

# INTRODUCTION

FRANCISZEK MORKA



## PRESENTATION:

- RESEARCH
- KLUSFLAT CATALOGUE
- PROJECT



# KLUSFLAT STRATEGY

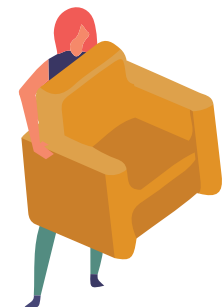
DO IT YOURSELF STRATEGY



# RESEARCH QUESTION

***Can the strategy of the so called Klusflat be adapted to living spaces for young professionals. Does it help to avoid problems such as lack of personalization, not affordability and loneliness.***

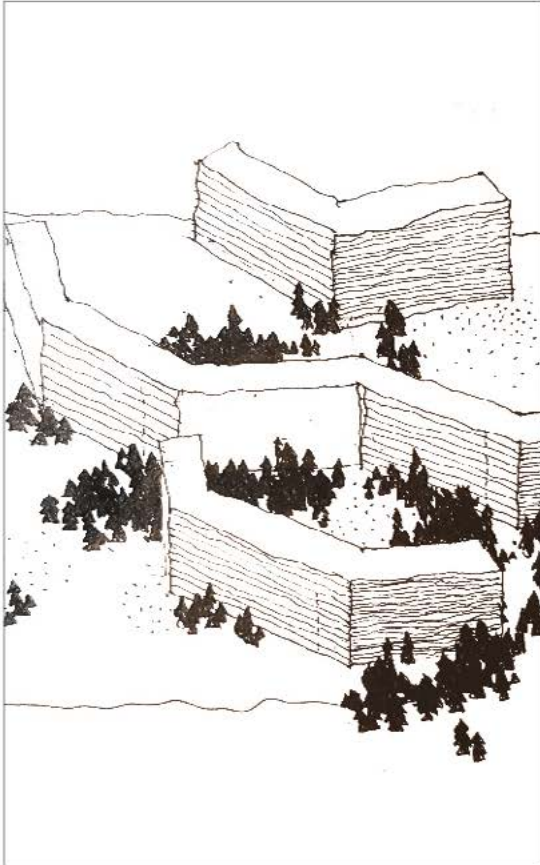
- 1. To what extent does the framework of the building have to be prepared by architects and professionals to bring the most proper starting point for new tenants.*
- 2. How brave and open-minded are people working with their own space in a process of Klusflat renovation, and how skilled are they. To what extent the flats can be designed and rebuild by amateurs in terms of materiality and construction methods.*



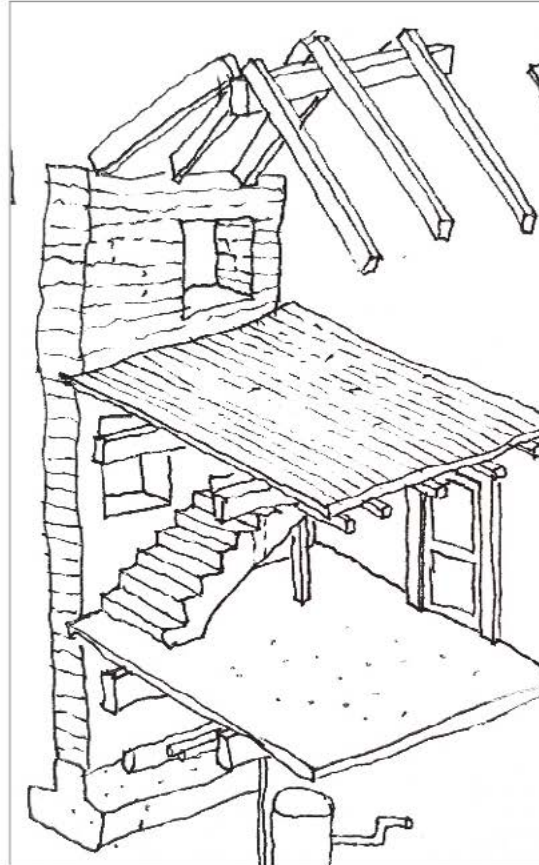


# RESEARCH PAPER

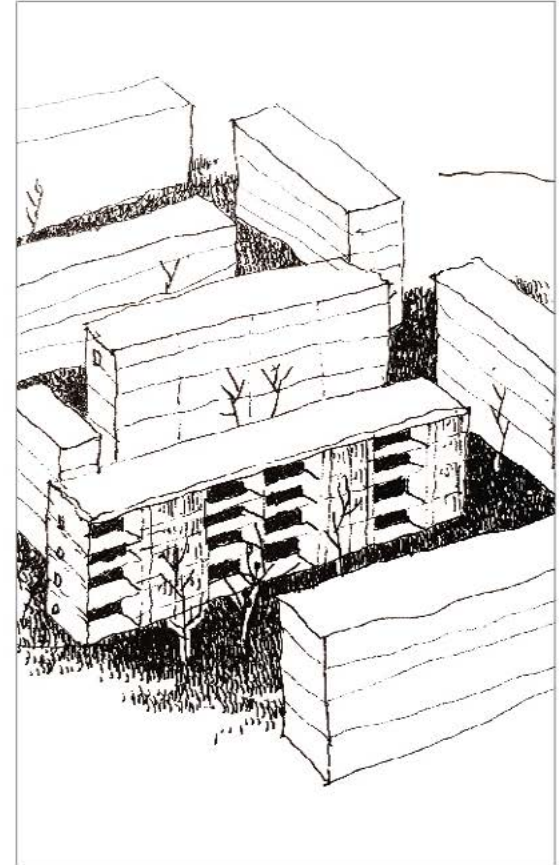




KLEIBURG



169 KLUSHOUSES



KLARENSTRAAT

more interesting to possible buyers (T. Wilkinson 2017). Flats were sold successfully for very affordable, as in Amsterdam, prices (DeFlat, 2019).

### 3.1.3. General modernisation- DIY framework

The modernisation of the structure and facade have been designed by XVW Architectuur and NL Architects. They were responsible for improving the value and a look of existing structure, and also preparing a framework for future owners' modernisation. In other words, they had to give the building a new good impression to inspire creativity of craftsmen. As a first step, the building has been reintegrated with the surroundings. The upper circulatory system was demolished (7), while the ground floor that used to be entirely storage units has been transformed (6). It was converted into small business spaces, workshops and bike storage spaces. Some of this became living units also increasing the total number of flats. Thanks to that the ground floor become an interesting space, full of people as it was never before. The passage through the building were enlarged to make them safer and brighter what had also a positive impact on the character of ground floor. Also the facade and overall look of a building has been improved (4). Everything has been cleaned, fixed and refreshed (5) to give a contemporary, fashionable look this old building. Other important modernisations have been done inside the building. The main concrete structure of Kleiburg turned out to be in a good condition what saved a lot of work, however some extra values have to be added. New lifts were installed (3) to improve the communication. Corridors and galleries have been closed, and shortened to improve safety and to make them easier to clean and control. The general look of interior has been improved with contemporary details and quality and fashionable materials (2) such as ceramic and concrete. Also more light is coming through big windows now, and. Finally, services pipes and wire installation have been replaced. The exteriors stayed unchanged except for the removal of opaque panels from the rooms facing the access desk, increasing natural light (1). (Blasi Giralt,2017) (T. Wilkinson 2017) (NL Architects 2012)

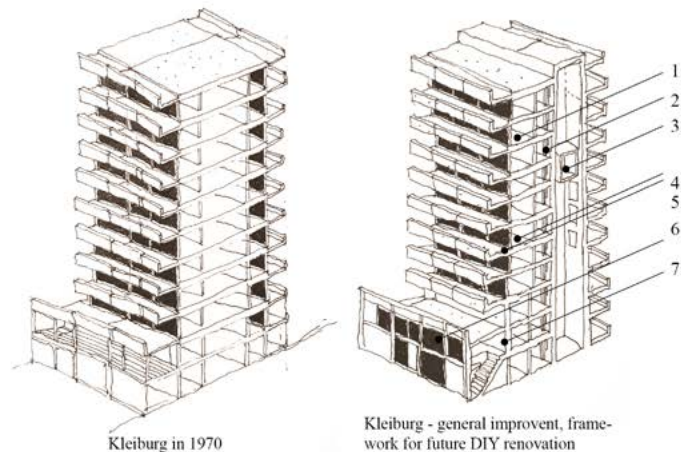


Figure 2: Kleiburg renovation by NL Architects

### 3.1.4. Flats DIY process

Flats in Kleiburg has not been changed during the general modernisation of the structure. New owner were completely free while shaping their own space. An approach to a modernisation different. Some tenants decided to do all works themselves while other decided to outsource. Author of a blog *Ipaulvandenbergh*- Paul van den Berg (Berg 2013) takes a balanced position

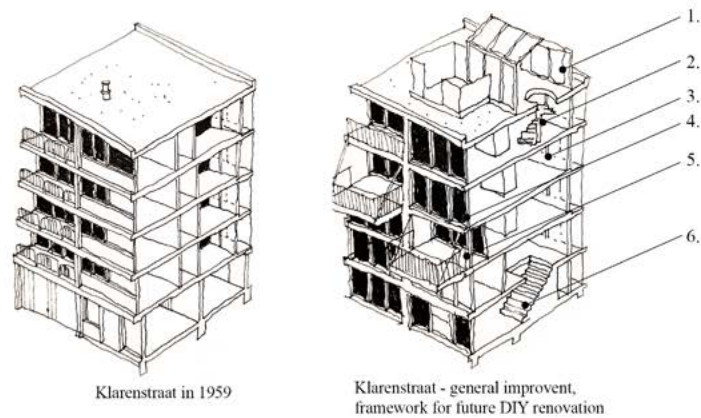


Figure 4: Klarenstraat renovation by NL Architects

### 3.1.3. DIY process

In the building in Klarenstraat the DIY process looked different. It shows that DIY term should not be taken literally in this case. Vincent van Rossem in a book "DIY Klarenstraat" (Ulzen, Vries, Bussink, 2017) describe the DIY of Klarenstraat more as DIY- development and planning process than physical works. What is more many tenants, introduced in the book, had all work done by contractors, while they were only supervisors of that work. DIY process on Klarenstraat started with a consultation period in 2012. It is also described by authors of a book as the most challenging part. It is because in Klarenstraat case owners were also investors and important participants of all discussions among others- financial. They had to take responsibility for the process as a whole, not only their own space They had to work out the best balanced option in terms of spatial planning and finances for all of them. Tenants worked during special meetings where they shared their expectations and ideas by mind maps and references. Meeting have been organised in a shape of open workshops where informations have been collected by simple diagrams and mind experiments that had to be finally discussed with others. Architects and organisers took a position of supervisors. They were responsible for moderating a discussion and best findings.

### 3.1.3. Social impact

Similar to Kleiburg situation, operation in Klarenstraat was intend to be a positive impulse for a neighbourhood. The organizers expect that young and creative, well educated new inhabitants will move in to increase the diversity of the community. This was observed in Rotterdam in first experiments such as WallisBlock and turned out be successful. In Klarenstraat something positive really happened. In the book "DIY Klarenstraat" (Ulzen, Vries, Bussink, 2017), Patrizia van Ulzen describe the process as one with rather good impact on a local environment, however not unequivocal and difficult to clearly explain. Some foundations for local community has been created in a refurbished block. A group of active and positive inhabitants appeared under the name of "Meer sfeer bij de beer". Their goal is to make the neighbourhood more lively and friendly. However the positive impact on existing environment is hardly noticed, as she writes.

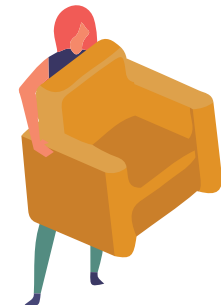
### 3.1.3. Costs

Costs of the DIY on Klarenstraat are summed up by Sander Gelink in a book about Klarenstraat (Ulzen, Vries, Bussink, 2017) He writes that cost of space, stripped back structure was 714 per square meter, while renovation itself was 768 per square meter. Additional costs were around 100 per square meter.



## RESEARCH QUESTION

- ✓ *Can the strategy of the so called Klusflat be adapted to living spaces for young professionals. Does it help to avoid problems such as lack of personalization, not affordability and loneliness.*
- ✓ *1. To what extend does the framework of the building have to be prepared by architects and professionals to bring the most proper starting point for new tenants.*
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# KLUSFLAT CATALOGUE



# KLUSFLAT CATALOGUE

INTRODUCTION TO KLUDESIGNING

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FRANCISZEK MORKA



## KLUSFLAT LESSON

In my research I learned what the good and inspirational environment is for klusflat owners. In my work I pointed out all possible areas for improvements and details that can be applied to prepare a good DIY environment. In my opinion there are few aspects: technical environment, social environment, aesthetics and aspect of negotiation. Here there is a list of main ideas and assumptions that should be applied in a klusflat project. On following pages there is a short catalogue of solutions that can be used in architecture.

### TECHNICAL ENVIROMENT

The proper technical environment for DIY interventions is frame that by its spatial, material, technical solutions inspires and encourages owners to work with the space. It gives also a needed flexibility and tolerance for errors. Main assumptions are:

- simple solutions
- modularity
- simplicity and legibility
- versatility of solutions
- space for errors due to unprofessional solutions
- educational character of the building
- solid and durability of the building (a building has a solid character)
- space for personalization
- flexibility
- affordability
- save for owners works
- logic of spaces improves the communication

### SOCIAL ENVIROMENT

Appropriate klusflat Social environment is a combination of physical and abstract ideas and solutions that improves communication and cooperation between owners. It also encourages them to work with their space, to cooperate

and to feel good. Main assumptions of this are:

- spaces that provoke meetings
- spaces of interactions
- flexible spaces that can be adapted
- spaces to organize by owners as an effect of discussion

### ESTETIC ( ATTRACTIVE)

Aesthete's aspect is the set of rules and idea that helps to make a building attractive for people. It shows how to encourage them and educate them to be most involved and effective in there klusflat process.

### NEGOTIATIONS

The aspect of negotiations describes a social environment prepared for open discussion between new owners. They are encouraged to negotiate the space function, areas, costs etc. There are only basic rules that regulate this process.

#### TECHNICAL

STRUCTURE  
COMMUNICATION  
DURABILITY  
SUSTAINABILITY  
SAFETY

#### SOCIAL

EDUCATION  
SAFETY  
COMMUNITY DEVELOPING  
SHARED SPACES  
ORGANIZATIONS RESPONSIBILITY

#### ESTHETIC (ATTRACTIVE)

ATTRACTIVE DESIGN  
PERSONALIZATION  
MINIMALISM AND FASHION  
SPACIOUS ROOMS  
SELF SUFFICIENCY

#### NEGOTIATIONS

TETRIS



# 1.1

KLUSFLAT CATALOGUE

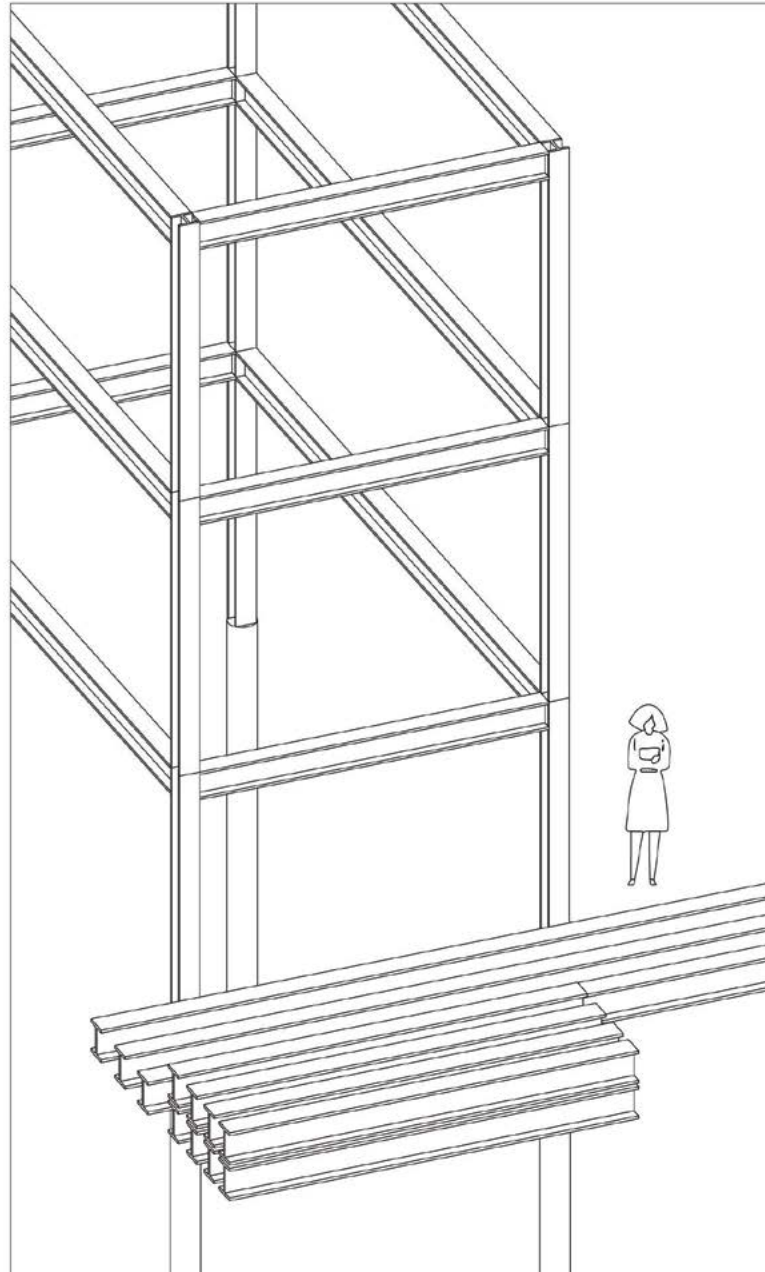
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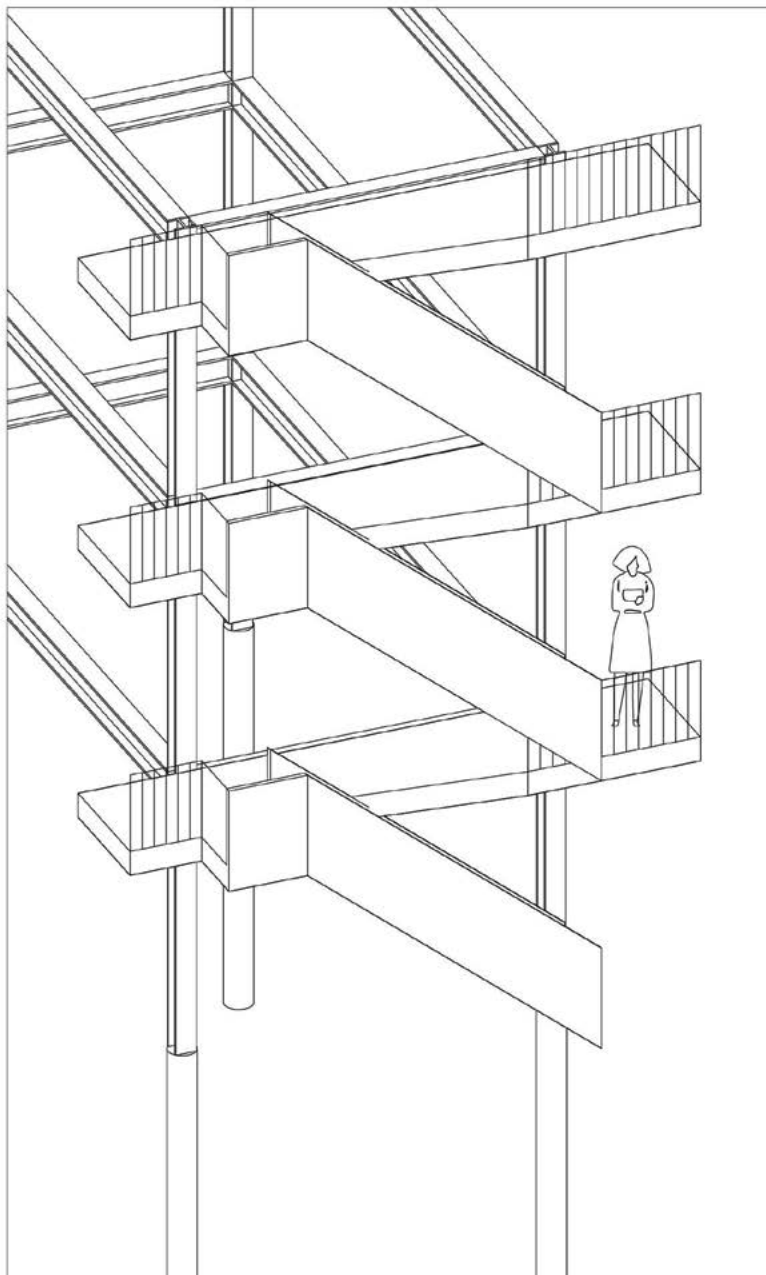
## TECHNICAL ENVIROMENT / STRUCTURE

The proper technical environment for DIY interventions is environment that by its spatial, material, technical solutions inspires and encourages owners to work with the space. It gives also a needed flexibility and tolerance for errors. This part is directly inspired by my case studies observation. Technical changes and improvements have been applied in Kleiburg, Klarenstrat and to old houses of Spangen. Structure part of a catalogue introduce very basic ideas for a DIY building, it shows main structure and general flexibility

### 1.1.1 MAIN STRUCTURE

Main structure of the building is made of steel beams. Beams are screwed together and extra welded. Construction elements create a repetitive system. The structure is simple and understandable. Thanks to that building can be easily construct, can be fully recyclable. However the most significant feature is that the building keeps it flexibility and can be adapted easily. Finally the buildings structure is clear to new tenant. It helps them to work with their spaces themselves and to understand rules of constructing.





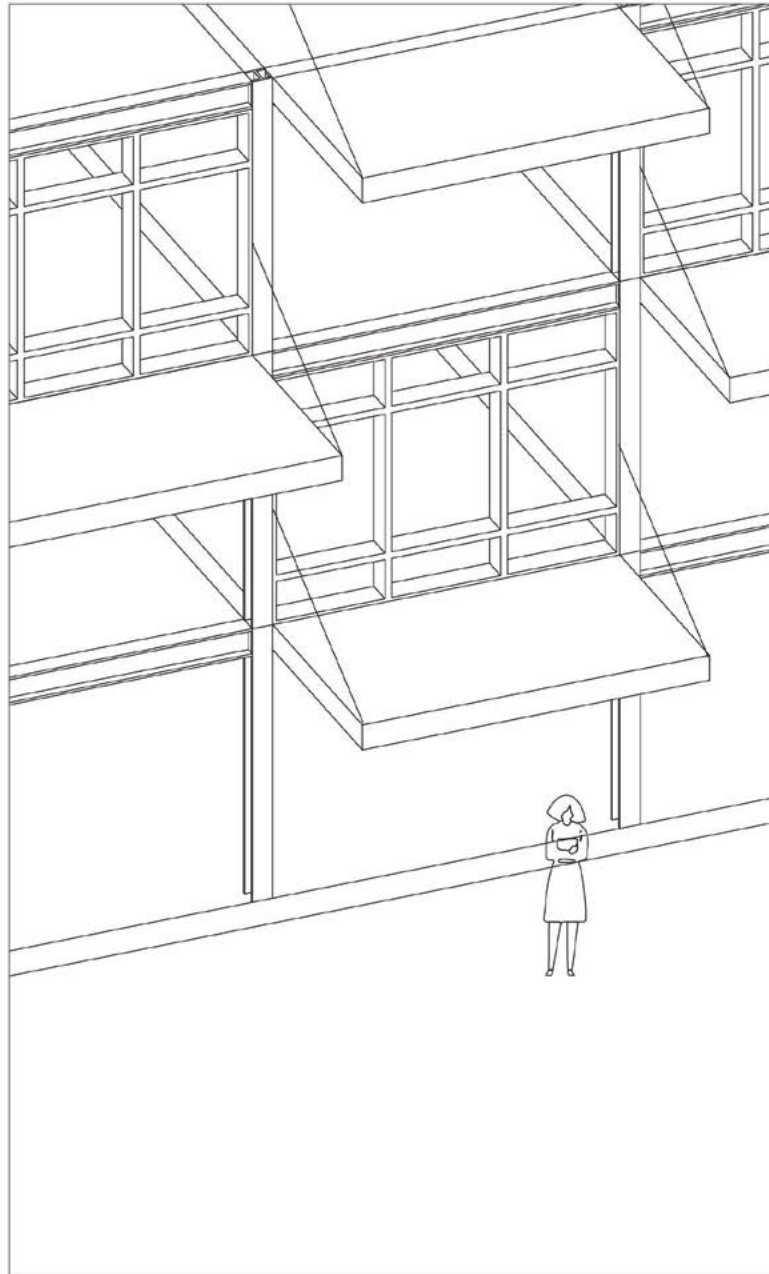
KLUSFLAT CATALOGUE

TECHNICAL / STRUCTURE

## 1.1.2 SECONDARY STRUCTURE

The main structure is completed with galleries.

Galleries are structure independent steel elements. They are installed on an interior part of a building and hang on a main steel structure. Galleries can be easily installed after completing the main structure. A big advantage of this approach is modular, independent system the possibility of installing them without special reinforcement.



