



ELEVATIONS WITH LIGHT
STEEL FRAMES

beSteel
FASTER - LIGHTER - CIRCULAR

01

THE SOLUTION

Why elevate?

Elevating doesn't mean over-occupying, concreting or constructing high-rise buildings, but rather optimizing the space available to us. Above all, it's an advantage for homeowners, residents and urban planners.

HOUSING SHORTAGE

We are currently going through an unprecedented demographic crisis. In large cities, the housing shortage is a growing concern.

By raising the height of the existing housing stock, we relieve pressure on the housing market and preserve the last bit of green space in cities.

ELEVATING FOR SUSTAINABLE URBAN HOUSING

Compared to building new structures from scratch, raising existing buildings can save time, money, and resources.

Moreover, elevating buildings can also bring a unique aesthetic to urban landscapes. With creative architectural designs, elevated buildings can become iconic landmarks that add to the city's identity and character.

ADVANTAGES OF ELEVATIONS

1. An economic advantage

This allows you to create new living spaces that meet the latest environmental and energy standards, with lower land charges in areas with high prices per m² and increased property value. Raising the height of a building will also reduce your energy costs.

2. An ecological advantage

30% of heat loss occurs through the roof. Raising the height of an existing building therefor enables it to be better insulated, while at the same time creating new space.

3. An architectural advantage

In addition to elevating your building, you can also modernize your infrastructure, fill a "gap" in the landscape and rethink a building to enhance its value.



02 ALL THE STEPS

How to elevate your building?

There are a couple of steps you need to keep in mind when deciding to increase the height of your building.



1 **OBTAIN NECESSARY PERMITS AND APPROVALS**

Before any work can begin, you will need to obtain all necessary permits and approvals from your local building department.

3 **CHOICE OF CONSTRUCTION METHOD**

beSteel will carry out a feasibility study for your project. Our expert team of architects and engineers will support you by defining the compositions for your walls, roof and floors taking in account all fire, acoustics and thermal requirements. And defining the structural demands of you project. Our trained and certified contractors will create a tailor made price for the execution on site.

2 **CO-OWNERSHIP AGREEMENT**

(if applicable). When multiple parties share ownership of a building, it is important to ensure that everyone is on board with the plan to elevate the building.

4 **TRANSFORMING THE EXISTING STRUCTURE**

Opening of the existing roof (if necessary) and construction of the new elevation by our certified contractors.

03

ADVANTAGES

Why elevate with a lightweight steel frame?



LIGHTWEIGHT AND STRONG

It is the lightest system with the best structural performance/weight ratio on the market. It can therefore be raised more easily and in most cases without reinforcing the structure of the existing building.



SPEED OF INSTALLATION

It allows the shell of the building to be erected quickly and efficiently, keeping to schedules with dry construction and reducing disruption to occupants, neighbours and roads.



LOWER COST

Light steel is often less expensive than other building materials, such as concrete or wood. In addition, labor costs can be reduced due to the speed of installation.



DURABILITY

Light steel is resistant to corrosion, termites and mold. It does not expand or contract with temperature changes, which can reduce the risk of cracking in walls and floors.



DESIGN FLEXIBILITY

Light steel framing can be customised to meet the needs of each project, allowing great design flexibility. Architects and engineers can work together to create lightweight, elegant and efficient structures.



04 OUR EXPERTISE

Why elevate with beSteel?



9

YEARS OF
EXPERIENCE



+600

PROJECTS



11

COUNTRIES



+30

PARTNERS

POINT CLOUD EXPERTISE

Our steelframe solution for elevations are tailor-made. We use point clouds for an accurate representation of the existing situation.

CONNECTIONS, ENGINEERING AND DESIGN

Our architects and experts digitally monitor each project in our 3D BIM portal. In this way we ensure that your project meets the strictest technical requirements and rules for stability.

DEDICATED LOGISTICS SERVICE

Taking into account the requirements of the project (environmental characteristics and features of the building), we custom-make the transport according to the size of delivered panels.

