

QUERSCHNITTE  
DES



ANTHROPOGENEN  
LAGERS

HFG KARLSRUHE

DIPLOM

MARISA GAAB



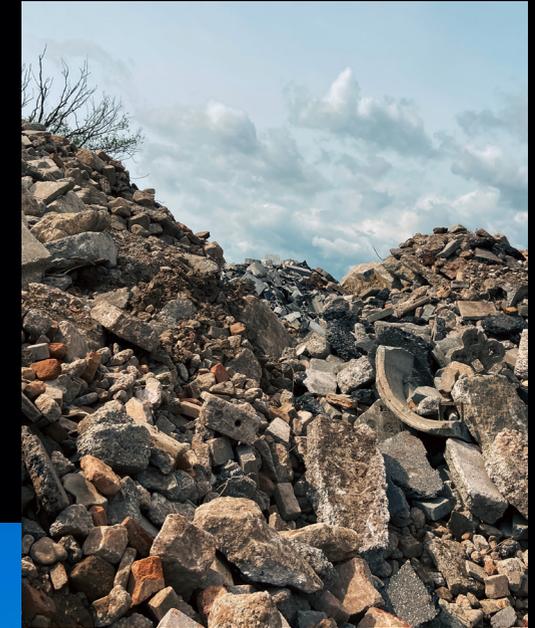
The work „Cross-sections of the anthropogenic stockpile“ deals conceptually and practically with the reuse of construction waste.

A large part of the waste generated in Germany is produced in the construction sector in the form of mineral building rubble and is usually only recycled in a downgraded form. By visiting various construction sites and landfills, documenting, collecting, sorting and photographing the materials and shapes found, the remaining formal and visual qualities of the accumulated material were analysed, explored and concepts were developed on how they could be reused in the same area of their origin.

The existing qualities, such as the cylindrical shape of drill cores or the terrazzo look inside chunks of concrete, were brought to light, emphasised and placed in a usable context by making cross-sections through the material. The resulting material discs can be used as architectural semi-finished products and incorporated into wall panels, tiles or facade elements using various joining techniques.

# CONSTRUCTION WASTE

In many areas, construction sites are part of a familiar city-scape and can be described as urban mines. Although they resemble their equivalents in primary raw material extraction, such as quarries, at first glance, this similarity quickly ends when looking at the processing of the materials removed there. Instead of sources of raw materials, construction sites are one of the largest producers of waste worldwide. The main waste generated is mineral materials such as stone or concrete in all possible shapes, colours and sizes.





Regardless of the existing potential in terms of size, colour and shape, the construction waste is downgraded by crushing and can only be used as filling material such as gravel or sand.



## WORKING ARCHIVE

In order to continue the initial parallels with primary raw material extraction, it was important to gain an overview of the type, shape and size of the materials that arise in order to explore existing potential and utilise qualities. To analyse what was available in detail and to see it as a resource with a wide range of potential, a working archive of collected construction waste from landfill sites and construction sites was created, which served as the basis for the development of ideas.

In addition, questions arise on what material actually is in the broadest sense and how we can design more efficiently with already shaped material in the future. Can we rethink the role of material in planning and design by producing and designing FROM the material instead of WITH the material?



As a result of these considerations and working on the archive, the drill cores I found increasingly became the centre of my interest. They provide insights into the material that permanently surrounds us in our urban world, a material that is barely visible in everyday life, hidden behind facades or plaster. The cross-section through the material reveals fascinating structures that are reminiscent of terrazzo tiles or floors due to the interplay of different sized and coloured stones in the concrete. The cylindrical shape also quickly evokes associations for possible reuse.





In contrast, the majority of the construction waste found consists of formally undefined, amorphous chunks of concrete or asphalt, whose original form has mostly been completely destroyed, making it difficult to recognise previous intentions or formal qualities. Unlike the drill cores, they are difficult to categorise into a familiar system of shapes. Despite that, to explore the formal and visual qualities, it made sense to apply the principle of cross-sections here as well, in order to make possible hidden qualities visible and usable.



## CONCEPT & PRODUCTION



The cuts through the amorphous chunks, which were first made with a water jet cutting machine and then with a wet saw, also revealed aesthetic, terrazzo-like qualities.





In order to bring these qualities into a reusable context, it was important, regardless of the irregularity of what was found, to establish a regularity that combines the formal qualities of the irregular with the aesthetic qualities of the cross-sections and so creates reproducibility. This regularity was found in repetitive cuts through the material. The resulting discs, when seen as architectural semi-finished products, can serve as a starting point for forming elements that remain in the same field of their origin.

## OBJECTS

The objects resulting from this concept demonstrate various possible forms of utilisation in the architectural field through different joining techniques. Applications as façade elements, indoor wall panels, architectural art or as floor coverings are imaginable.





A corner element made of concrete discs with a hole and screwed to a substructure of bent wooden slats.