### 1.1.3 BALCONIES

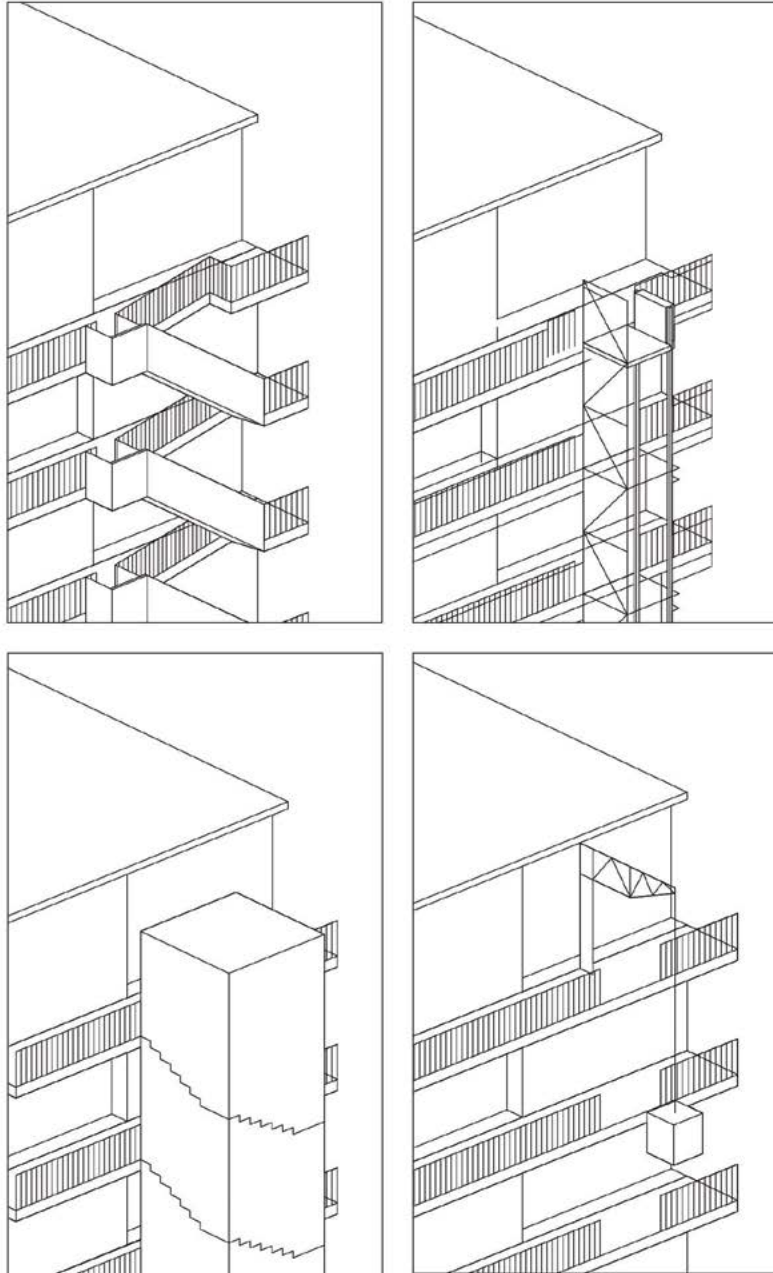
Balconies are next to galleries a hanging element of secondary structure of the building. Balconies are steel frames hanged on a front facade of a building. Balconies can be as galleries easily installed after completing the main structure of a building. This elements, similar to galleries are independent modular objects that do not require special support. In a final stage of completing the building balconies and galleries take a role of scaffolding of a building and can be helpful to install windows frames and facades panels.





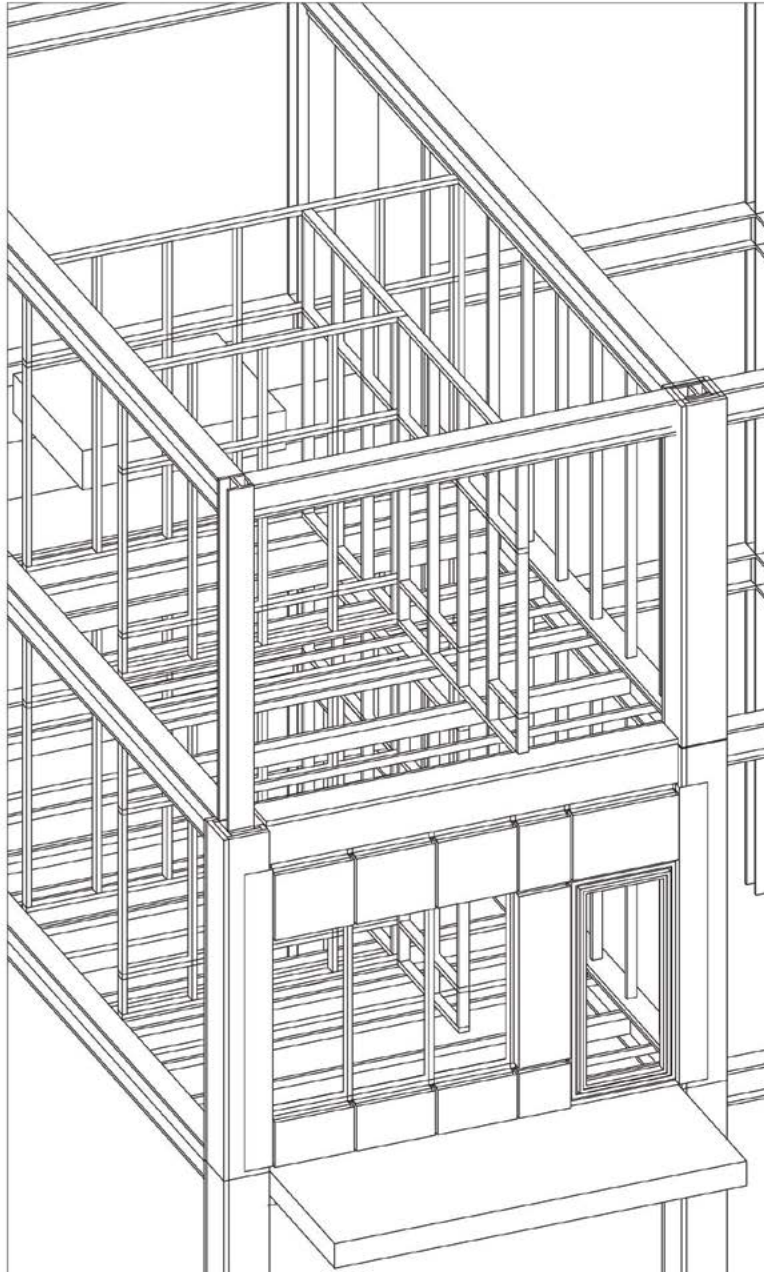
## 1.1.4 VERTICAL COMMUNICATION

Galleries are main horizontal communication in a building. Vertical communication can be realized by next element. Vertical communication elements are always strictly independent objects made in steel. There are few possibly that can be installed depend on needs and ideas. The first option, common and cheap is a basic stairs module. This module connects two close floors and can be easily installed - hanged- on a gallery facade. The second module is a lift module. It is a solution created for elder people and handicapped. If needed it can be easily installed next to galleries. Third option is a closed staircase. In some circumstances tenants can decide that it is the most appropriate option for their building. The last proposed element is a crane. It is a simple and cheap solution to transport physical objects as furniture's and building materials.



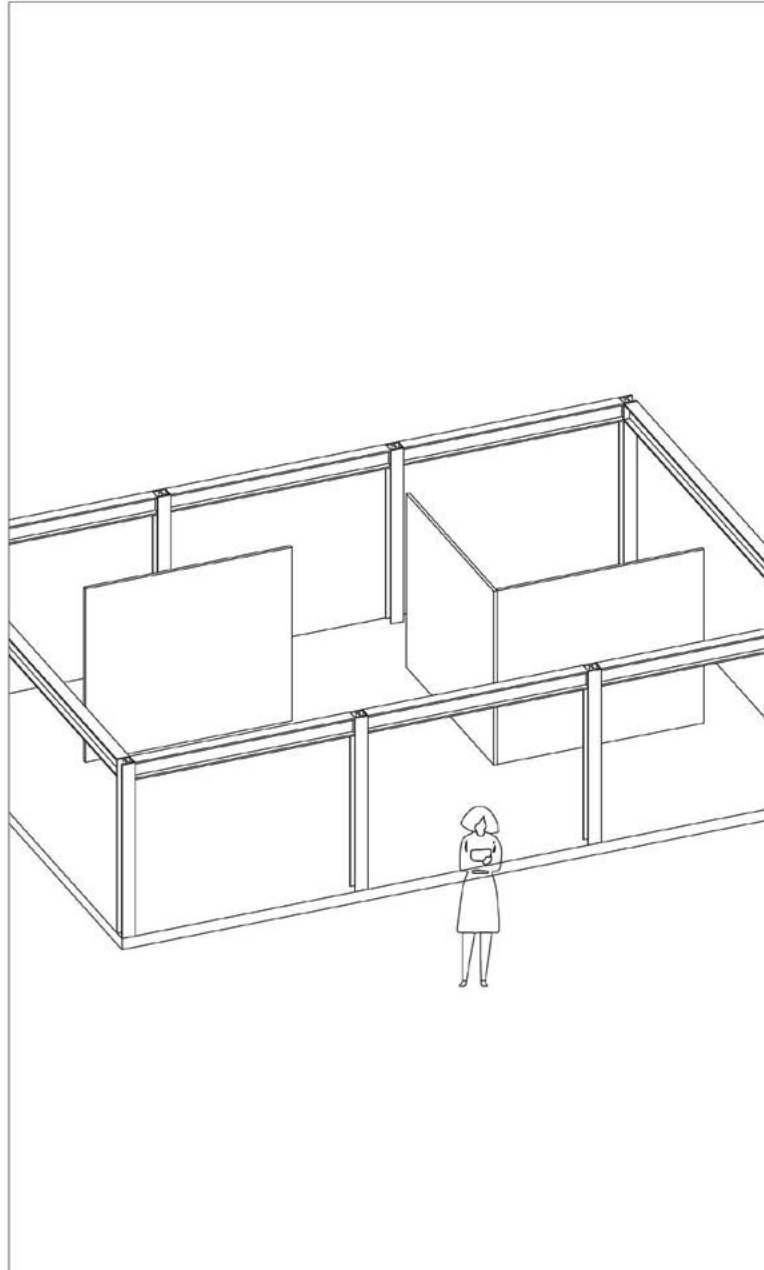
### 1.1.5 INTERIOR STRUCTURE

Next and important technical rule of a Klusflat building is an interior structure which is structurally independent from a main structure. In that case the interior structure is made - different than main structure - in wood. It is crucial to give tenants the maximum of flexibility in shaping their space. Wood is also said to be simpler and softer in shaping so better for not fully professional craftsmen's. Hopefully everything can be done with simple tools and in a small team. Also, if needed, each element can be replaced easily



### 1.1.6 FLEXIBLE SPACE

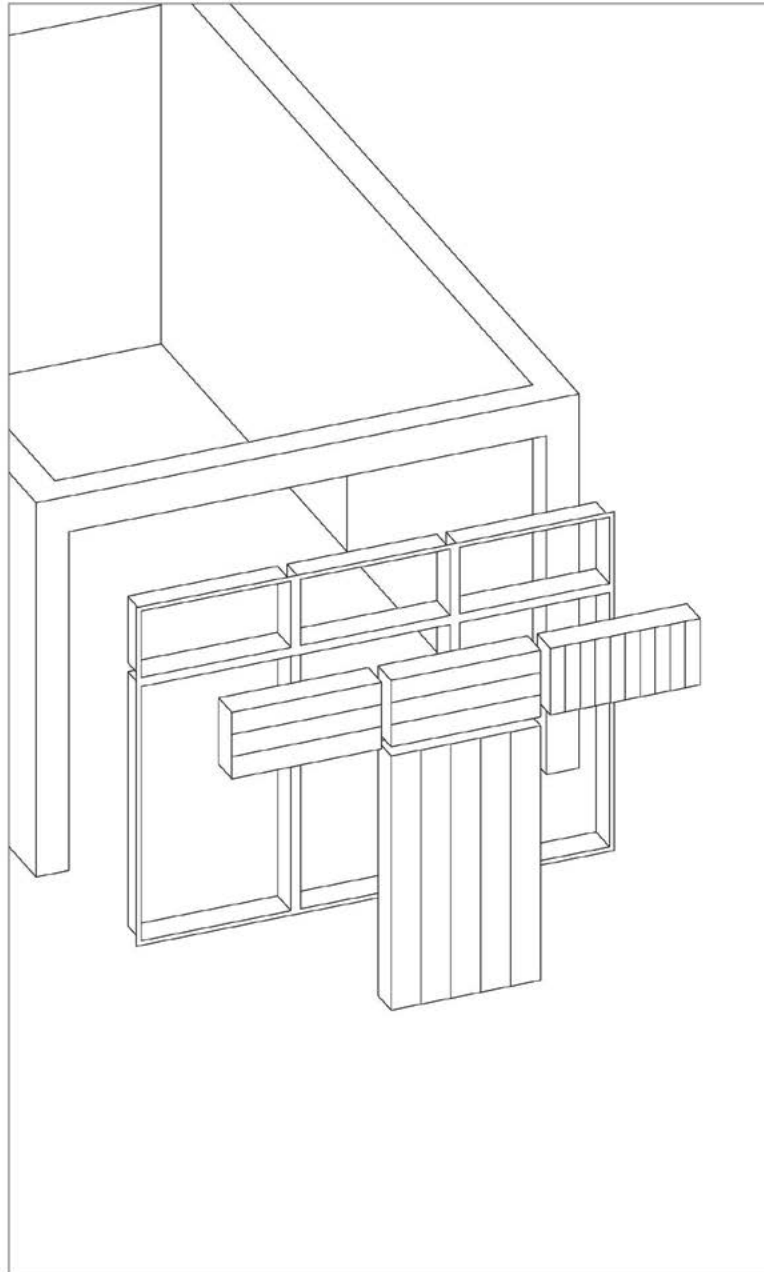
The interior and main structure is almost independent from each other. Thanks to this space inside is flexible and can be simply shaped depends on needs. This assumption takes an important role in creating proper technical environments for DIY owners. This approach aligns also with next assumptions and ideas that will be introduced in a catalogue.





### 1.1.7 FRONT PANEL

Front panel of each unit can be shaped freely depends on ideas and needs. Thanks to modular construction of a front panel it can be easily understood by DIY workers and adapted. Depend on needs main doors can be installed on left or right side, with different sizes and materials. Windows and even finishing materials can be freely modified, Different than front facade panel back facade panel is fully customized.



# 1.2

KLUSFLAT CATALOGUE

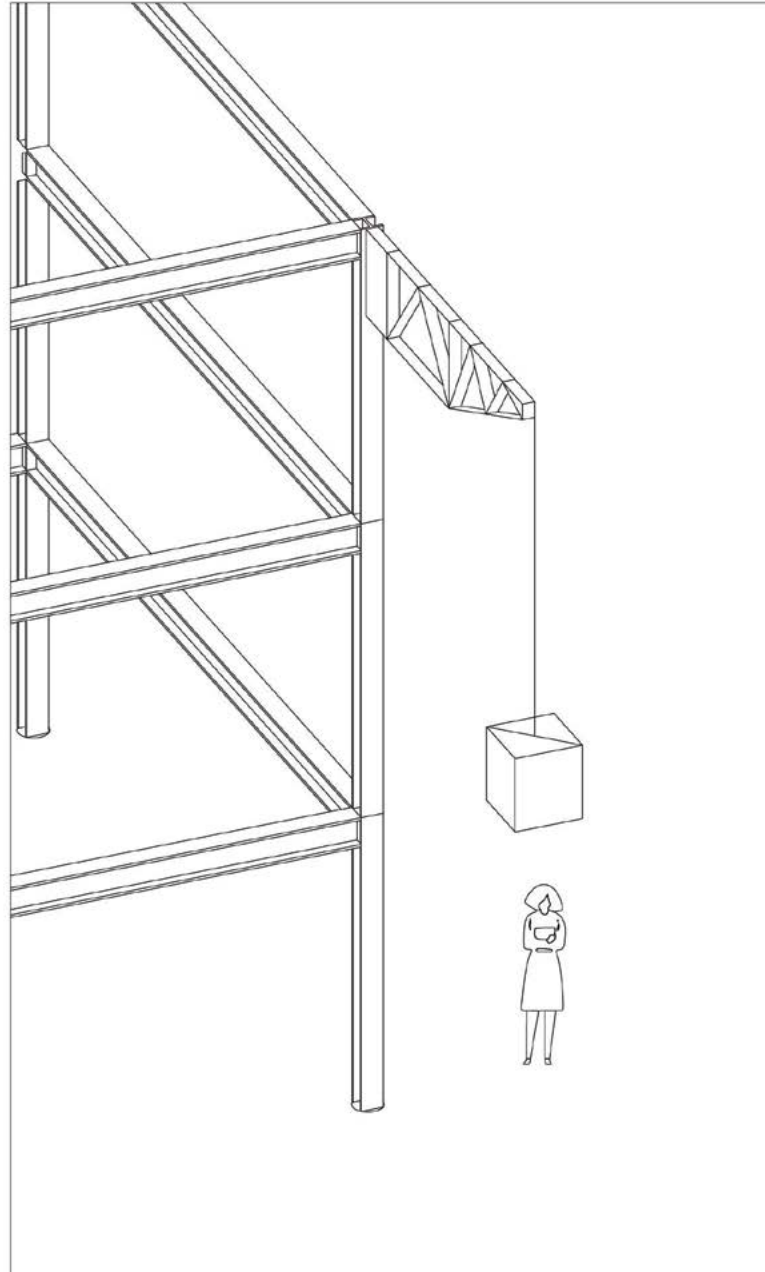
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## TECHNICAL ENVIROMENT / COMMUNICATION

The proper technical environment for DIY interventions is environment that by its spatial, material, technical solutions inspires and encourages owners to work with the space. It gives also a needed flexibility and tolerance for errors. This part is directly inspired by my case studies observation. Technical changes and improvements have been applied in Kleiburg, Klarenstrat and to old houses of Spangen. Communication part shows more detailed elements and solutions showing how the communication of people, materials and resources is solved in a building.

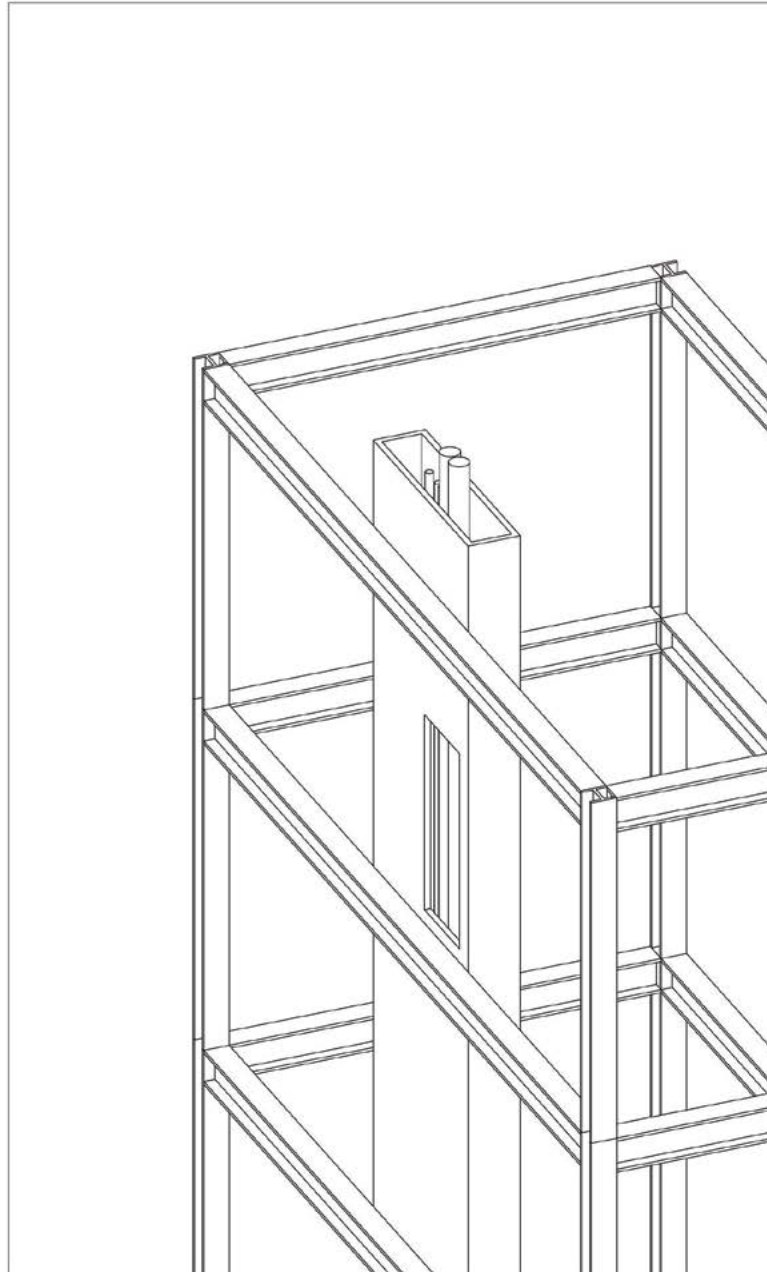
## 1.2.1 CRANE

There is a crane attached to a facade of a building. As said before this is independent from a main structure element designed to transport vertically physical elements like furniture and building materials. It can be installed easily and removed depends of needs of tenants. It can be used by two people however to prove safety it should be watched by more. The biggest advantages of this solution are its simplicity, very low cost. It is also extremely fast way to transport elements.



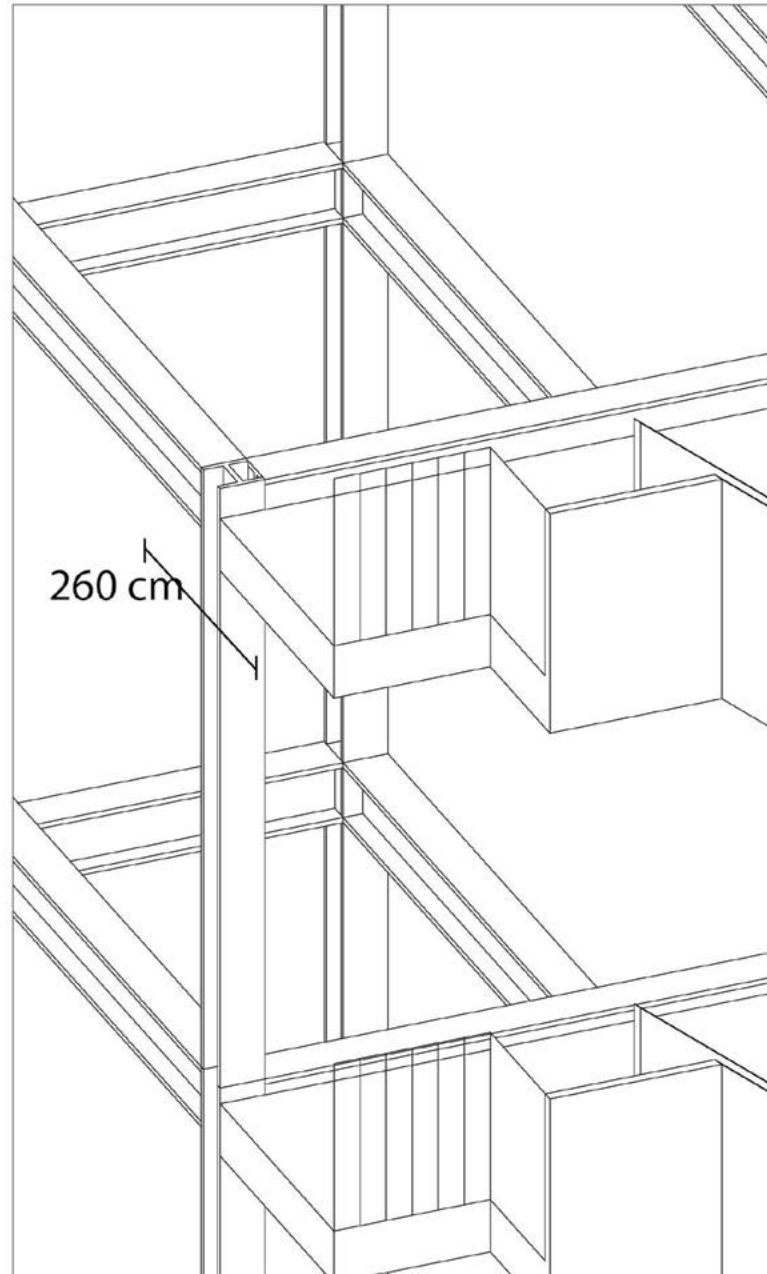
## 1.2.2 MEDIA

Another applied and important for DIY owners system is a service system. All buildings needs technical infructurecte such as pipes, ventilation electricity wires etc. Most of the time this are installed in vertical spaces inside along main walls. In this DIY building the solution is similar. However there are few changes. Space for installations is bigger than needed. It gives a lot of extra space for unexpected interventions or a change it also allows people to work easier and gives an extra limit for errors. An access to this space is also simple and very affordable. Every owner can easily attach his or her housing needs to a system. Everything can be inhaled or replaced faster.



