizontal or vertical mortar joints etc.

The way how these joints are used influences also strongly what the brick wall wants to show about their construction and is in these way strongly connected with the topic „Honesty“.

It has to be mentioned that most of the brick architecture examples can be found in several topics what has its reason in the complex connection of all of these subgroups and also explains why creating a good brick architecture has to treat all of these topics in a right way.

Conclusions:

Following the scheme the last step is to make conclusions out of every topic.

In the conclusion texts parameters like resistance, performance, design, sustainability, ect. also are taken into account.

(It has to be said that the sustainability in the project work „What a brick wants to be“ is only a parameter and not the main research reason.)

Final Conclusion:

Comparing and relating all these future perspectives a final conclusion about brick architecture and the question „What a brick wants to be“ are generated and might also show „What a brick is going to be“.