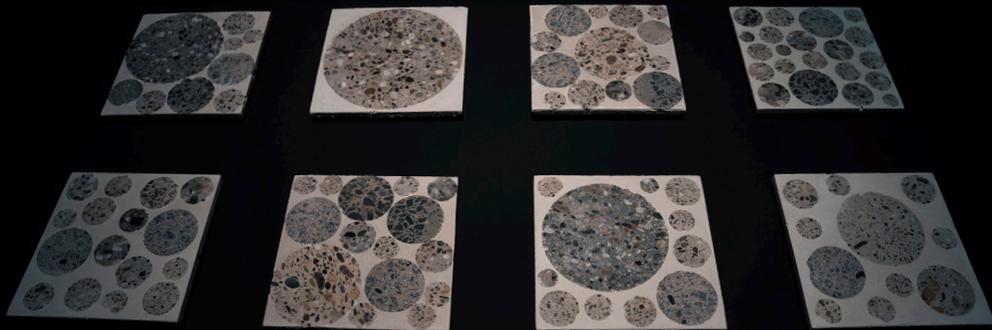
Four elongated wall panels made of asphalt discs, also with holes and screwed onto a substructure of wooden slats.



A semi-circular element made of slim asphalt discs, also with a hole and screwed onto a substructure of semi-circular wooden slats.



A façade element consisting of a wooden frame, wire rope and small concrete discs woven into it through a small hole in the centre.



All these elements focus not only on a new perspective on the material, but above all on the seemingly lost value of the material and attempt to make it visible again through design.

Eight 30 x 30 cm tiles made of white concrete with cast-in drill core discs, which were then sanded smooth.



The exhibition created in the course of the diploma presentation focusses on the development of the found construction waste within my work. From the pile of rubble to the categorised and sorted archive and smoothly polished cross-sections, to the finished conceptual objects, each area was thematised and worked out individually. The exhibition concept is based on the presentation of valuable archaeological finds in museums and is intended to counteract the seemingly lost value of the objects presented.

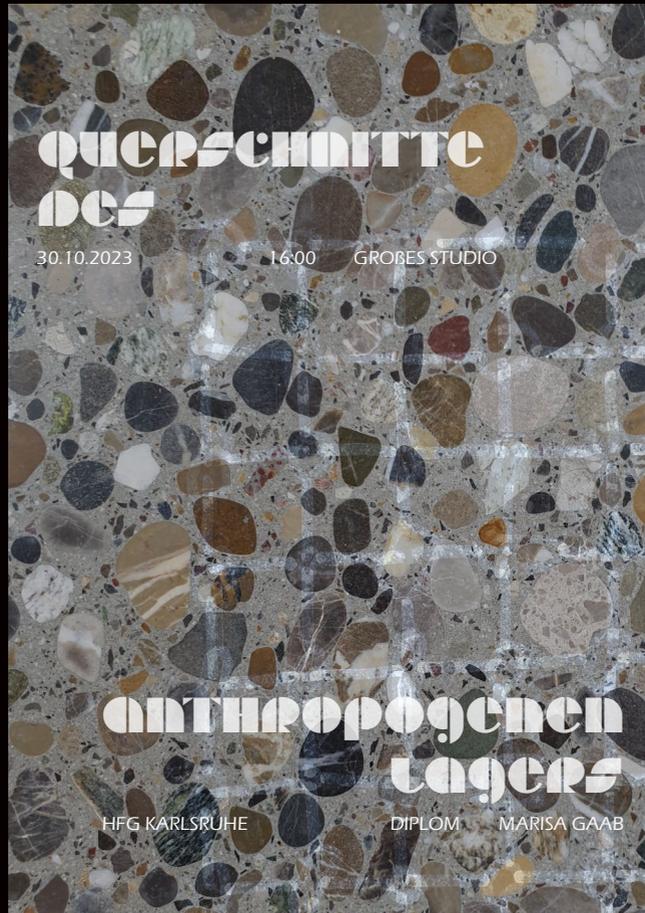




# BUFFET

The buffet was located in the entrance area of the exhibition space, visually and thematically matching the exhibition. Chunks of concrete, drill cores and drill core discs formed the basic framework of etagères and serving plates for layered slices of bread, round pumpernickel bread, piled spreads and wine bottles and glasses.





Three posters were created for the exhibition, which combine the hand-drawn sketches of the objects created during the process with detailed photographs of cross-sections, thus combining the fascination for the appearance of the construction rubble inside with the resulting concepts of use without anticipating them.



Jeanne Moderno Geometrique was used as the font for the title; the large surfaces and the two-part structure of the font reflect the production method and the appearance of the construction waste discs.

Project supervision	Chris Kabel, Freia Achenbach
Theory exam	Barbara Kuon, Rebekka Ladewig
Material and production	Waterjet Production Academy GmbH, Braun Bagger-, Abbruch und Recycling- betrieb GmbH, Schoch Naturstein Design, BTT Betontrenntechnik Landau, Materialprüfungs- und Forschungsan- stalt Karlsruhe, Staatliche Akademie der Bildenden Künste Karlsruhe - Peter Kasamas
Exhibition	Sebastian Schäfer, Alexander Knoppik
Buffet	Amelie Poxleitner, Luisa Hentsch, Wine- ry Hundemer Hainfeld
Poster	Luisa Hentsch
Photo	Joshua Weber
Help of any kind	Amelie Poxleitner, Luisa Hentsch, Anna & Holger Roch, Constantin Hatz, Lex Pott, Stefan Legner, Jannik Lang, Joshua Weber, Florian Knöbl, Leah Gaab, Luca Süß, Mama & Papa



Concept, product design,  
exhibition design

Marisa Gaab



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MARISA GAAB