### 1.2.3 CORIDORS

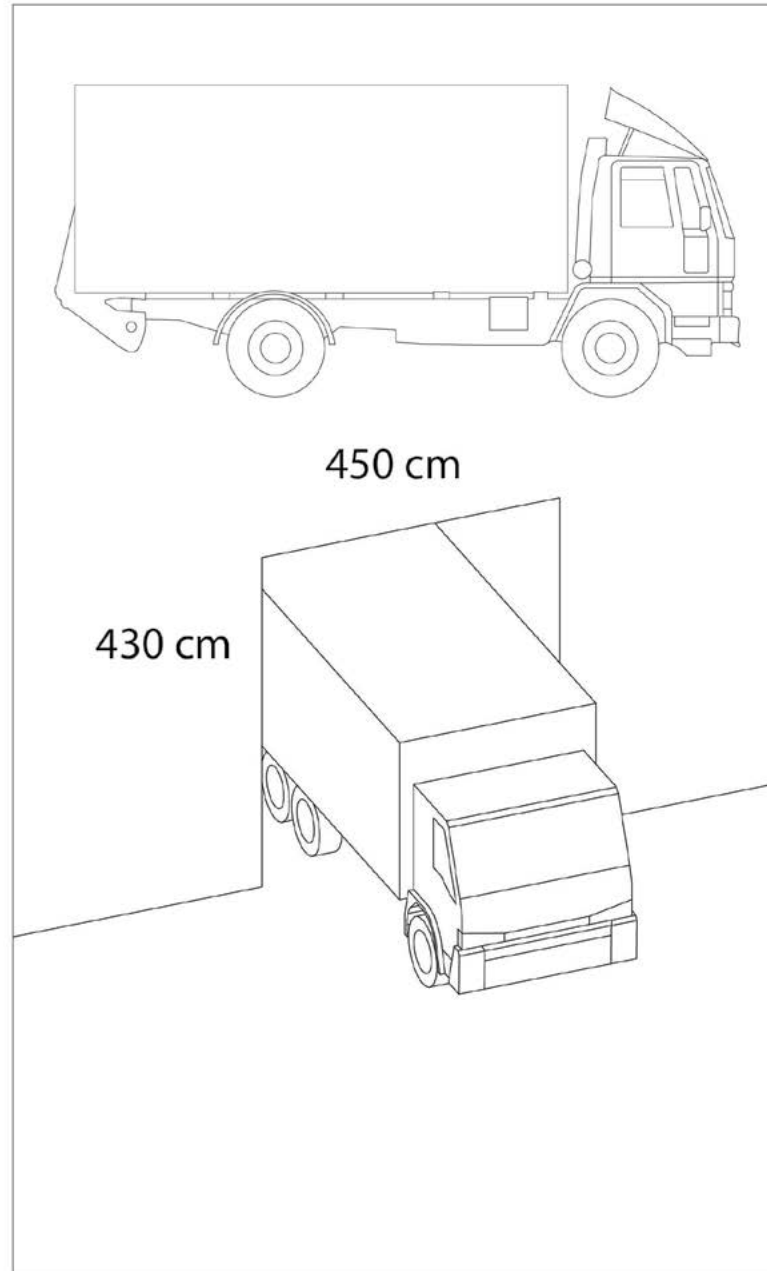
To align with primal idea of a DIY house galleries also need to allow people to work and transport materials easily. Galleries in the building are wider than normal. The width is up to 2,6 m which is way more than its needed for pedestrians. Thanks to that transport of materials can be safer and easier, it is no longer that burdensome for neighbors. There is also some space for temporary storage there. Thanks to an extra with there are more privacy that can be kept inside because people do not walk next to windows.





## 1.2.4 MAIN GATE

There are main gates in a building. There can be an unlimited number of transitions in a building however they all need to be accessible by cargo car. The building transitions have to be wide enough to let a truck drive inside. It is important to bring building materials, furniture and other objects as close to a crane or lift as possible to minimize the distances that materials are carried by hands. The minimum size of a hole is 450 x 430 cm however it is useful to maximize the size.



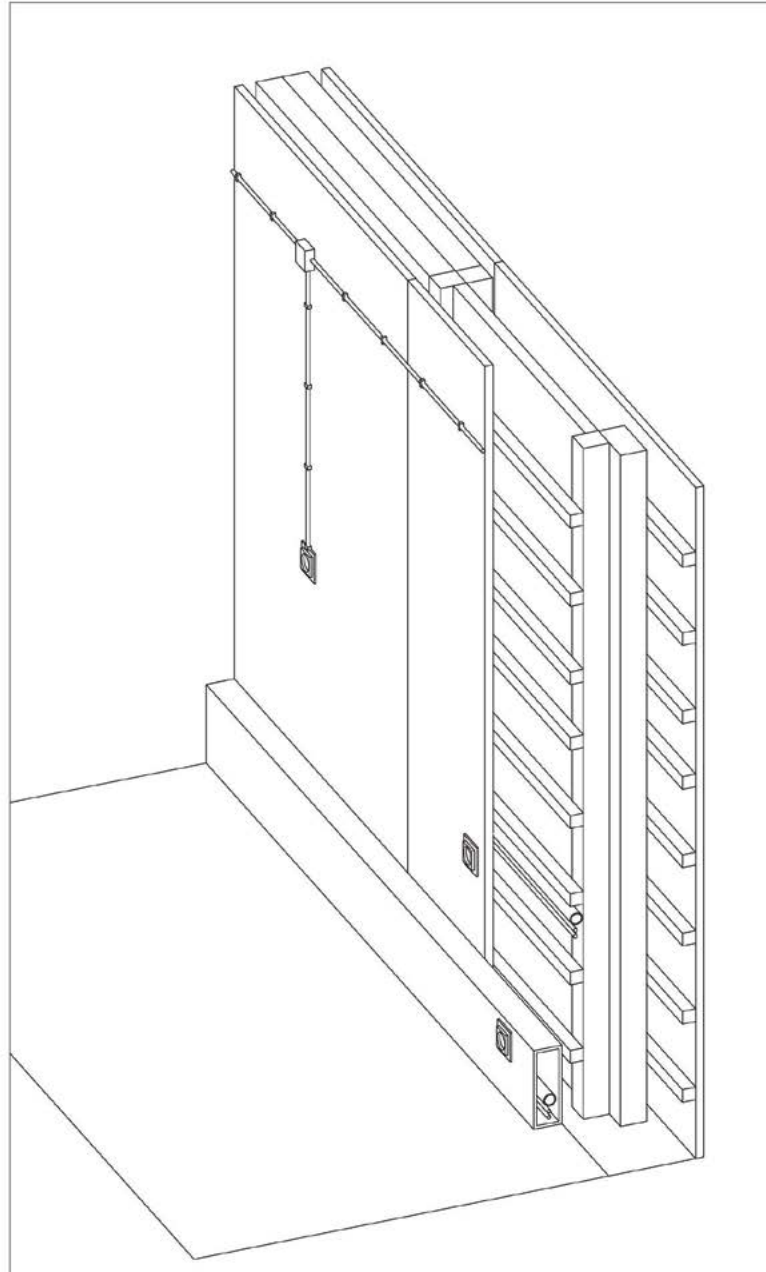






## 1.2.5 WIRES

Thanks to a skeleton construction of walls and extra space inside, pipes and wires can be easily installed in every flat. There is almost 6 cm extra space for all needed installation. This is a next type of works that can be easily done by tenants. Pipes go always between front layer and wooden skeleton while wires can be installed in many ways. Wires can be installed on walls as a part of a design, can be installed in a floor bar or under the front wooden layer of a wall.



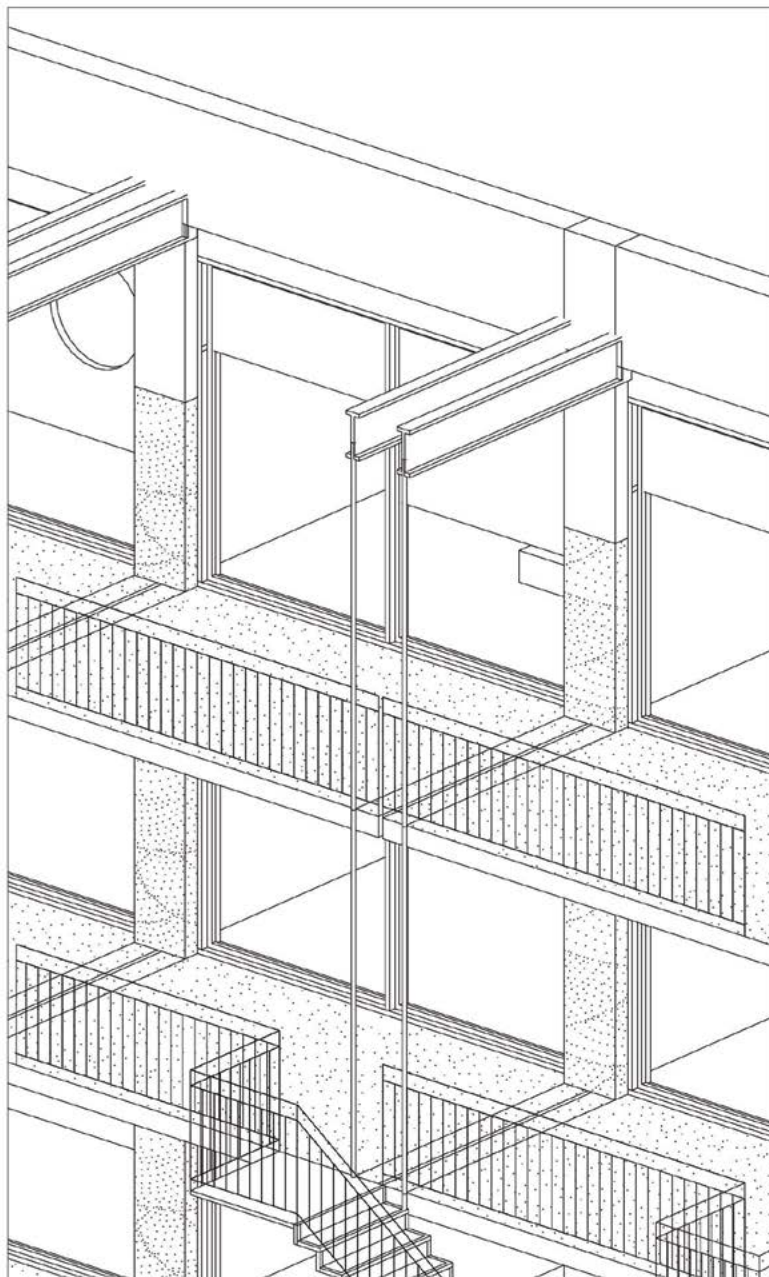
# 1.3

KLUSFLAT CATALOGUE

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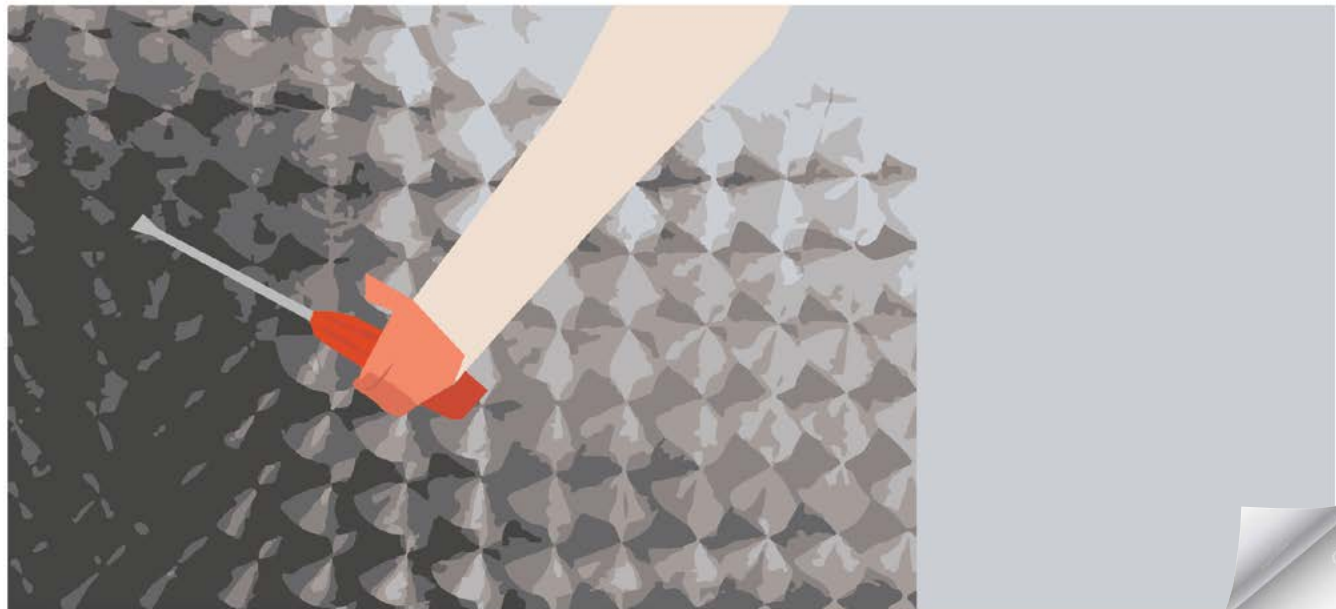
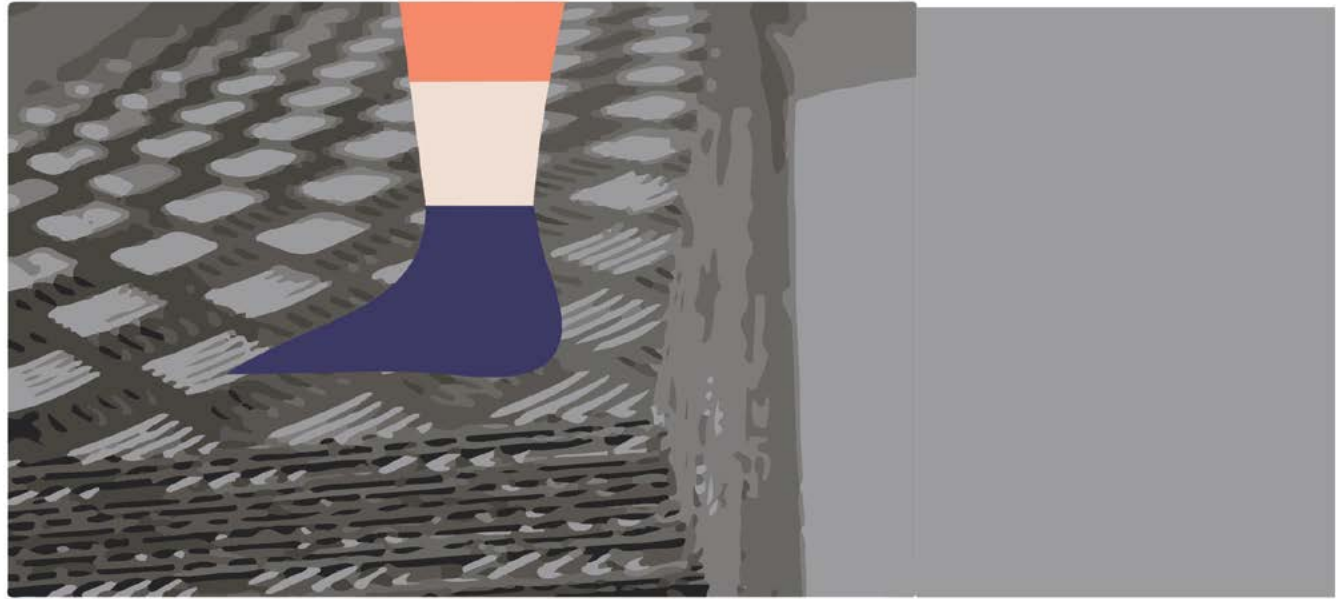
## TECHNICAL ENVIROMENT / DURABILITY

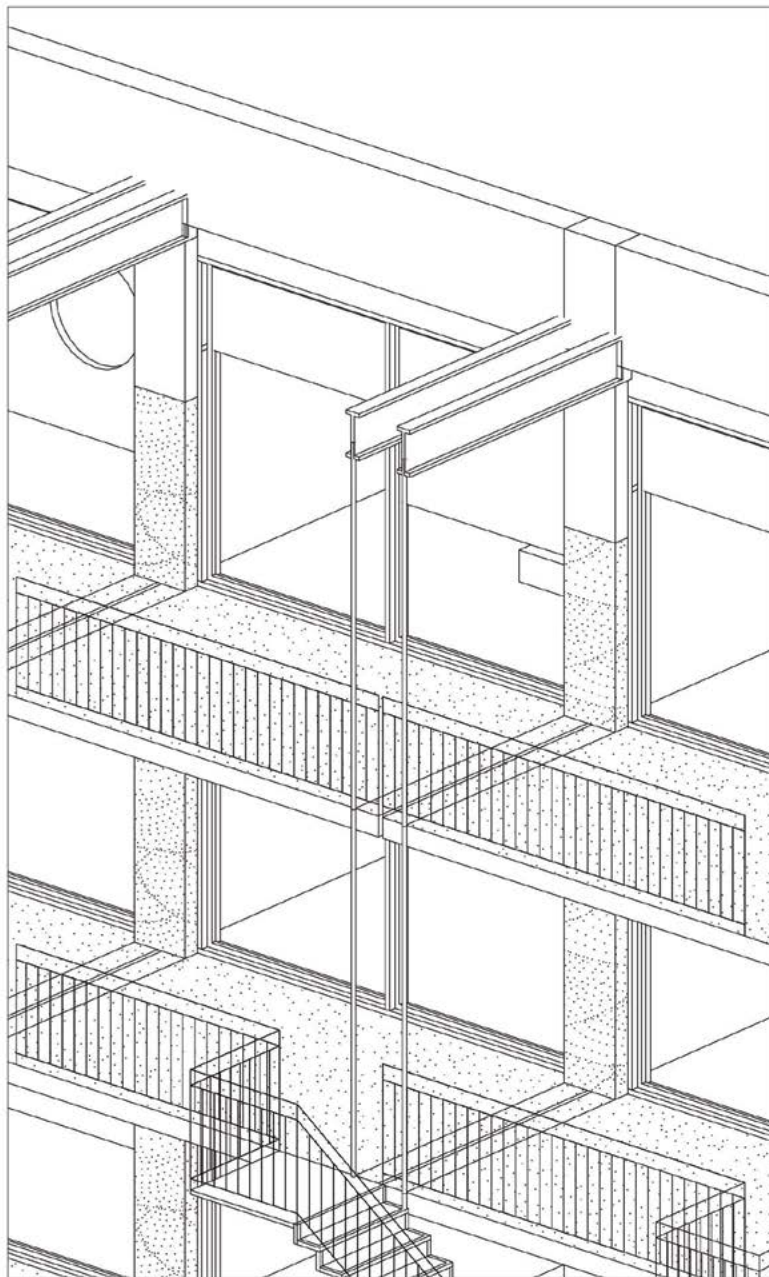
The proper technical environment for DIY interventions is environment that by its spatial, material, technical solutions inspires and encourages owners to work with the space. It gives also a needed flexibility and tolerance for errors. This part is directly inspired by my case studies observation. Technical changes and improvements have been applied in Kleiburg, Klarenstrat and to old houses of Spangen. Thanks to solutions shown in this part, maximum durability of a building can be achieved.



### 1.3.1 DURABLE MATERIALS

All materials used in the building are long living and high quality. What is more there are few that are very resistant to damages and possible to be easily replaced many times. It is because some finishing layers are exposed to damages and hits while others need to be replaced more often due to owner's needs or personalization. Resistant materials used in the building are for example stamped steel sheet, mesh plate. Also this kind of materials is easy to keep clean and good looking. The type of finish layer is used on galleries and stairs because there is a higher possibility of damages.





KLUSFLAT CATALOGUE

TECHNICAL / DURABILITY

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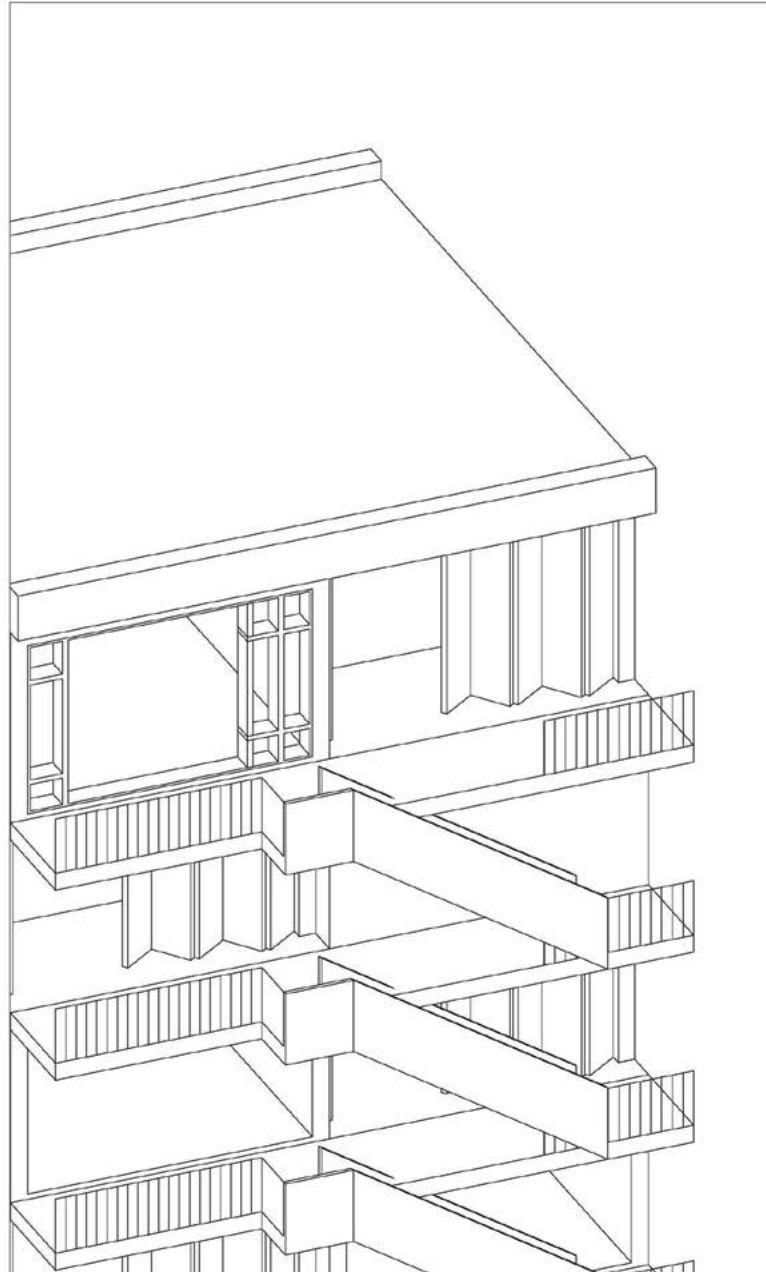
### 1.3.2 PROTECTIVE CURTAINS

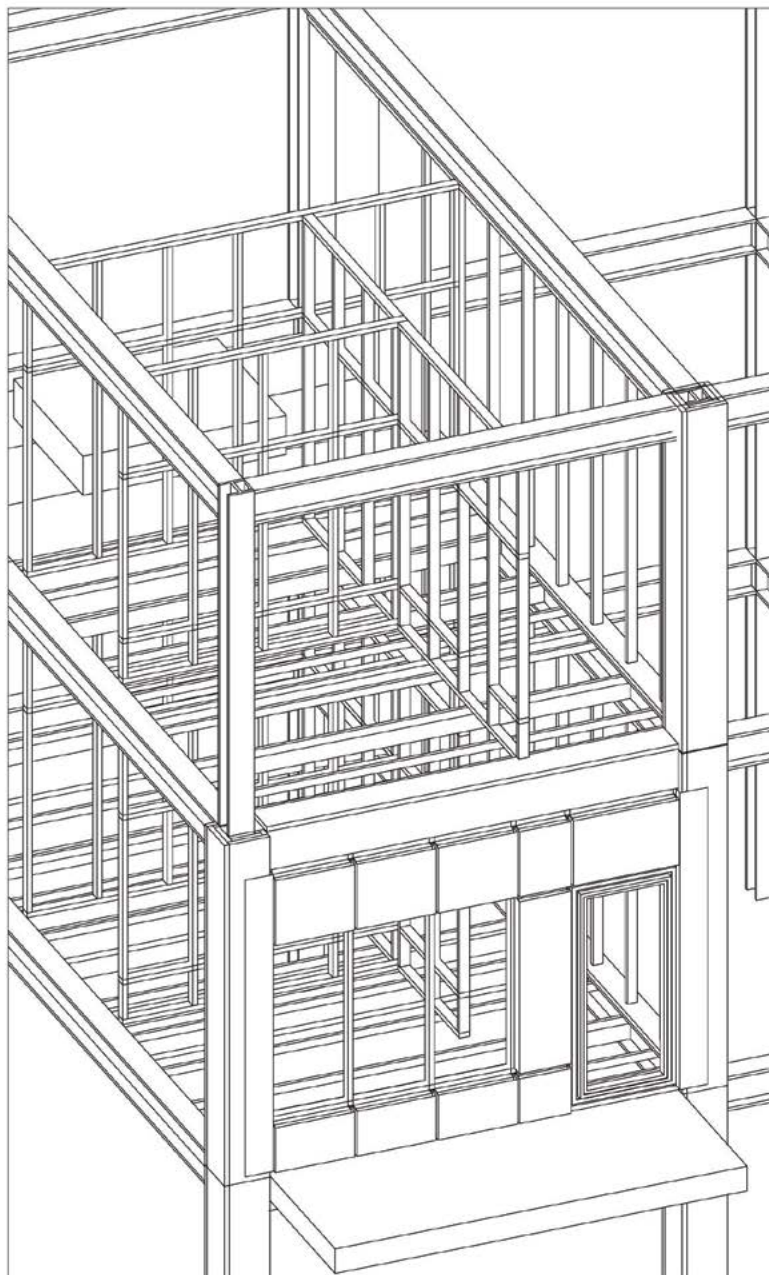
To protect windows along galleries there are curtains that can be easily closed if needed? Different than in front facade curtains here are picked with metal plates. Thanks to that a curtain can protect a glass.



### 1.3.3 DETAILS

There is a limited number of complicated details. Thanks to this the building is simpler in its construction. There is also a narrowed of possible errors, and damages that can be done during DIY works. All details can be fixed simply by owners, and does not need any complicated tools. Examples of this are details of stairs, railings, facades panels, front panels, balconies and many more.





KLUSFLAT CATALOGUE

TECHNICAL / DURABILITY

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### 1.3.4 REPLACEMENT

The building is designed in a way that most of elements there can be replaced easily. Is because the building provides a special for DIY buildings flexibility. That means that process of personalization is more intense, also some elements can be installed not as perfect due to smaller experience of owners.





# 1.4

KLUSFLAT CATALOGUE

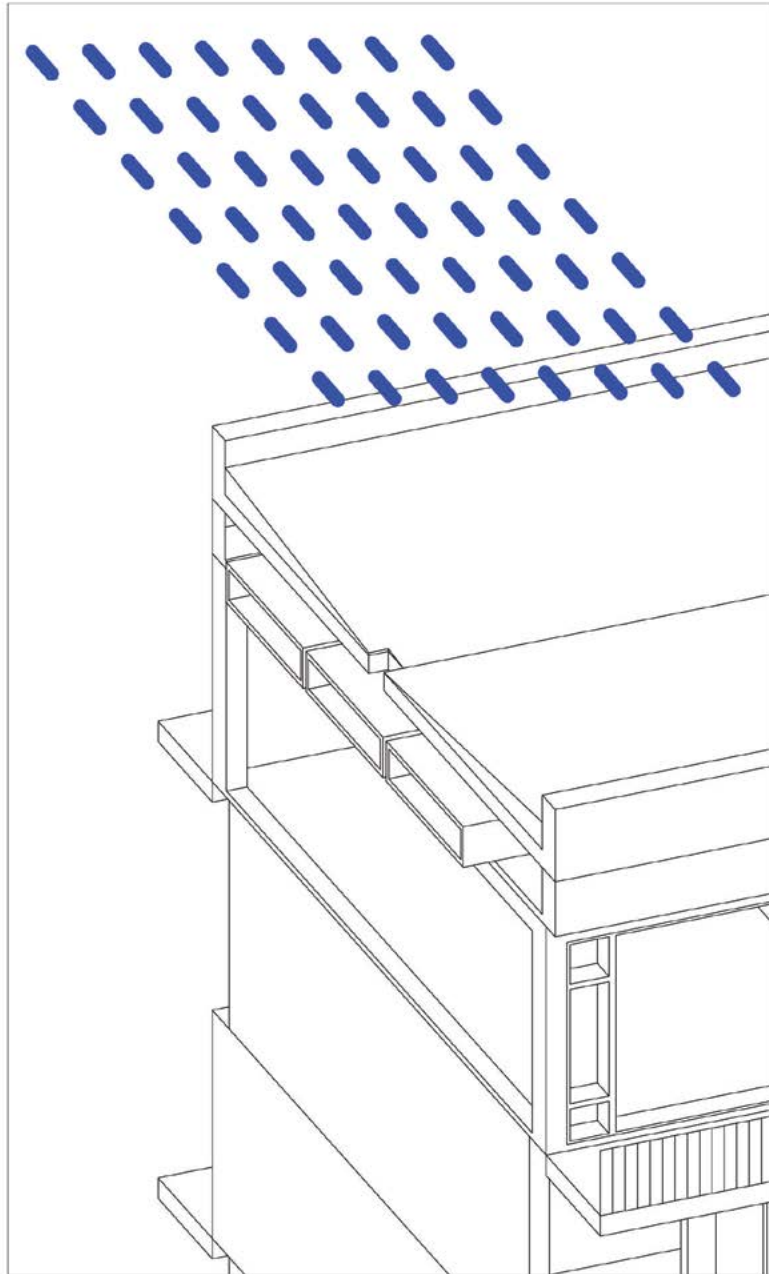
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## TECHNICAL ENVIROMENT / SUSTAINABLILITY

Sustainability is one of the most important elements of this DIY strategy. there are few reasons of this, First of all constructios wast has to be limited. In this building the process of constructing might not be as effective. Also due to more often changes there is a possibility of growing number of waste. Another thing is sustainable design is important for young people so the target group of this project. Young poeple seems to be more intresed in suspatnable approach, while protecting enviromwnt is one of their biggest interests. To provie it there are some technical solutions aplied to a building.

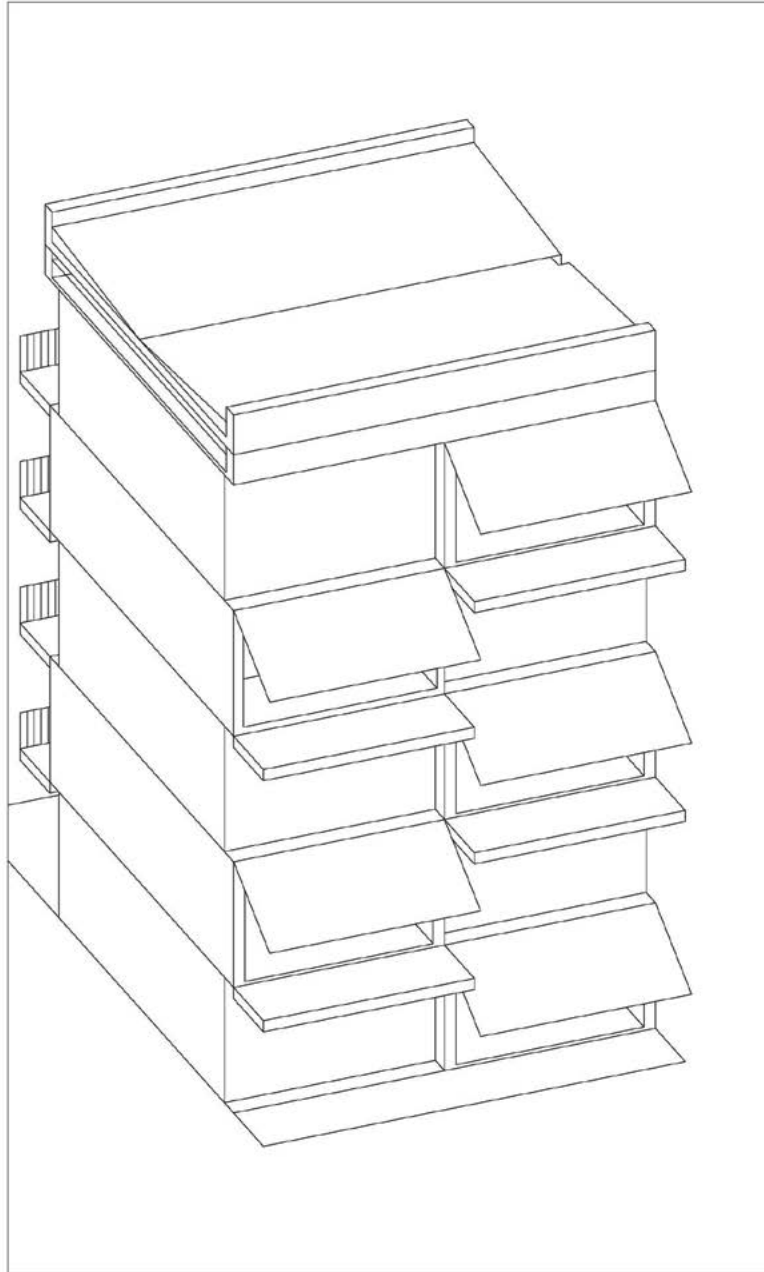
### 1.4.1 WATER COLECTOR

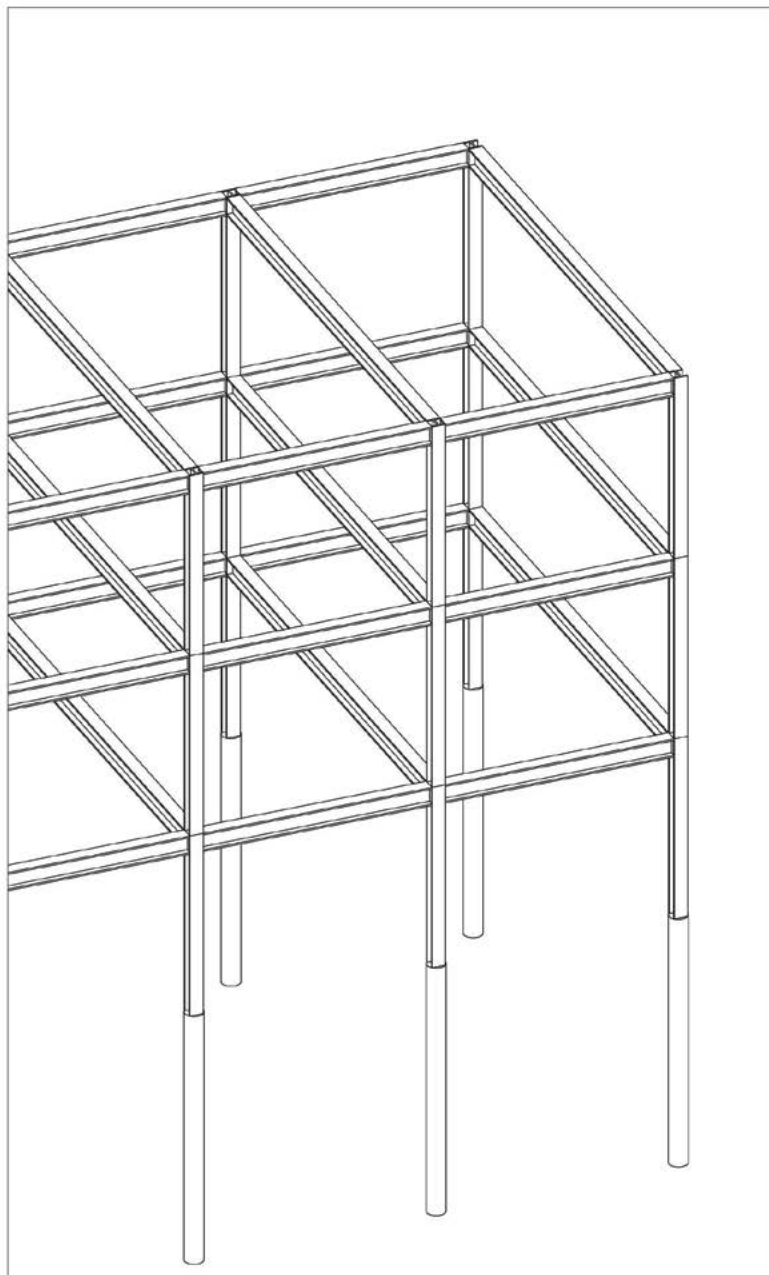
Calculations prove that is effective to collect rain water on a roof. Water saved in a year could be used as dirty water in toilets and cleaning water in workshops. Water could be stored in water containers located under the surface layers of roof or under a ground layer.



## 1.4.2 OVERHEATING PROTECTION

The steel building is exposed to a problem of overheating. There are two simple solutions that prevent the building from overheating. Sun screens and ventilated gab under a roof surface. Big area of front windows can be covered with textile shades that can be opened and closed manually. The interior side of the building is protected by galleries which gives a shade. Interior of a building is wooden so made in material with good heating resistance. It helps to keep comfortable conditions inside.





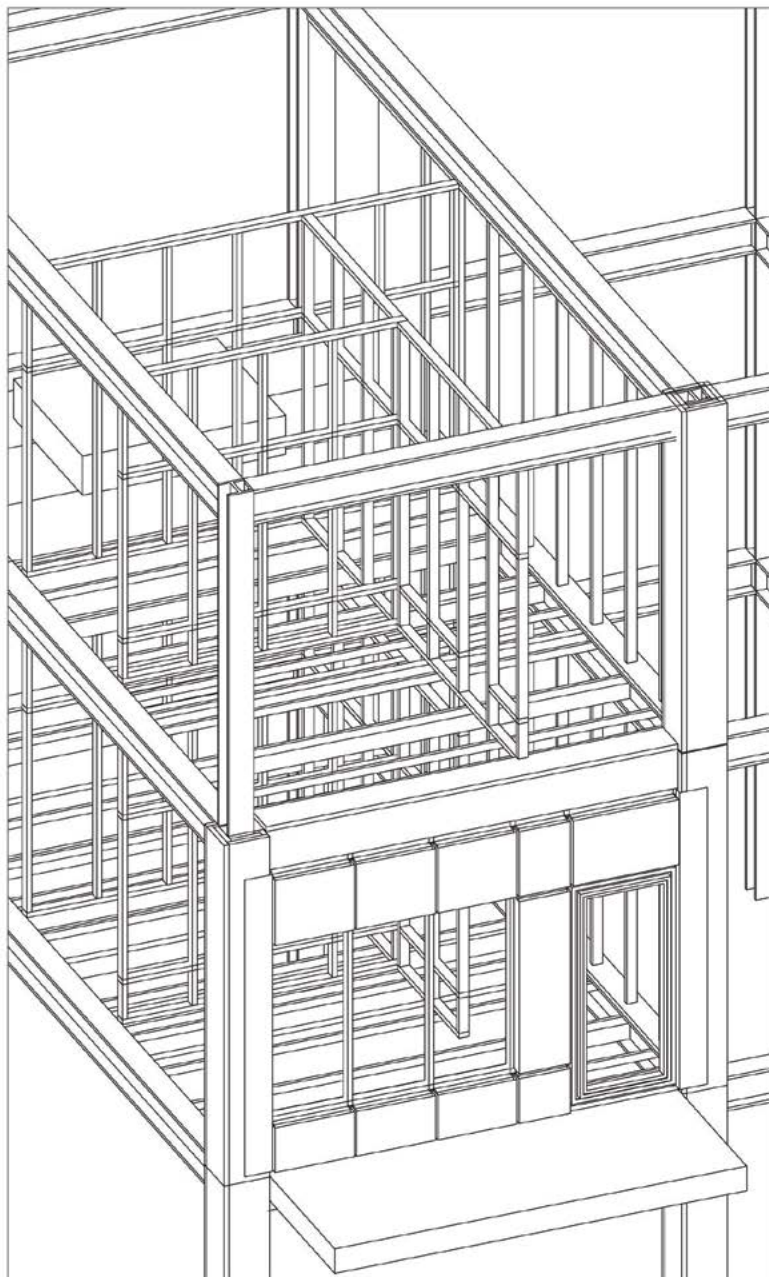
KLUSFLAT CATALOGUE

TECHNICAL / SUSTANABILITY

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### 1.4.3 RECYCLING

Main structure of the building (foundations as well) is fully recyclable. It can be removed from a site easily with no real impact on the space around. The main structure is made of metal frames screwed together- double-T profiles. This material does not lose its value and can be recycling or reused. Foundations are wooden pillar pushed into a ground. Wooden pillars are fully recyclable and can be removed easily or left in the ground just in case. Wooden pillared are under the layer of underground water what keeps them healthy. There is no concrete used in foundations construction.



KLUSFLAT CATALOGUE

TECHNICAL / SUSTANABILITY

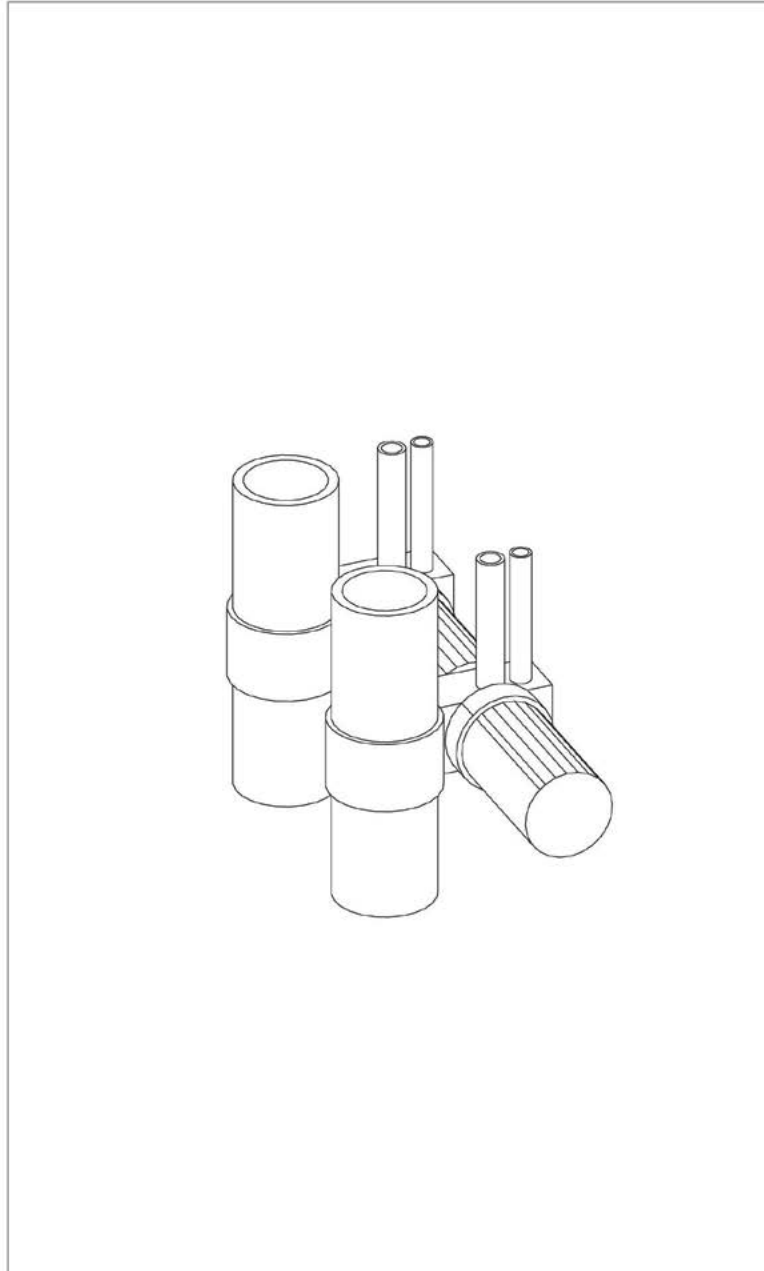
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### 1.4.4 RECYCLING

Secondary structure is made of wood profiles. This material seems still to be the most sustainable. Well protected wooden beams can last very long, and can be even reused in a future. Thermal and fireproof isolation are also environment friendly. Fireproof isolation is a wood layer that covers the main metal structure. Thermal isolation is made of cellulose. It is a natural material made of plants.

## 1.4.5 PAINTS AND FILTERS

Paints and oils used in a construction process are ecofriendly. There is also a system of filters that prevents dust and sand waste to pollute pipe system in Rotterdam.





# 1.5

KLUSFLAT CATALOGUE

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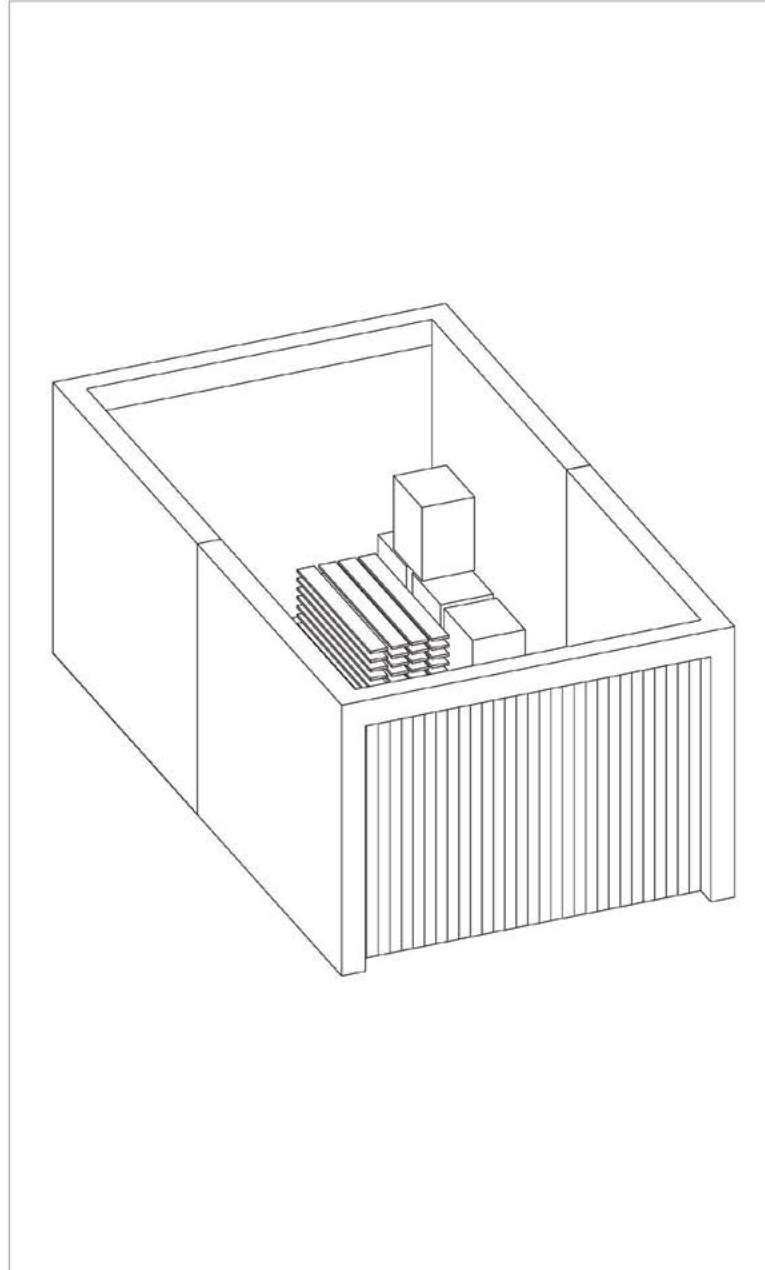
## TECHNICAL ENVIROMENT / SAFETY

In DIY works safety standards must be maintained. There are some technical innovations and solutions do provide it.



### 1.5.1 ARRANGMENT

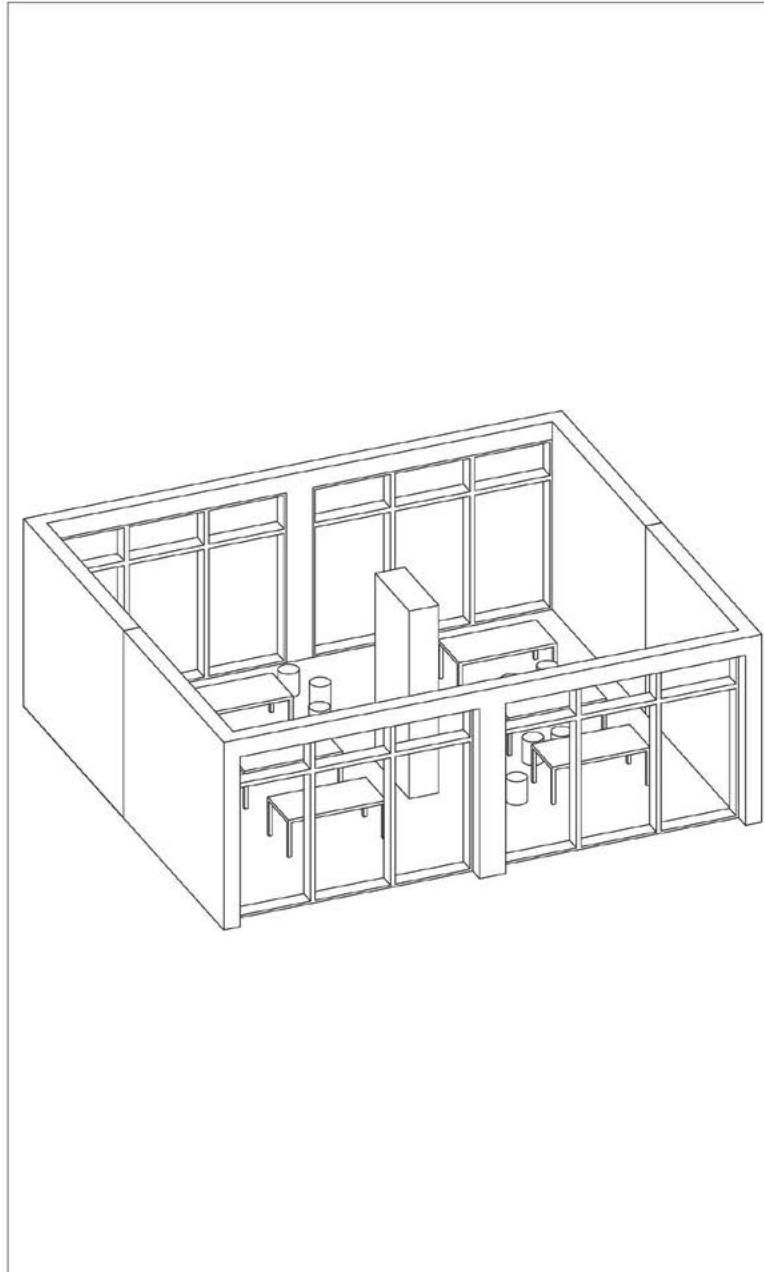
Storage space in the building allows workers to keep order on the building site. This habits improve safty in the building and in flats. This approach allows to keep safty standards during long construction process and provied tenants a confortable living condioions.





## 1.5.2 WORKSHOP

There is a workshop in a building. This space allows tenants to realize their ideas and improve their spaces. Wood is the basic construction material however there steel is also possible. To maintain high safety standards there is a set of high quality tools. There is enough space for using them and there is a bunch of rules that has to be fulfilled.







### 1.5.3 CRANE

Crane is helpful to carry heavy stuff in a building. To do it safely there few people needed. On a ground floor there is a marked area that needs special caution. This area can be also safely protected with tools available in a workshop.





## 1.5.4 WARNINGS

The building is quieted with the system of signs and warning. To improve safety most busy areas are protected and properly highlighted. The transition through the building is designed for pedestrian's safety.

# 2.1

KLUSFLAT CATALOGUE

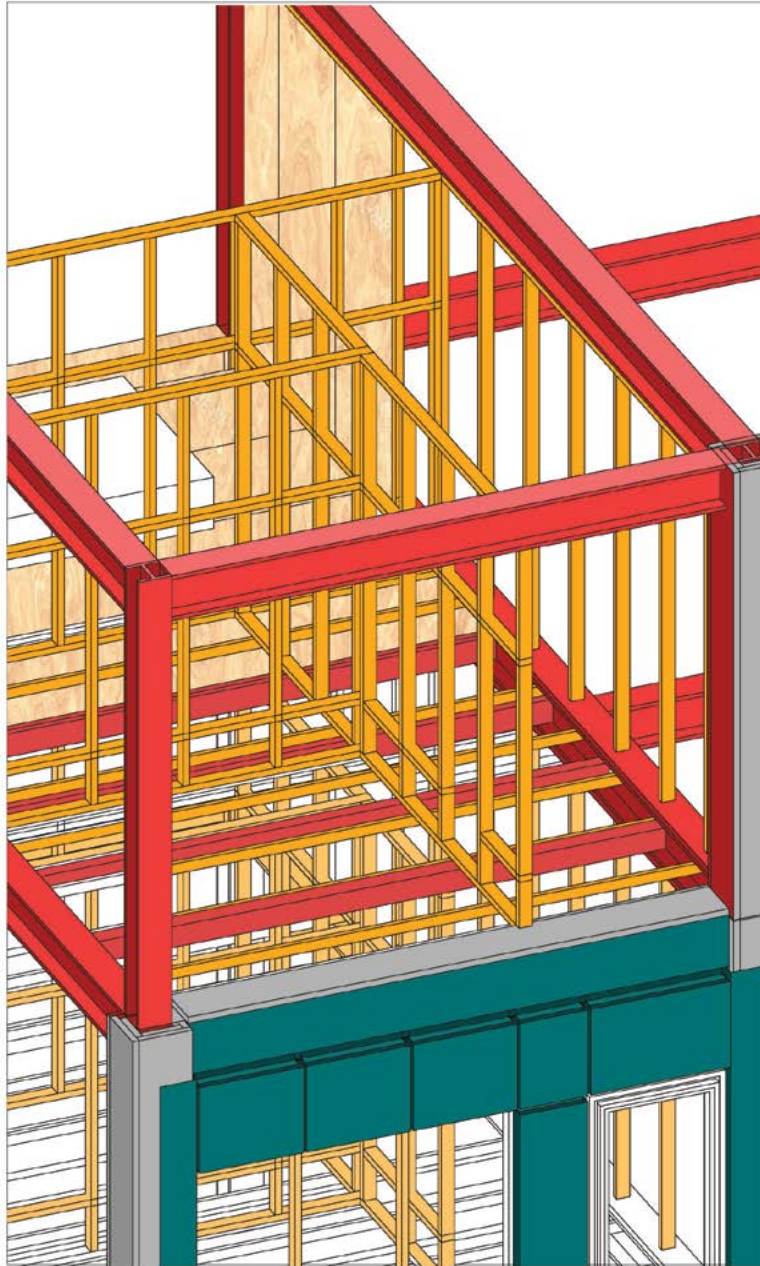
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## **SOCIAL ENVIROMENT / EDUCATION**

Appropriate klusflat Social environment is a combination of physical and abstract ideas and solutions that improves communication and cooperation between owners. It also encourages them to work with their space, to cooperate and to feel good. There are few main ideas that are introduced in this catalogue. Educational value is one of them. The building should teach people how to construct in an effective and safety way.

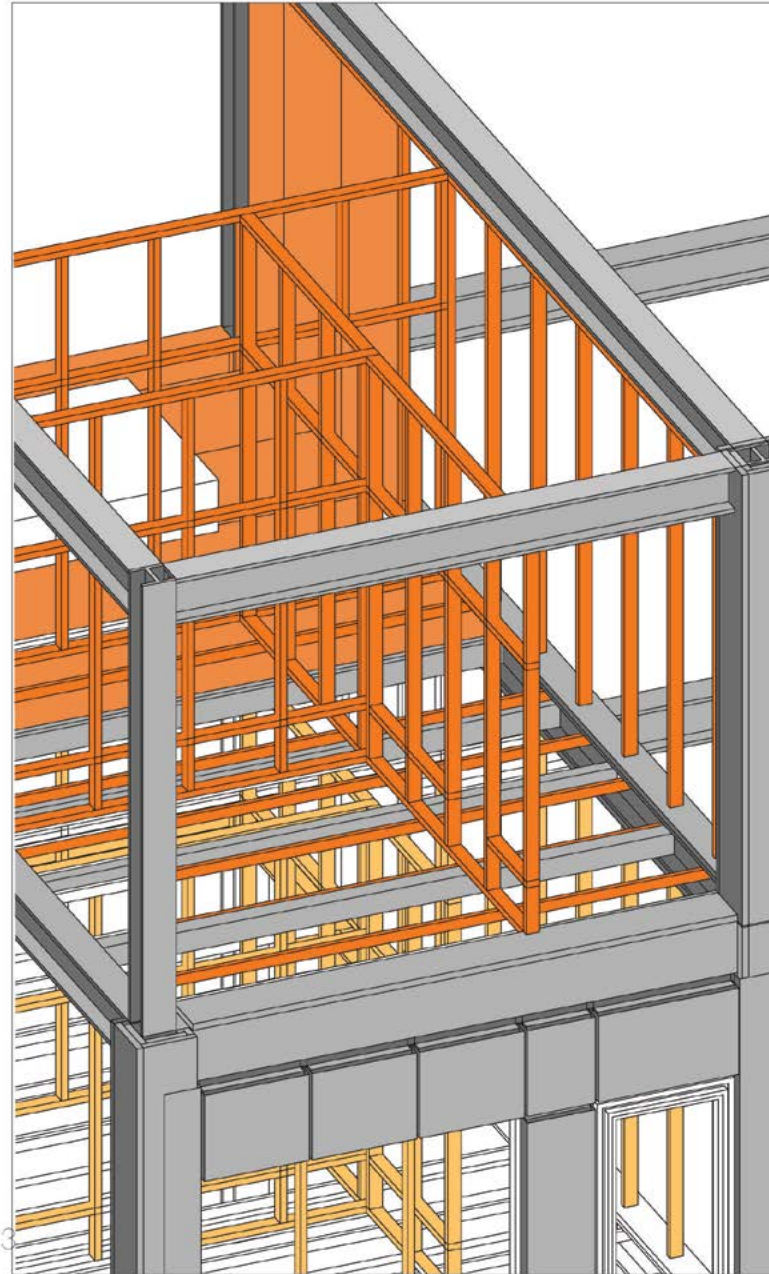
## 2.1.1 COLOR PATTERN

There is a standard color pattern in a building. Almost all elements have colors that assign them to different materials groups. For example: metal elements of a main structure are red, while wooden elements of secondary interior structure are yellow. Exposed finishing materials are dark green or keep some type of order and clarity. Installations are blue for piping, red for wired and white for ventilation. Gray elements are super strong and resistant to damages while dark green are soft and thin. Thanks to this an order can be maintained. It is also an easy way the building communicates with DIY workers. They can feel better informed.



## 2.1.2 MATERIAL PATTERN

There are two main materials used in a building. Steel used as a primal structural material and wood as secondary material of interiors. Steel elements are supposed to be not changed by non-professionals during their works. Wood is a material used for elements that can be replaced, changed and rebuild. Thanks to this an order can be maintained. Owners know their possibilities, they can be also sure none of important elements of a building will be damaged.





# 2.2

KLUSFLAT CATALOGUE

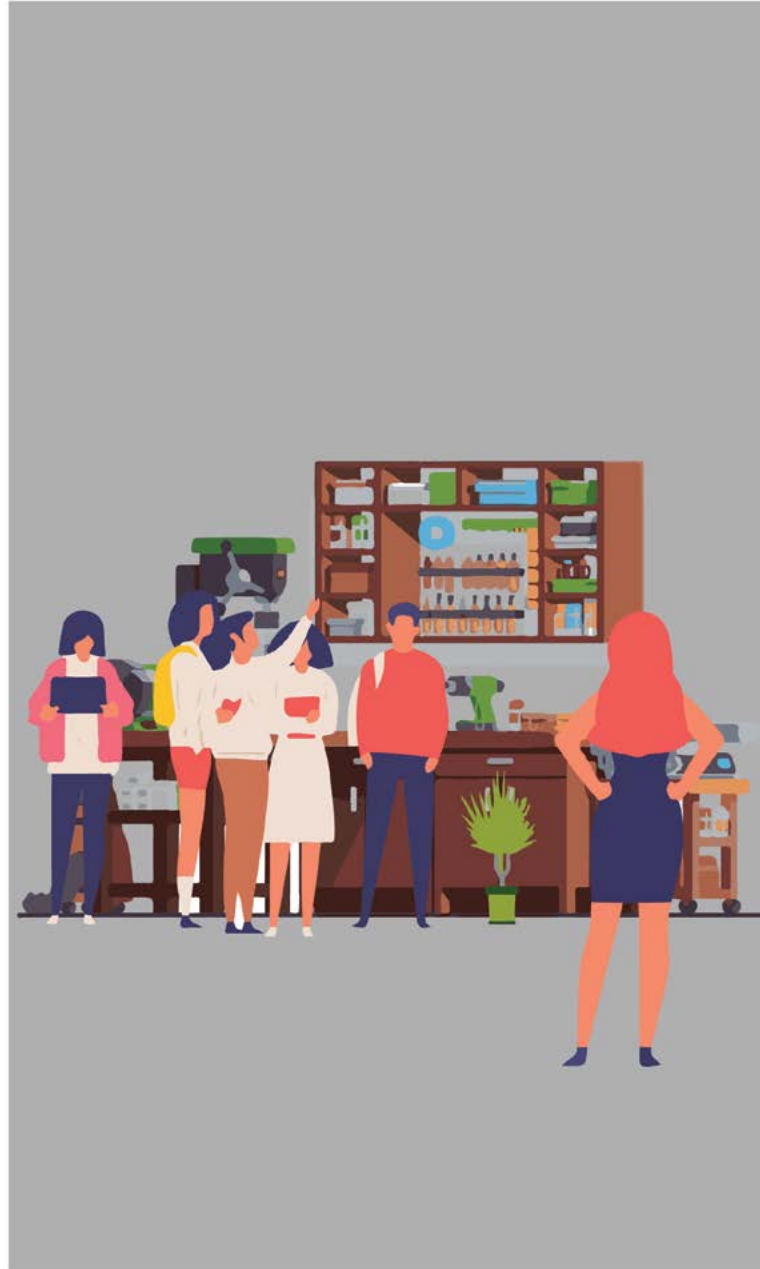
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## **SOCIAL ENVIROMENT / SAFETY**

There are two approaches to safety. One was introduced in technical part of a catalogue. There are some structural and organizational solutions to provide the highest safety standard. Another think is safety training and supervision of professionals.

## 2.2.1 SAFETY IN WORKSHOP

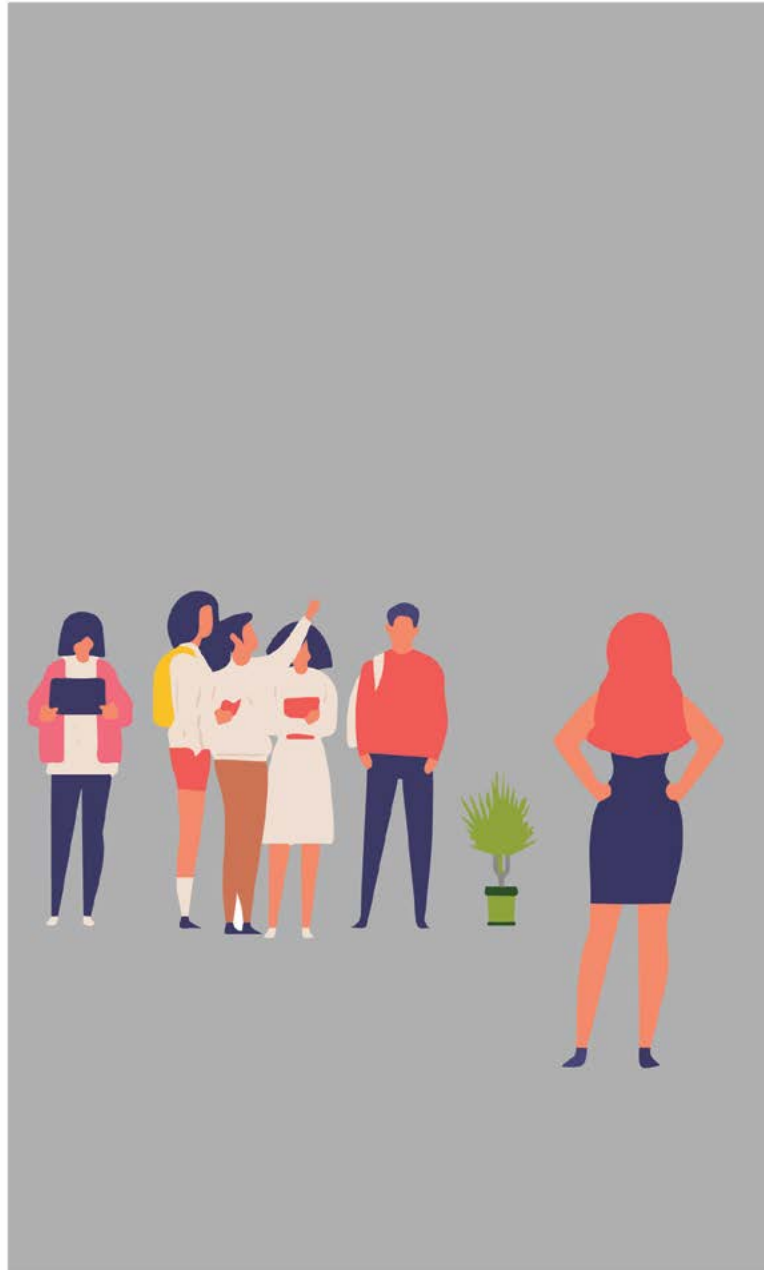
All tenants are encouraged to take part in safety training in the workshop. Thanks to that all of them can learn how to work safely and effectively. They can learn how to look for help and how to behave in terms of an accident. The training is organized and prepared by an organizations or municipality.





## 2.2.2 SUPERVISION

Most works can be supervised if it's needed. Architects should take a passive role during the construction process and if needed help tenants to make the best decisions. This approach is inspired by a process of construction of 169 Klushouses project in Rotterdam.



# 2.3

KLUSFLAT CATALOGUE

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## SOCIAL ENVIROMENT / INTERACTION

In the building there are spaces for social interactions. The building has to be shaped in a way that people can have an opportunity to meet each other, to work together and to make decissions together is only they want. In this part there are few possible approaches described.

SOCIAL ENVIROMENT / INTERACTION

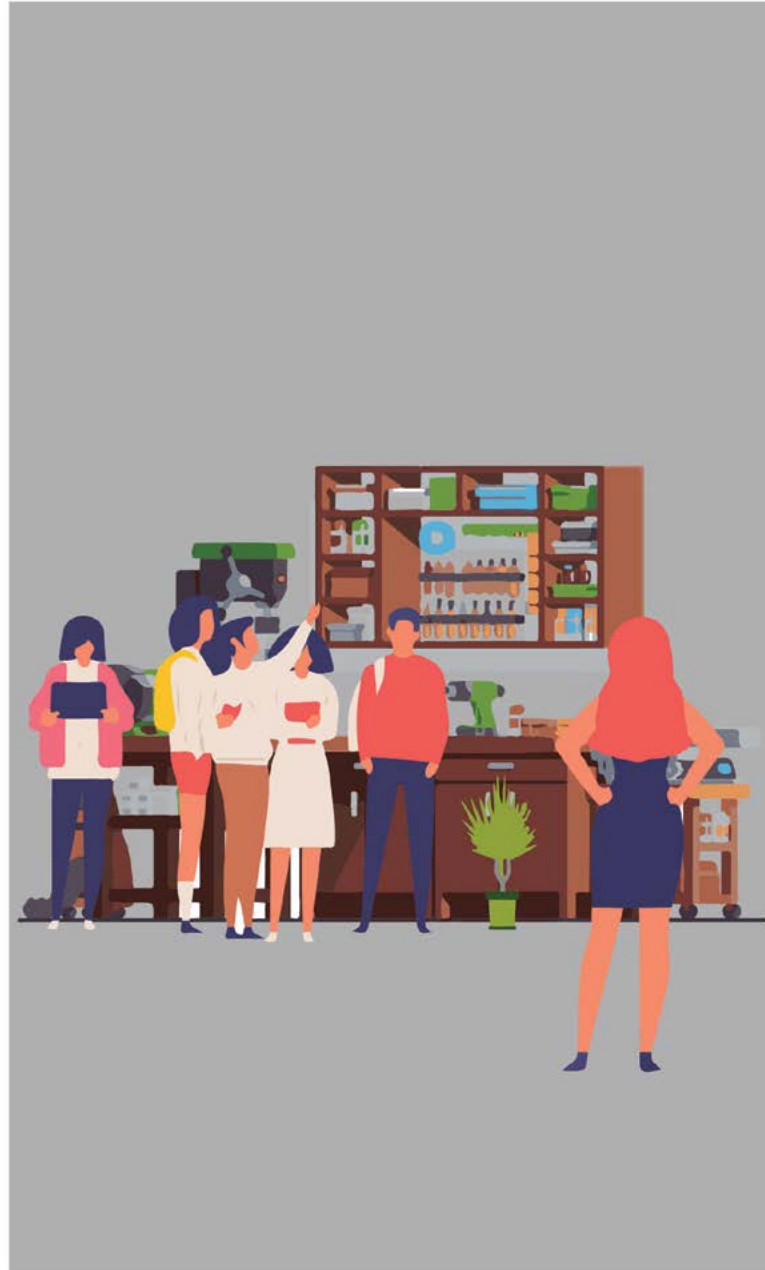
### 2.3.1 SHARED SPACES

Space for interaction in a building is important. This kind of spaces encourages tenants to meet each other and to relate a community. There are few shared spaces in a building. Workshop is a good example this is a space where people work, meet and discuss, there is a peaceful corner, and table, so tenants can will spend here some time. Another place is courtyard. It is patchwork space than will change its function depends on needs. It can be sport space, vegetable garden, common table or something more. It is an area that can be successfully shared. Finally there are shared spaces in a building between flats. Everything is possible there. It can be adapted as common kitchen, workshop, storage, or something else.



## 2.3.2 COOPERATION

One of ideas of klusflat is create local community thanks to encouraging people to work together.



### 2.3.3 NEIGHBORHOOD

The whole process is designed in a way to let new tenants meet each other and neighbors to meet new people. The construction is a process long in time so there is enough time for it. It starts with an introduction pavilion, providing information about a new building where a furniture market can be organized.



# 3.1

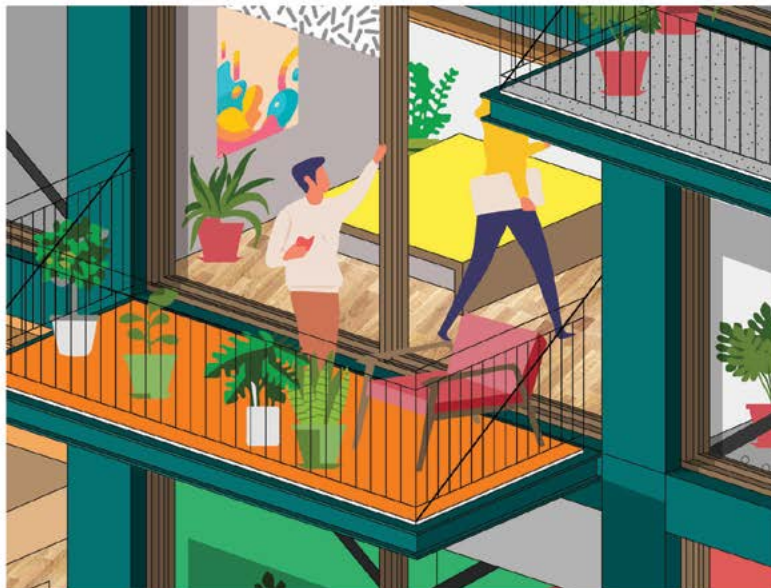
KLUSFLAT CATALOGUE

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## APPEARANCE / DESIGN

Look of a building is an important factor of a design. It has to be first of all attractive for target group of people. It has to be designed to inspire people to do their own modifications and in a way that there is a space for DIY works and personalization



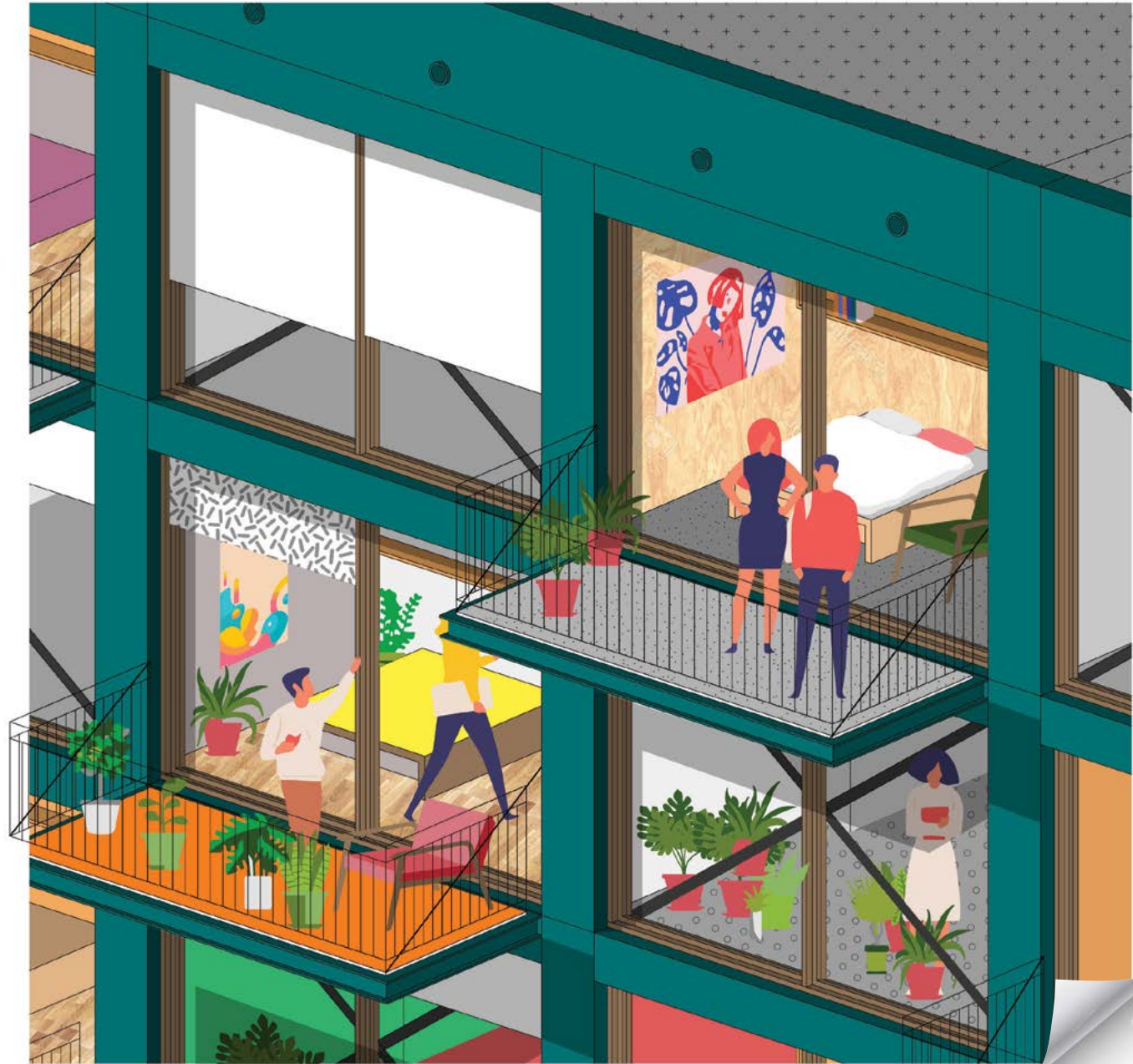


KLUSFLAT CATALOGUE

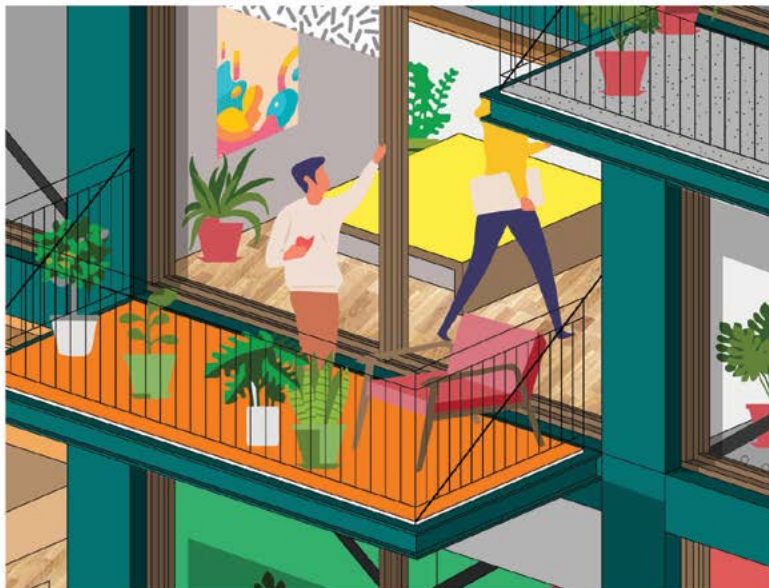
APPEARANCE / DESIGN

### 3.1.1 APPEARANCE

Look of a building is an important factor of a design. It has to be first of all attractive for target group of people. It has to be designed to inspire people to do their own modifications and in a way that there is a space for DIY works and personalization. It cannot be over-designed however it has to give clear boundaries of future works. Another element is a use of attractive and fashionable materials. Tenants need to be optimistic and inspired about the building. This approach was used in a Kleiburg building in Amsterdam where one of goals was to promote a building and to make it attractive again. In this catalogue there are some symbolic suggestions such as minimalism and patchwork materials that are very popular in current pop culture.







KLUSFLAT CATALOGUE

APPEARANCE / DESIGN

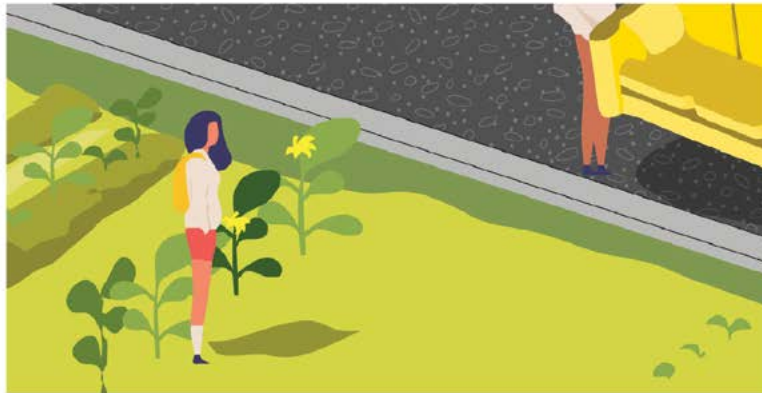
### 3.1.2 ECO FRIENDLY DESIGN

Another aspect of a DIY building is ecofriendly design. The target group of this catalogue is young professionals. This sustainable and ecofriendly approach can make the building attractive for them. Materials are fully recyclable. There is also no real impact on an environment. There is a market space where second hand furniture's and materials can be traded. People re also encourage to fix instead of replace. All of this paints a picture of contemporary, ecofriendly approach that can attract focus of young people.



### 3.1.3 PLANTS AND GARDEN

There is another aspect than can be interesting for a target group of young people. There is a space for plants. That can be grown by tents. It will help to create a wild and pleasant environment where there is nature coming to a building. There is also a small vegetable garden that gives people a possibility to grow own vegetables. There is a space for chickens so chicken and egg lovers can spend some of their free time.



### 3.1.3 FLEXIBILITY

The perspective of almost unlimited flexibility, the feeling that everything can be rebuilding and adapted can also become an important factor for new tenants. Thanks to solutions described before there is such possibility.





# 3.2

KLUSFLAT CATALOGUE

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## APPEARANCE / PERSONALIZATION

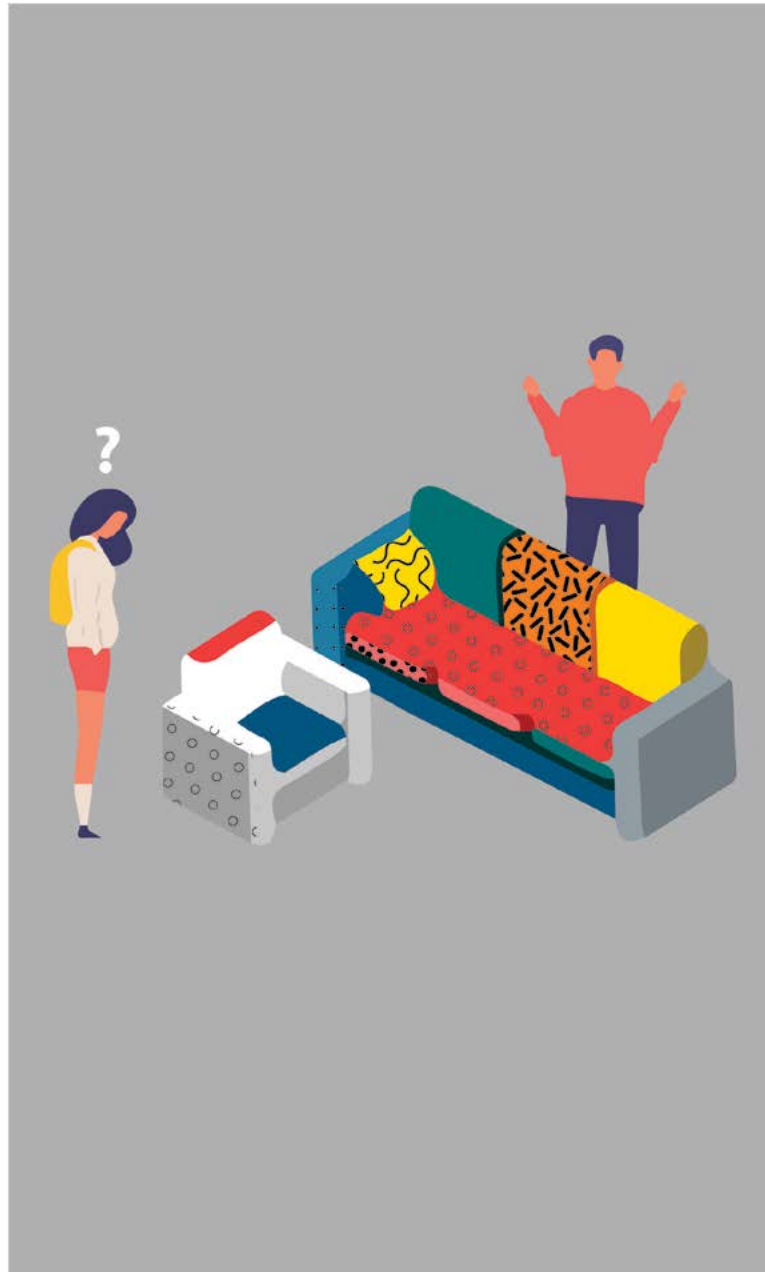
Personalization of space is an important and sometimes undervalued aspect of living. Klusflat provide a great opportunity for personalization.

APPEARANCE / PERSONALIZATION

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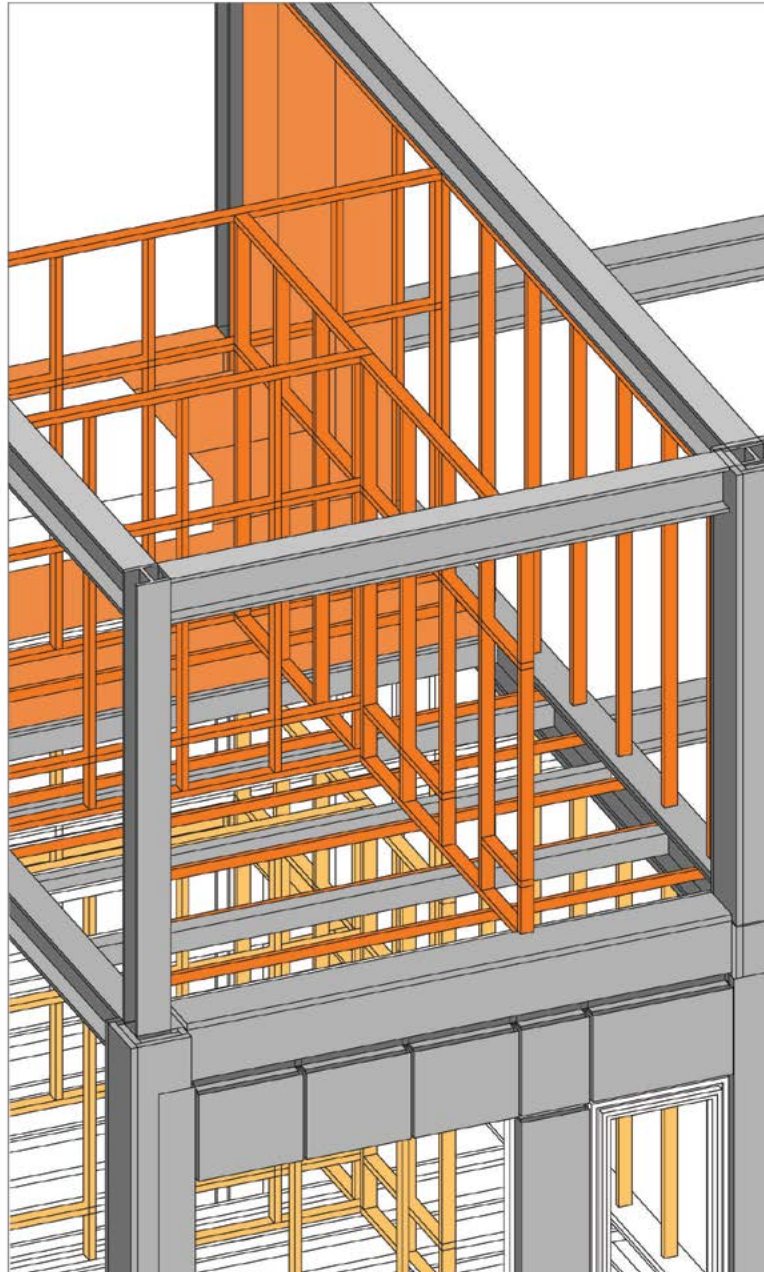
### 3.2.1 WORKSHOP

Thanks to workshop, basic skills and furniture's bought on market, tenants are able to realize all of their most crazy ideas.



### 3.2.2 FLOOR SYSTEM

Thanks to flexible design of the building all spaces can be freely shaped. There are no limits in walls and floors. The number of rooms. Windows and other spatial elements can be easily changed.

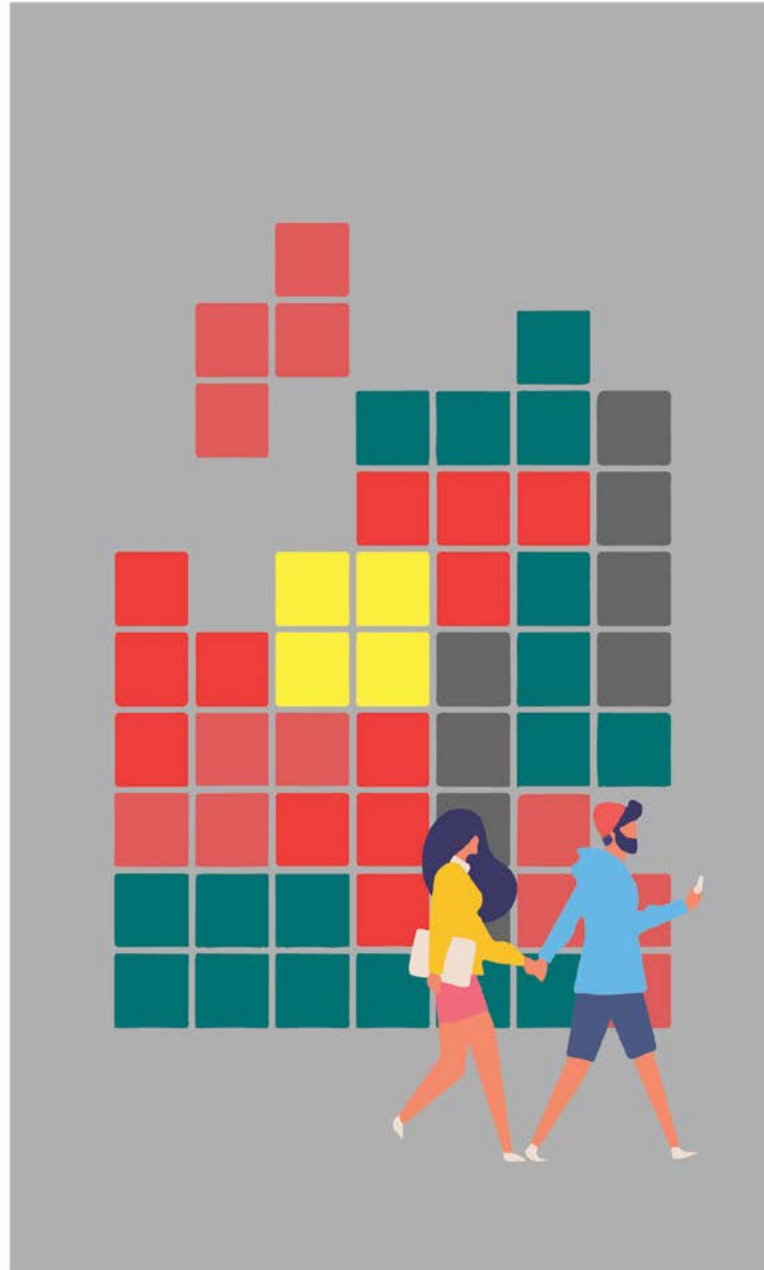


APPEARANCE / PERSONALIZATION

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### 3.2.3 TETRIS

Thanks to the idea of blocks the function of all modules can be changed and adapted. It works like Tetris block where close blocks can be connected and changed. Thanks to this there is an unlimited number of possible options.





# 4.1

KLUSFLAT CATALOGUE

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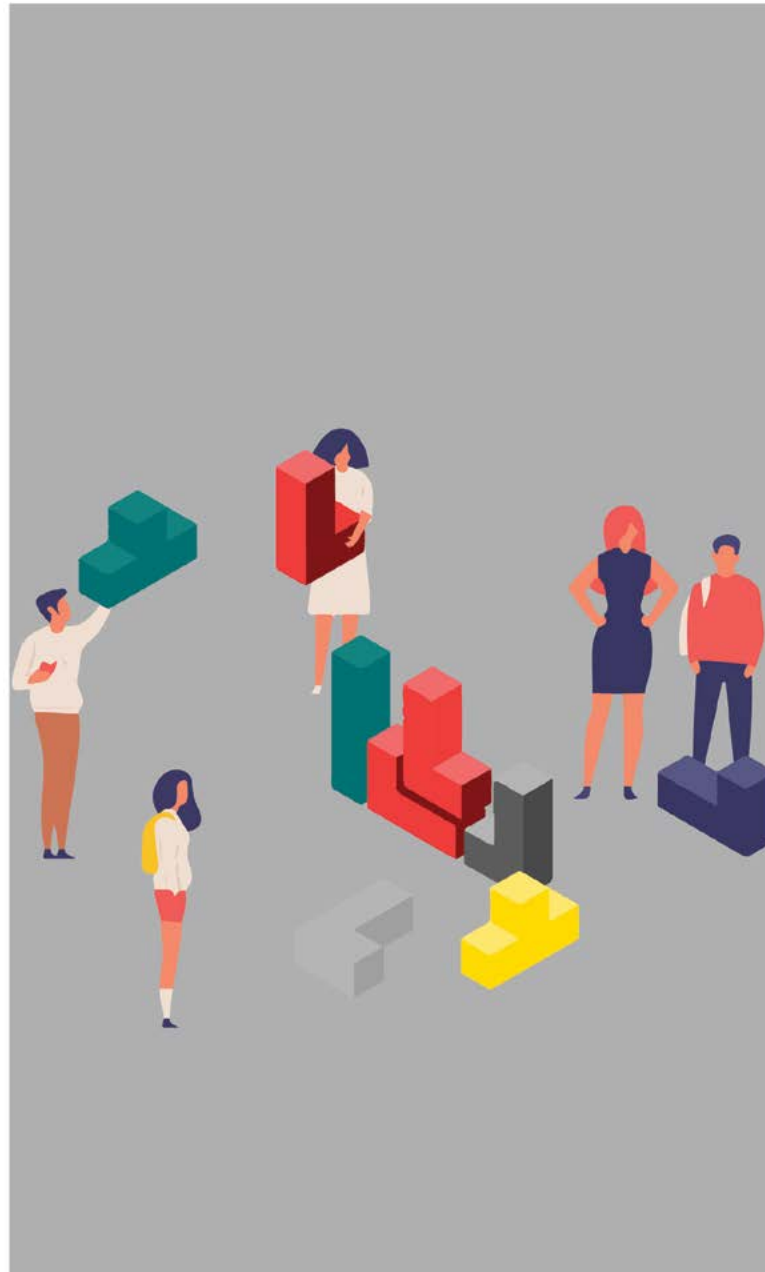
## NEGOTIATIONS

Negotiation aspect of a proces represents the participation of tenants in the whole proces of developing of this DIY building.



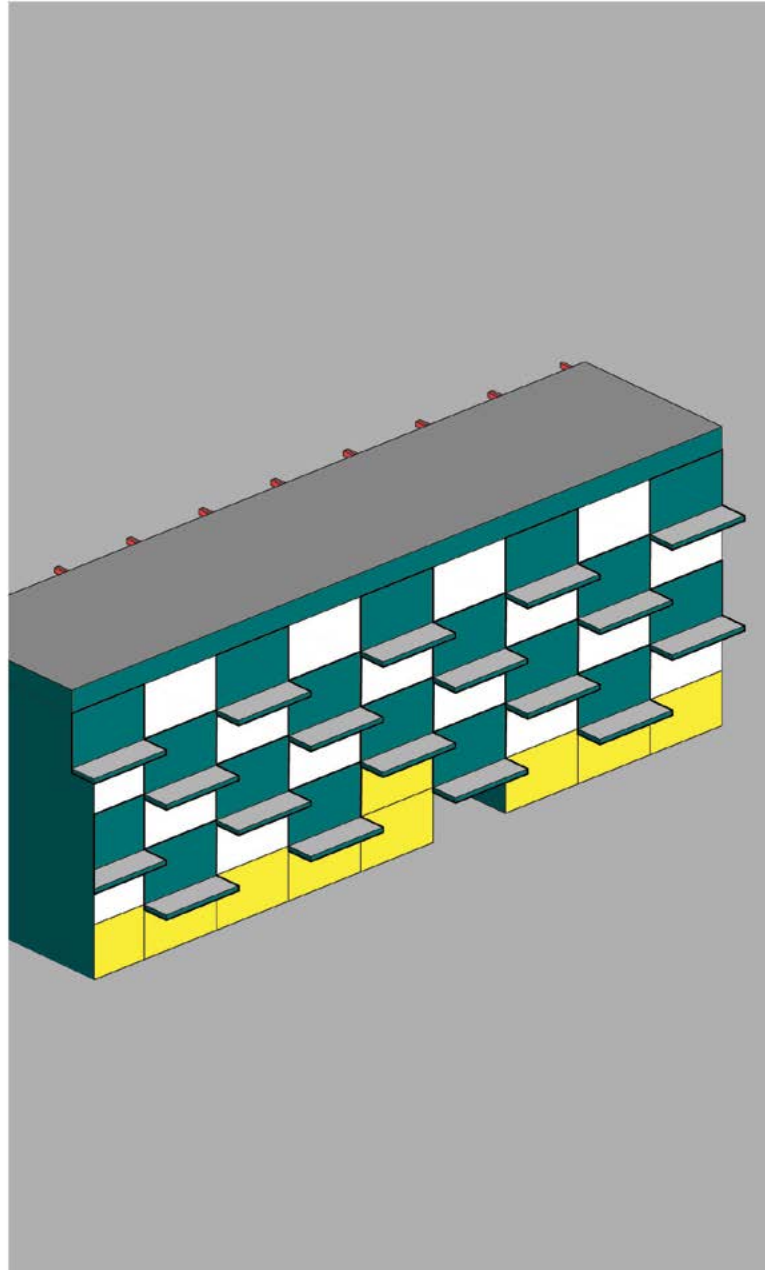
### 4.1.1 JIGSAW PUZZLE

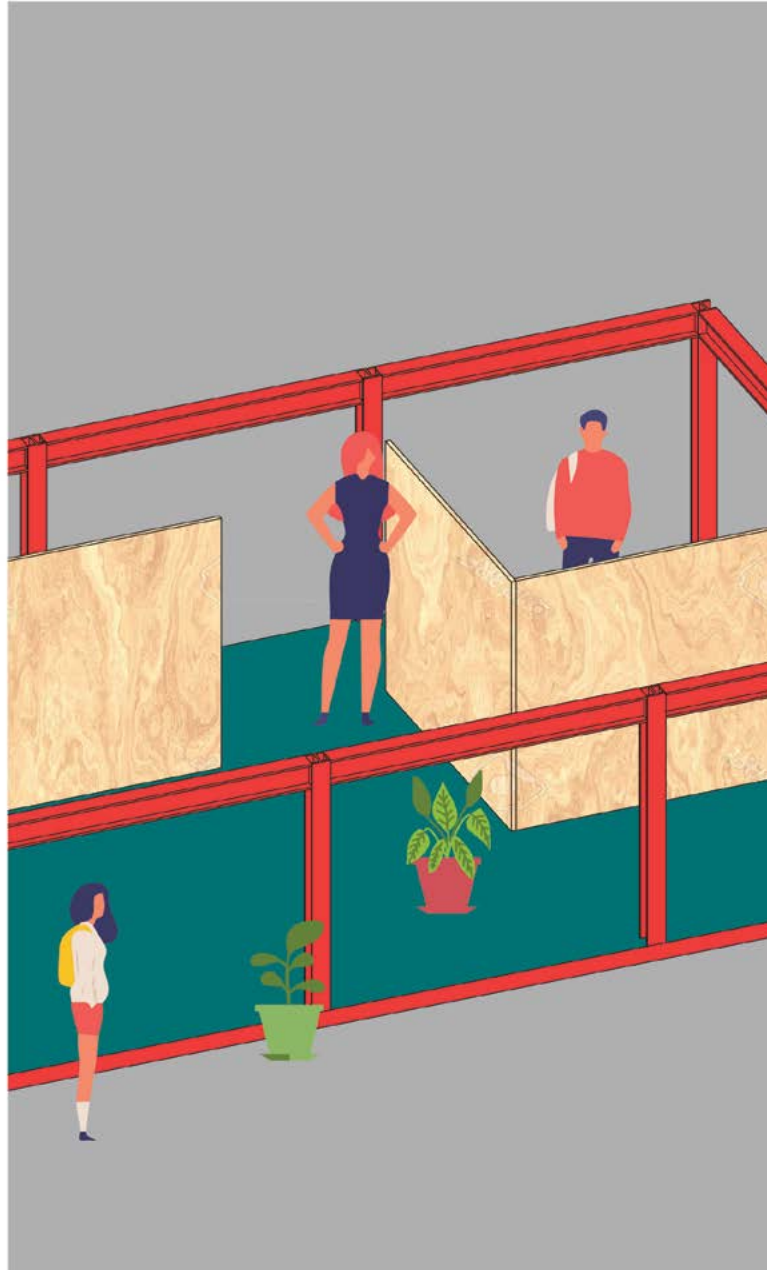
Function of modules can be discussed and changed. Modular structure of a block gives an opportunity to organize elements like in a jigsaw game. This approach was successful in Klearenstrat project and reflects participation and responsibility of tenants in creation of their own space.



## 4.1.2 RENT AND OWNED

There are two types of rooms. Owned spaces and rented spaces. Owned spaces can be bought by new tenants. Rented spaces can not be bought but can be rented personally or by a community. This gives extra flexibility to a building and provided it fluctuating character. On a drawing rented spaces are represented by white blocks while owned modules are green.





KLUSFLAT CATALOGUE

NEGOTIATIONS

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### 4.1.3 FULL FLEXIBILITY

The idea of the building is to fluctuate. It should be always capable to adapt for changes and new ideas.

## 4.1.4 RENTED SPACES

Rented spaces can be everything. It can be extra workshop, kind of extra office, common space or can be even rented by owners who want to extend their flats.



# KLUSFLAT CATALOGUE

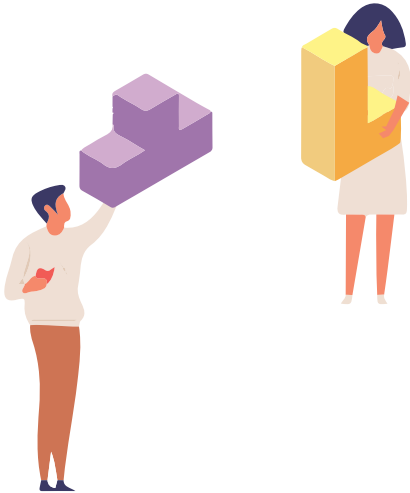
INTRODUCTION TO KLUDESIGNING

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FRANCISZEK MORKA



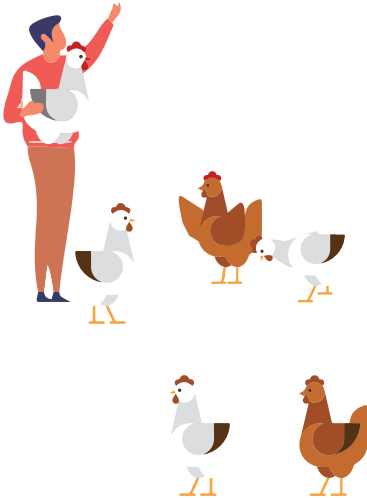
# PROJECT

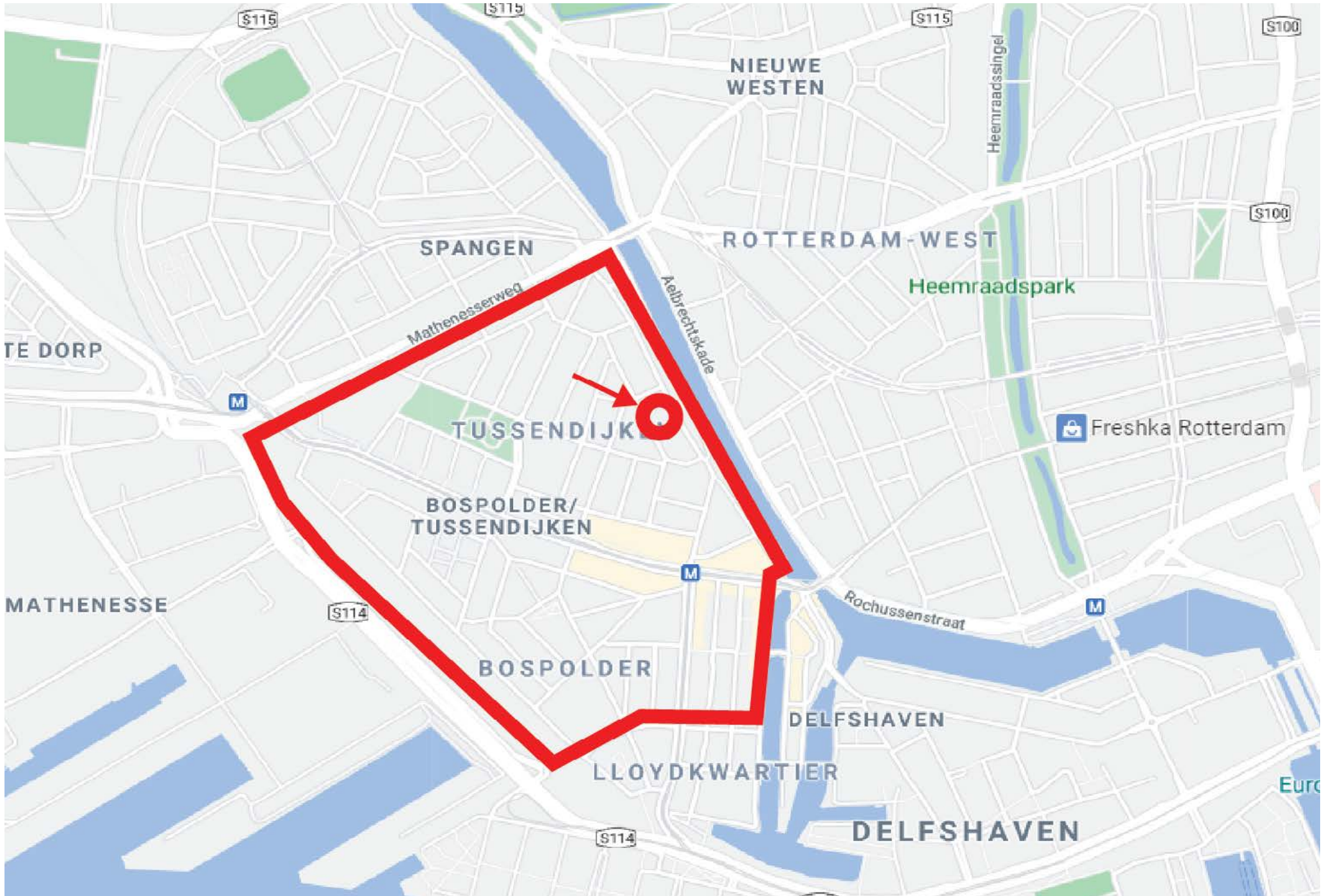




# KLUSFLAT STRATEGY

LOCATION





NIEUWE WESTEN

SPANGEN

ROTTERDAM-WEST

Heemraadspark

TUSSENDIJK

Freshka Rotterdam

BOSPOLDER/  
TUSSENDIJKEN

BOSPOLDER

DELFSHAVEN

LLOYDKWARTIER

DELFSHAVEN

S115

S115

S115

S100

S100

S114

S114

M

M

M

Euro

TE DORP

MATHENESSE

Heemraadssingel

Albrechtskade

Rochussenstraat



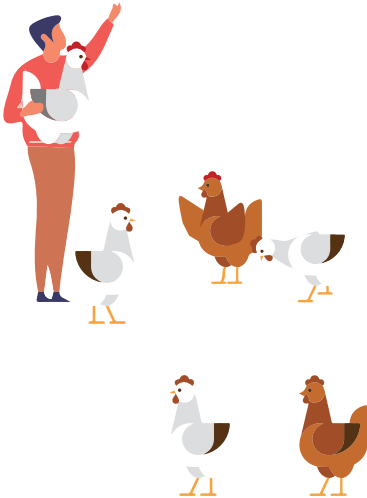


# VEERKRACHTIG BOTU 2028.

IN TIEN JAAR NAAR HET STEDELIJK SOCIAAL GEMIDDELDE.

# KLUSFLAT STRATEGY

CONSTRUCTION PROCESS







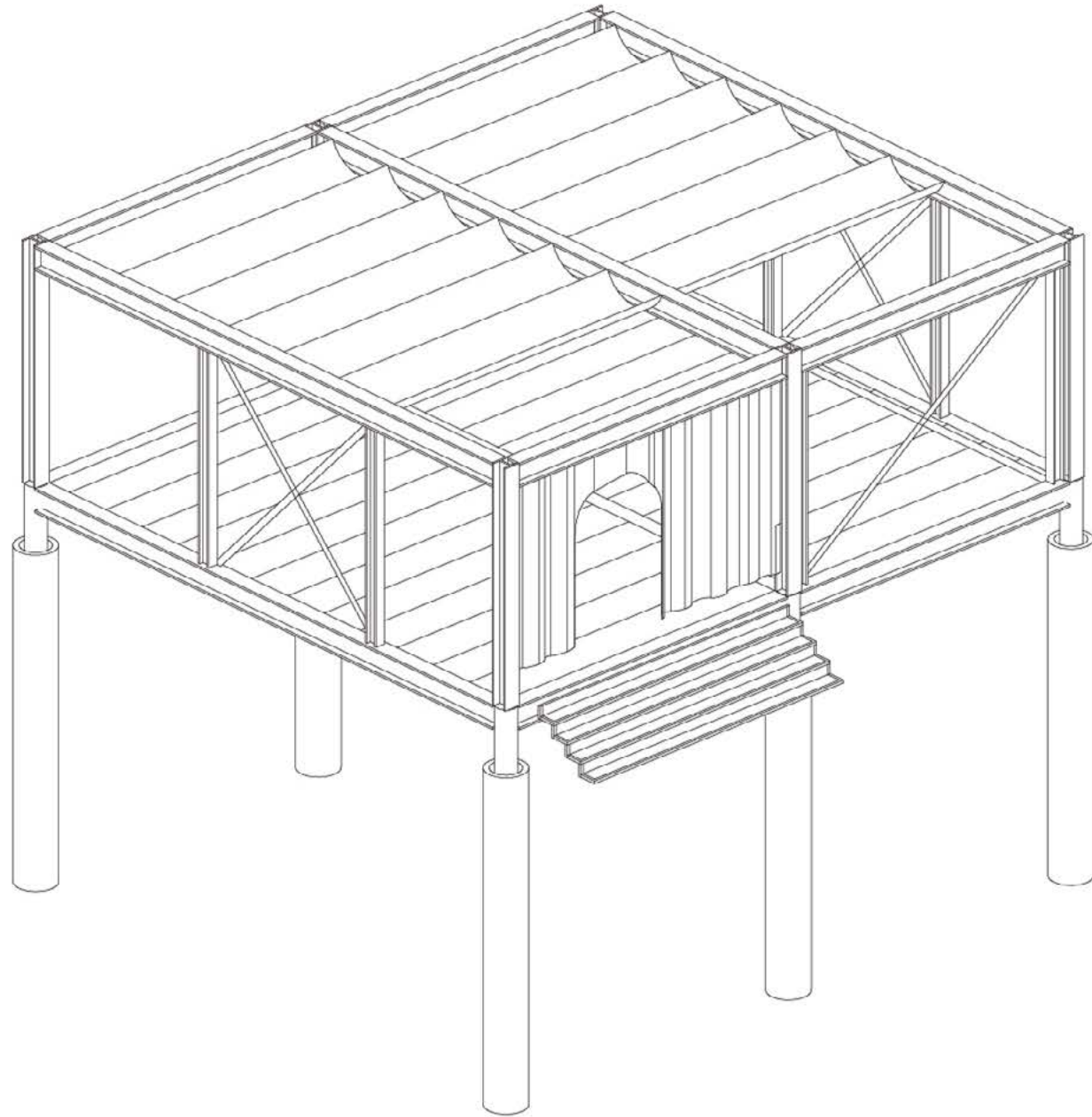






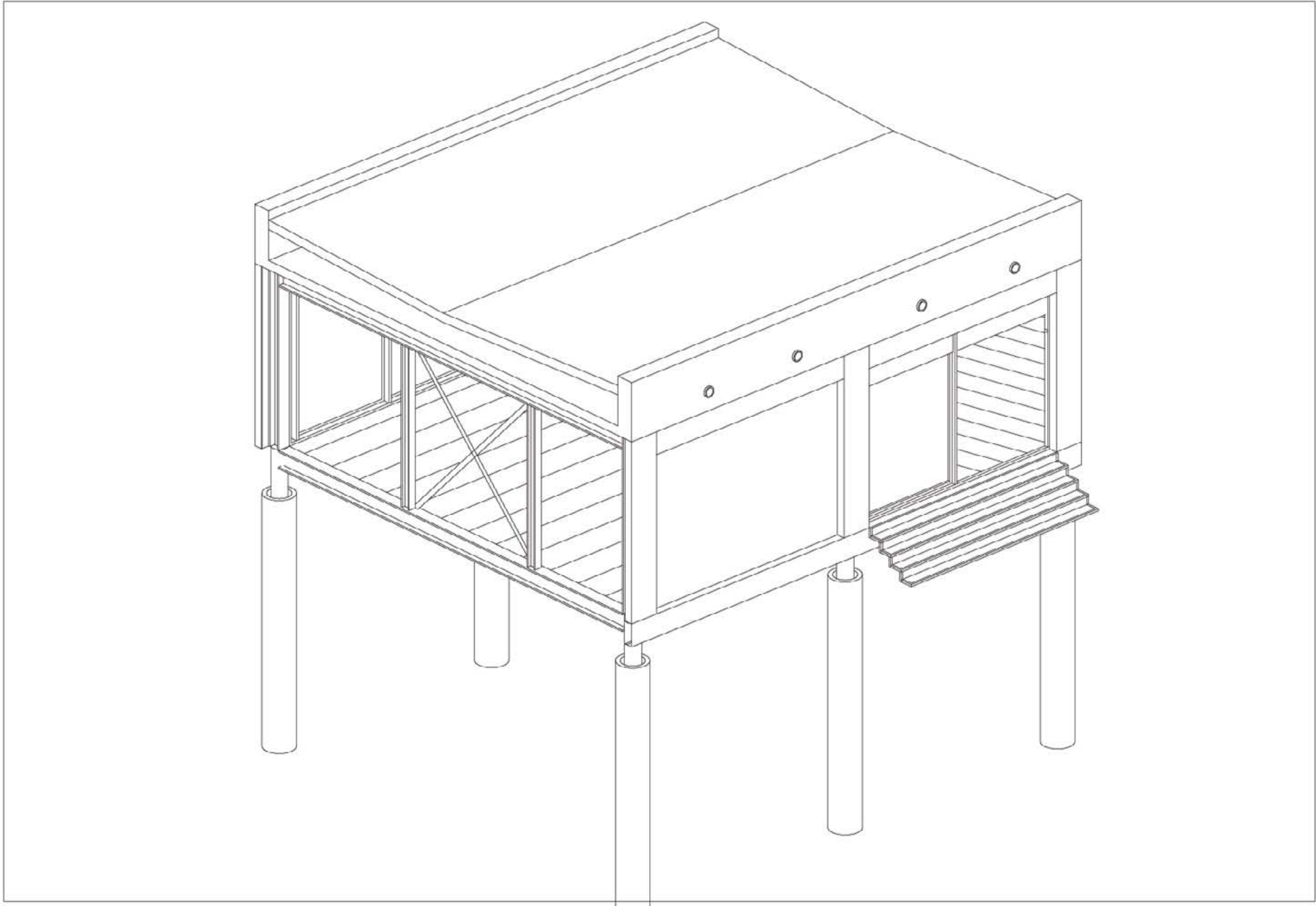








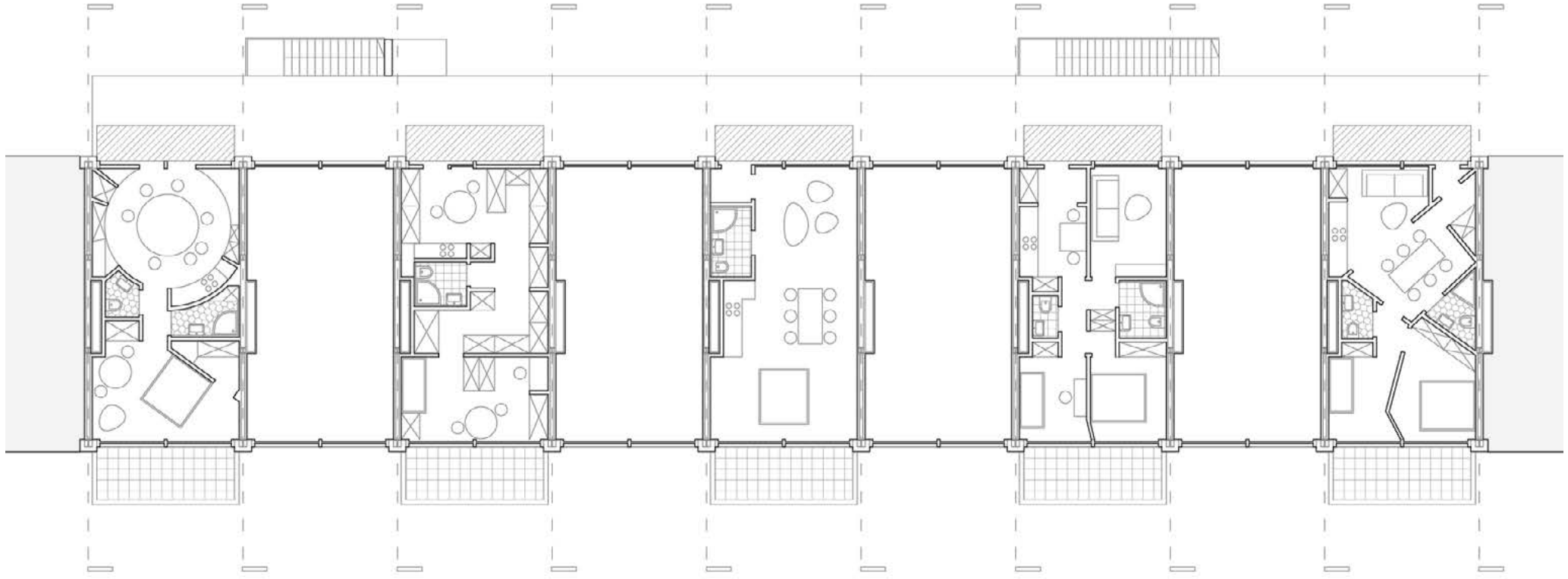






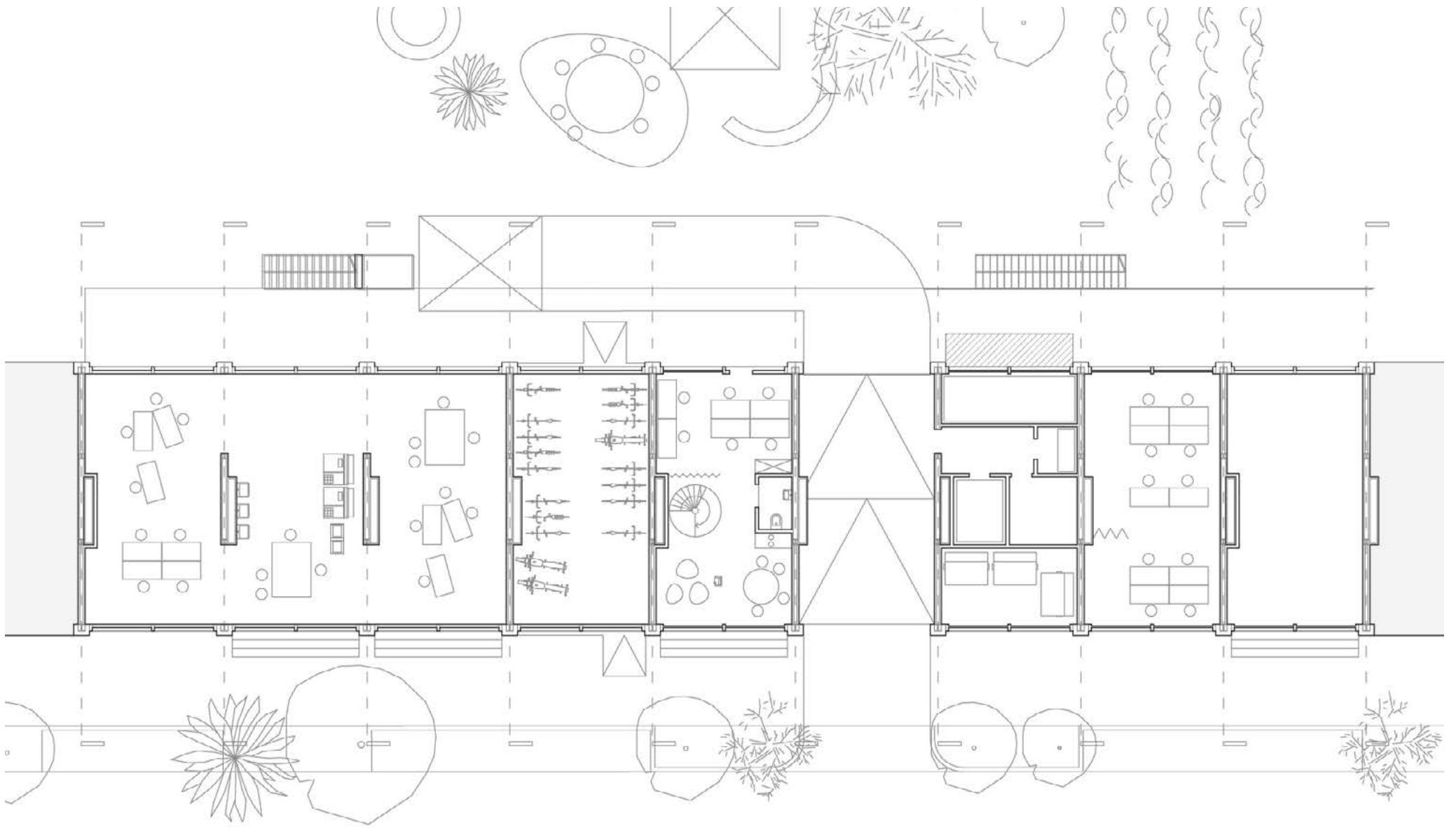


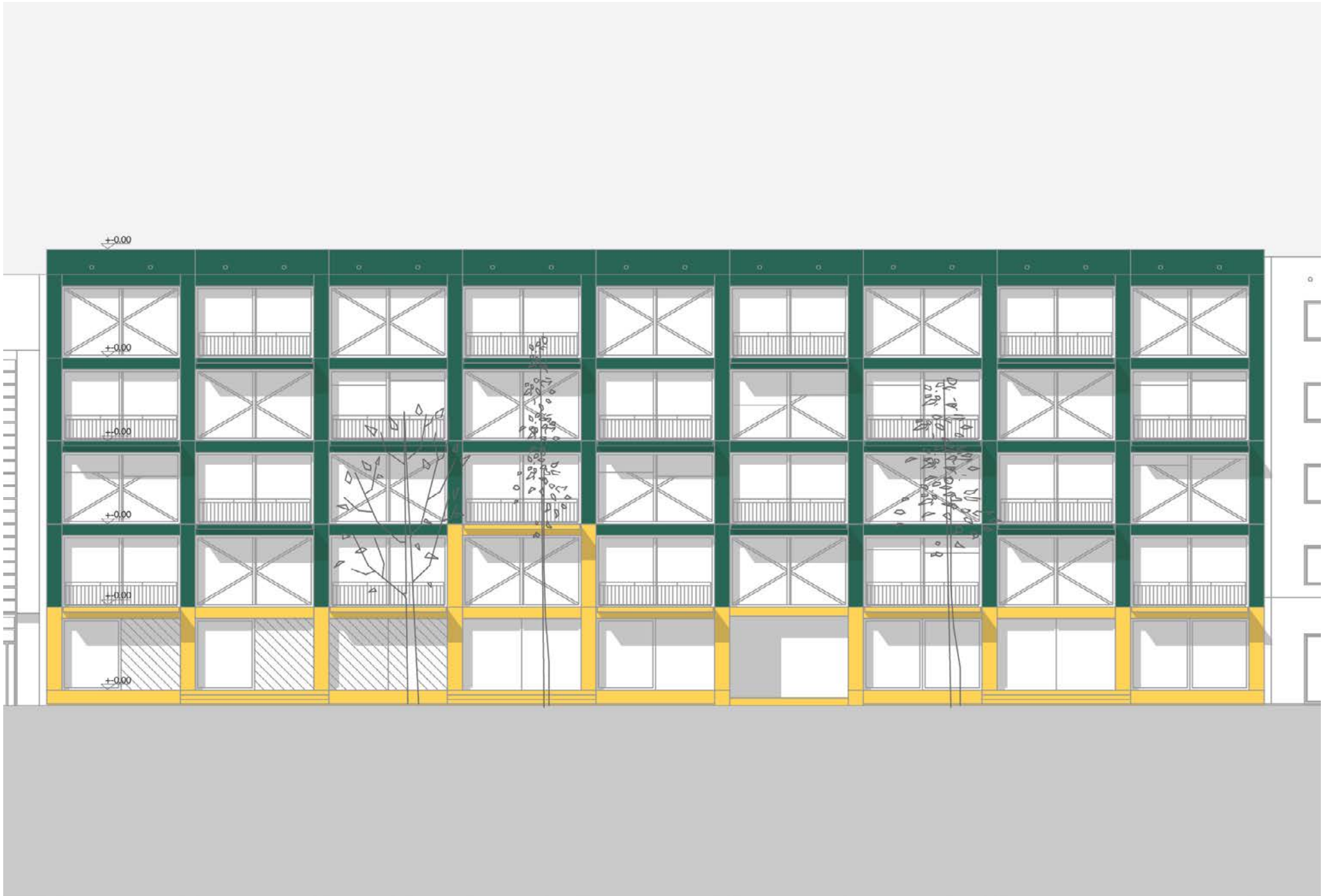




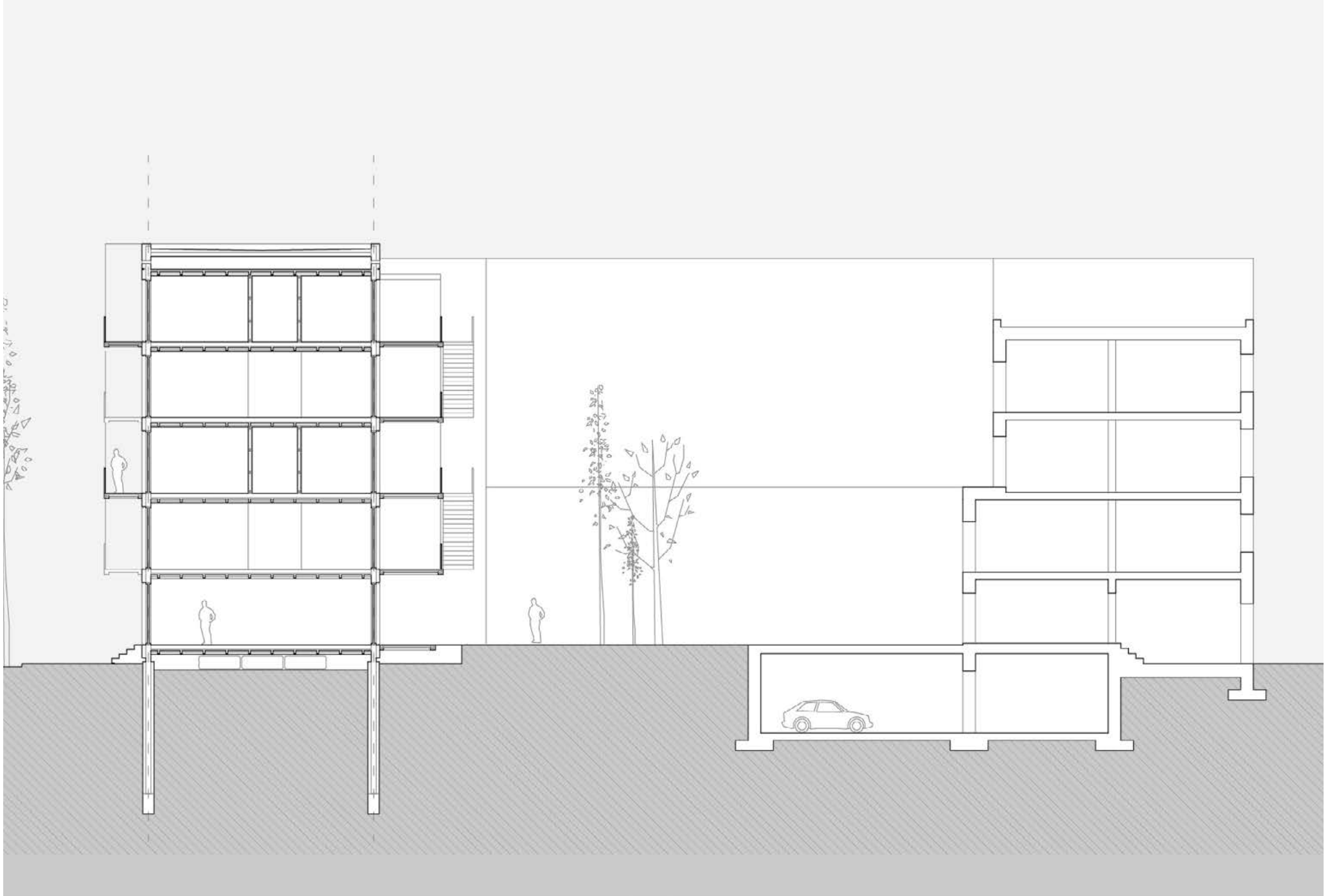


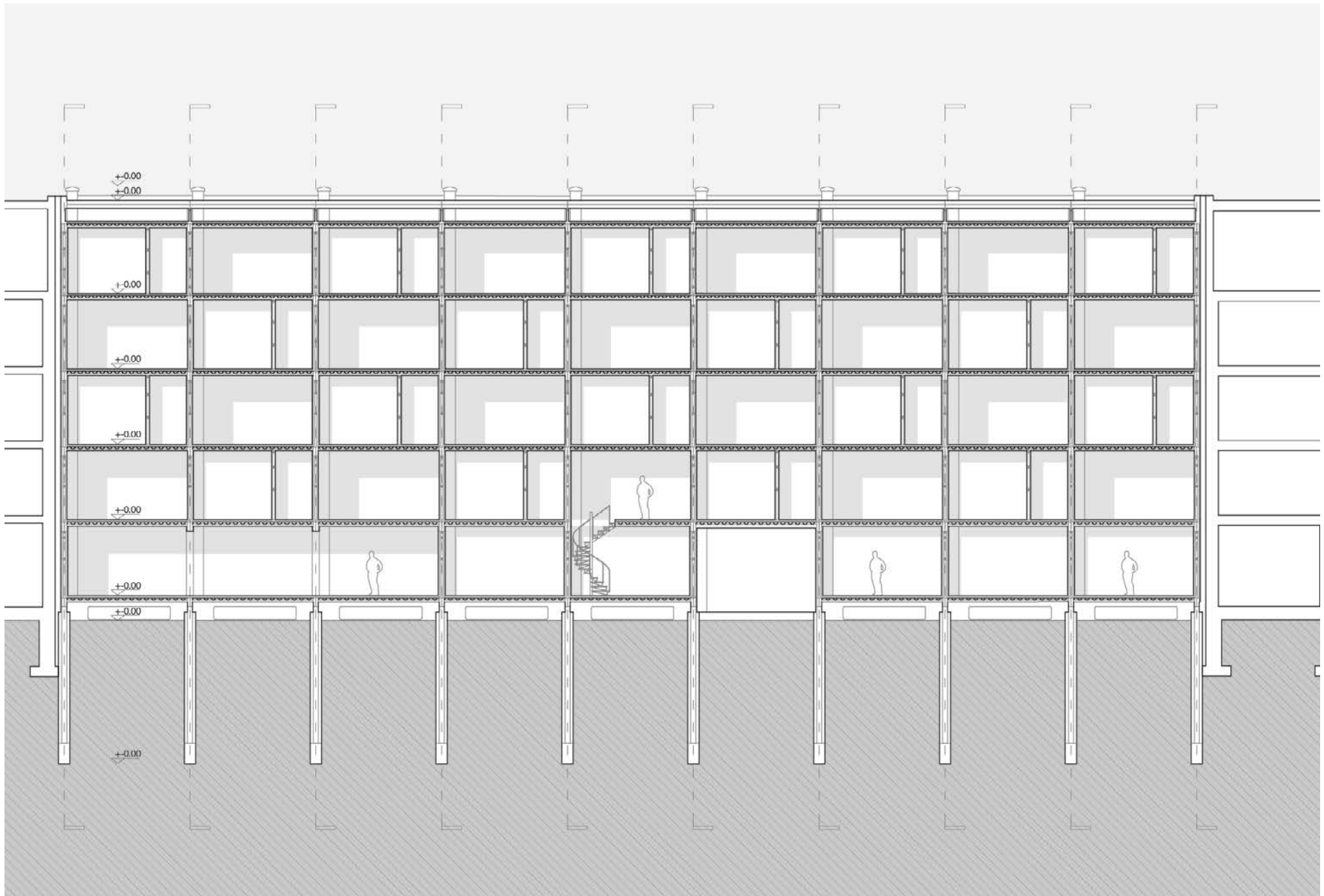


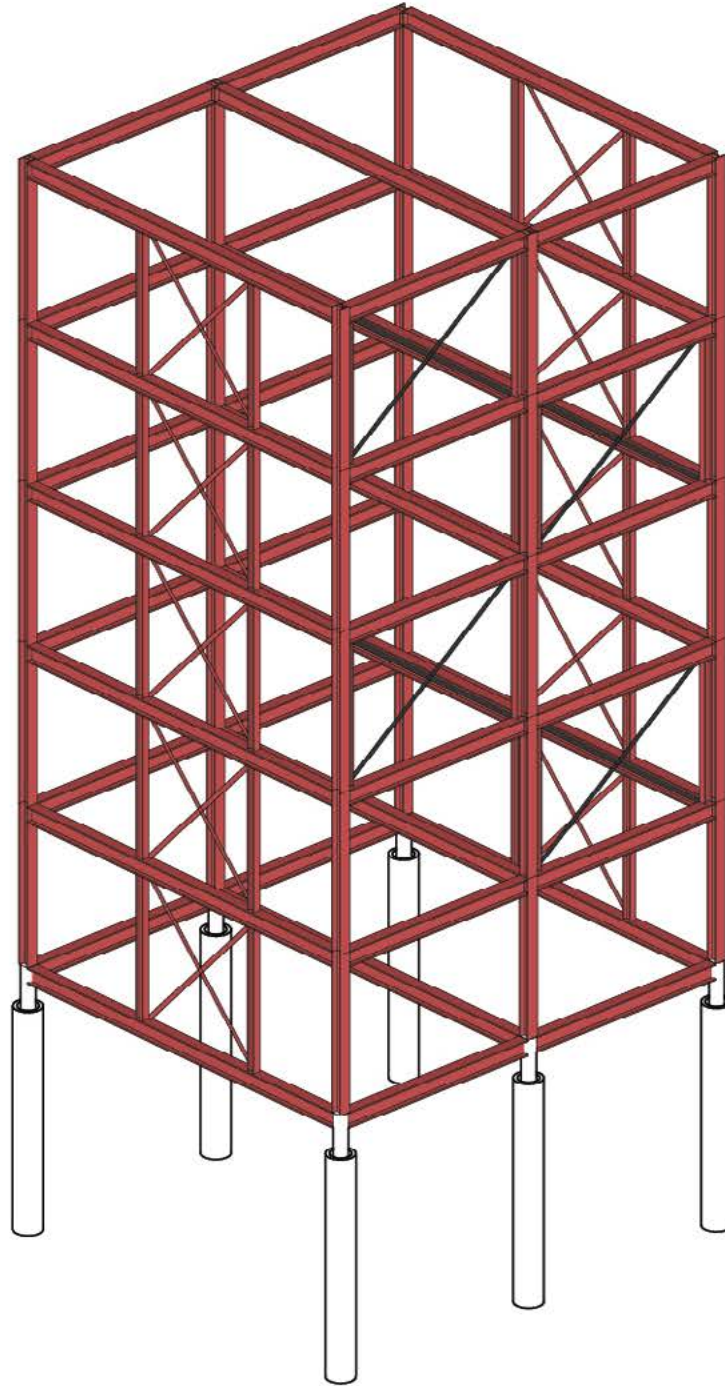


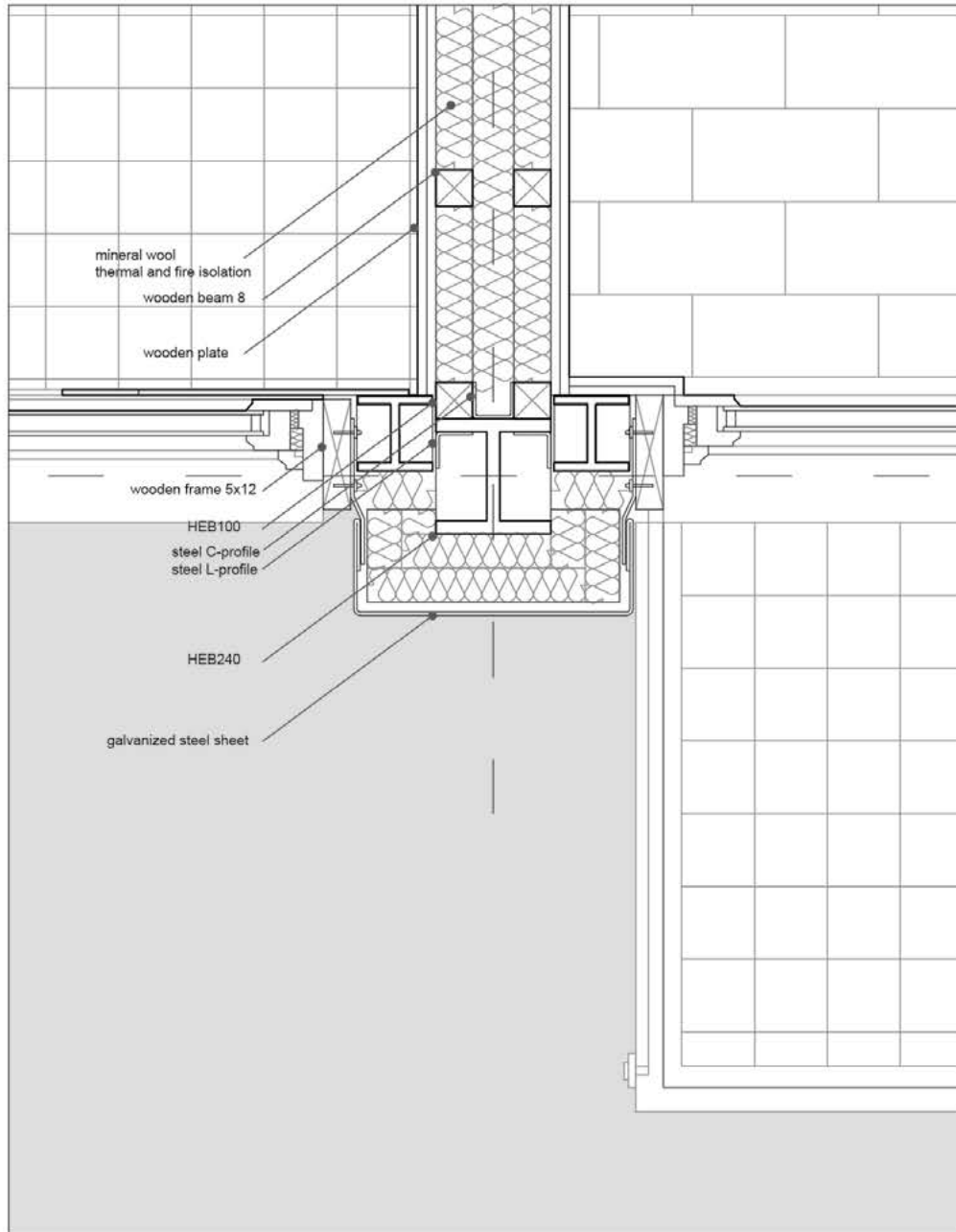


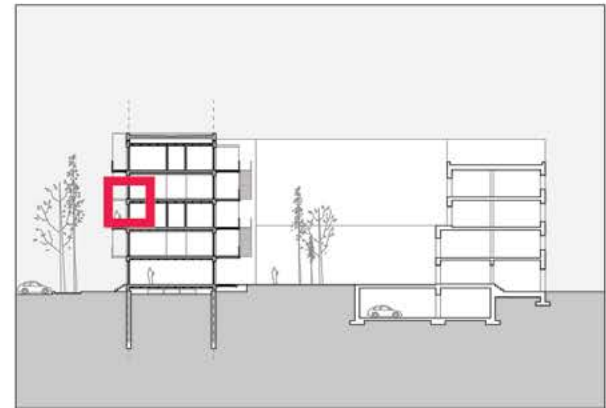
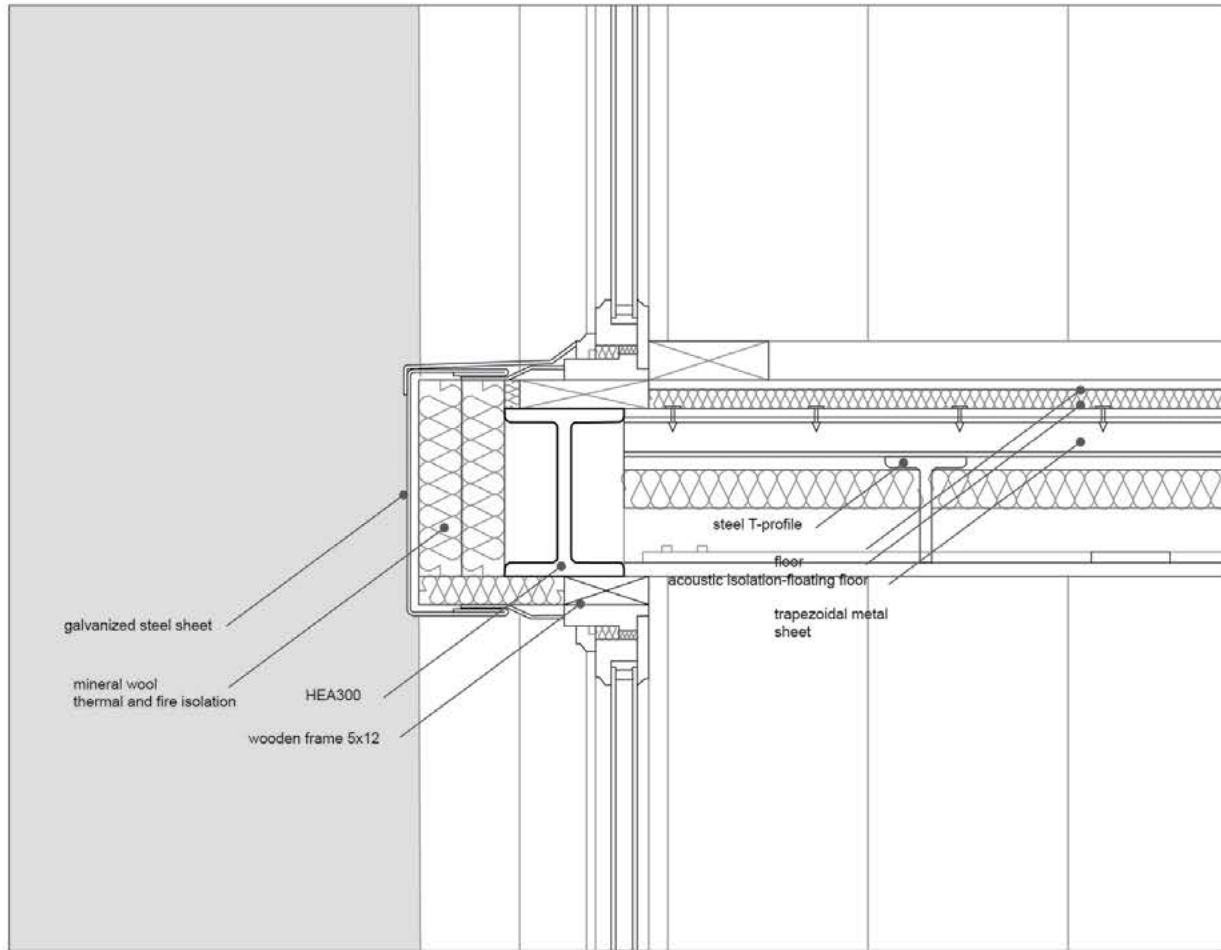


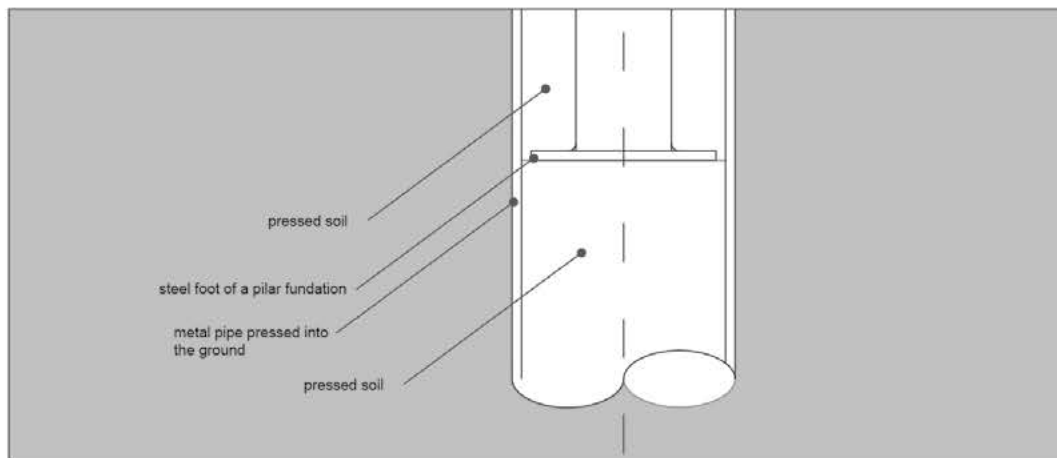
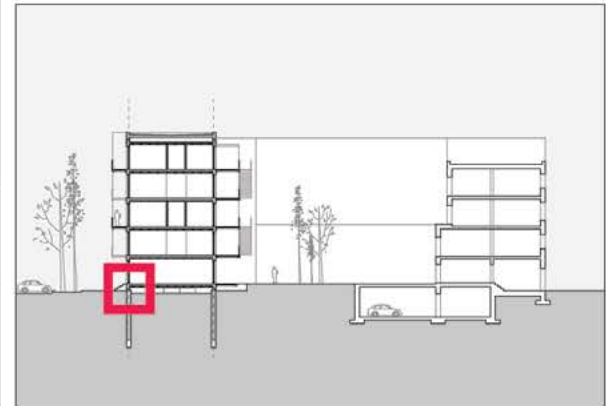
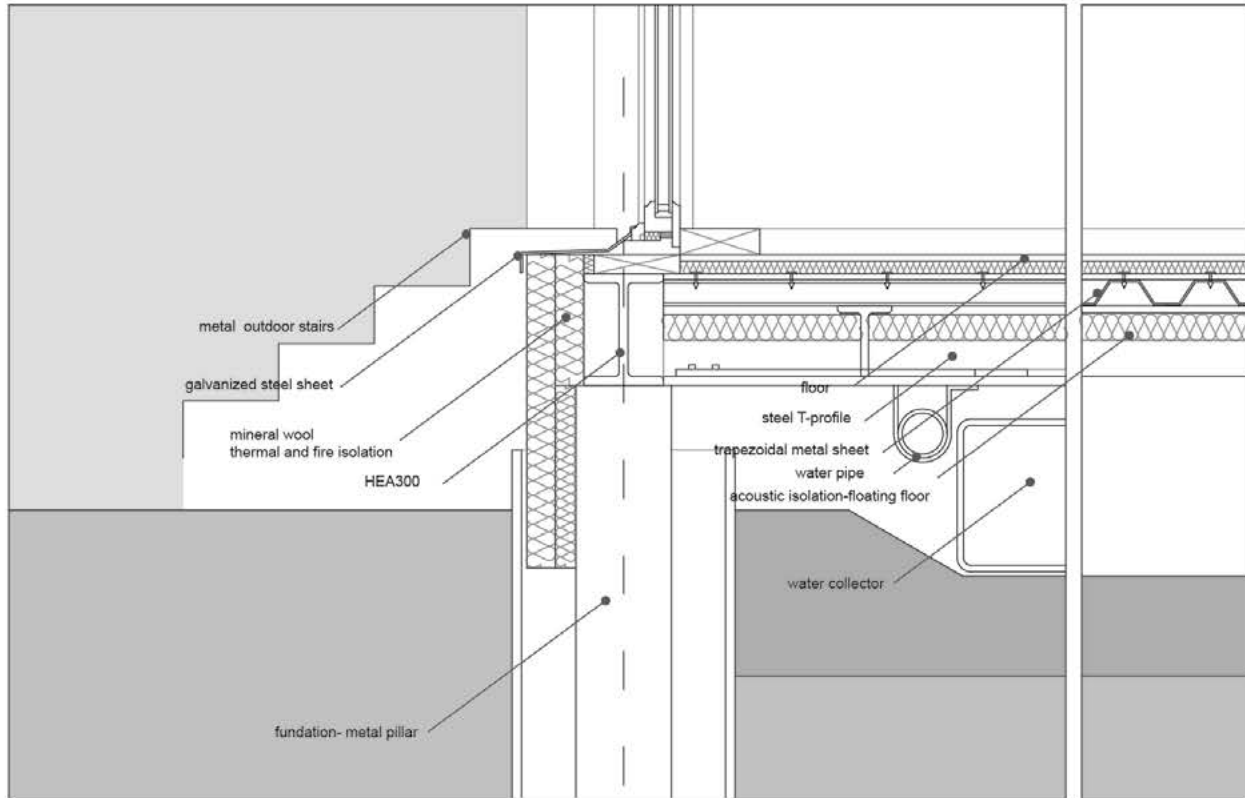
















6:00-12:00

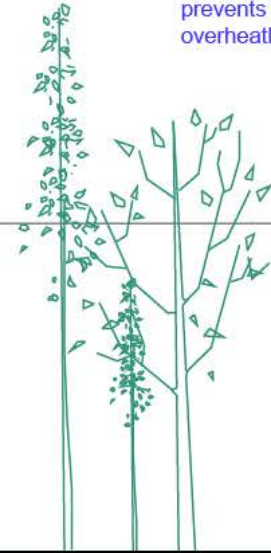
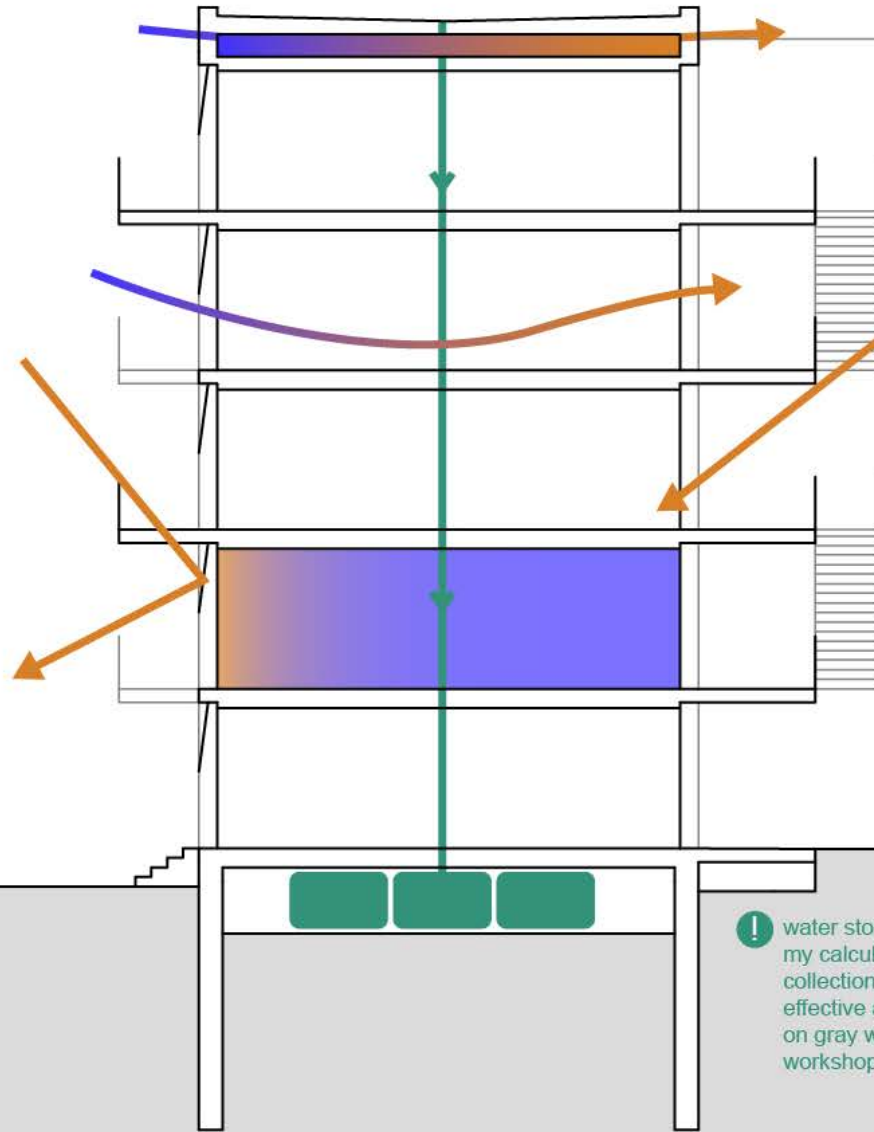
! the system of living units opened to both sides enables a wind to ventilate units and prevents the air inside from overheating



15:00-21:00

! the system of living units opened to both sides enables a wind to ventilate units and prevents the air inside from overheating

! the system of living units opened to both sides enables a wind to ventilate units and prevents the air inside from overheating



! water storage containers my calculations proves that collecting water on a roof is effective and meets a demand on gray water in living units and workshops

! maximization of area of biological natural surface