100% BIM QUALITY CONTROL

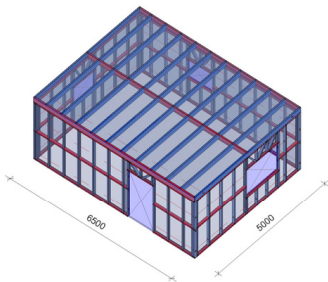
beSteel works 100% in BIM! For every project beSteel creates a 3D digital twin in collaboration with the architect and contractor. With this workflow we ensure the quality of our delivered projects.

Let's compare structure weight.

WHY THE METAL FRAME?

In 75% of the cases, raising the height of the buildings is impossible using other construction methods because the point loads are too high. With light steel, the weight is no problem: the steel frame avoids the need to reinforce the existing foundations.

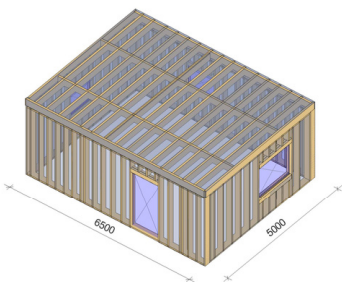
LGS FRAME - STRUCTURE



8,10 kg/m²

Light steel framing is 4.4 times lighter than wood and 40.7 times lighter than concrete. It is just the lightest building material you can find.

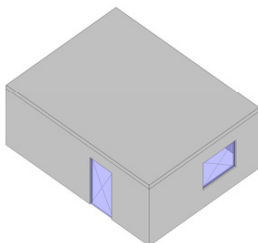
WOOD FRAME - STRUCTURE



35,62 kg/m²

Wood is 9.3 times lighter than concrete.

REINFORCED CONCRETE - STRUCTURE



330,17 kg/m²

Concrete is the heaviest material you can find, and therefore not suitable for elevating because it can damage the existing foundations.

References.

**PARIS (FR)**

Light steel frame elevation of an apartment building in the city of Boulogne-Billancourt / Paris.

**LEUVEN (BE)**

Elevation of a residential building to create a new floor, in the center square of the city.

**GUADELOUPE**

Elevation of a building consisting 4 duplexes, up front of the sea in Guadeloupe.

**ANTWERP (BE)**

Height increase by two levels of a historical building located in the city centre of Antwerp.

**AMERIKALEI (BE)**

Light steel framing elevation in the city, installed in 2 days with no disturbance to neighbours.

OUR PROJECTS

Scan the code and have a look online.



07

OVERVIEW OF OUR OPTIONS

An innovative Belgian alternative in 3 products.



FLATPACKED

Steel profiles are delivered unassembled. You'll receive packages of pre-dimensioned profiles, complete with screws, an assembly plan for the panels, and detailed instructions with tips and tricks for assembling the project.

- Light steel frame profiles
-



FABRICATED

Save time on site! In our production center we assemble steel profiles into complete 2D panels that we deliver on site.

- 2D light steel frame panels
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FASTWALL

FastWall combines our Fabricated wall with a high-quality plating for an even faster construction process. These 2D plates panels are pre assembled in our factory.

- 2D light steel frame panels
- High quality plating

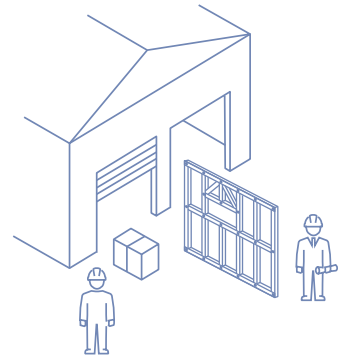
From design to site.



1

INTERNAL ENGINEERING OFFICE

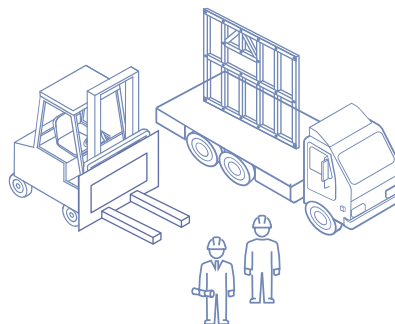
We digitally design your steel frame project. We provide you with a 3D model, stability calculations and drawings in full compliance with Eurocodes.



2

OFFSITE PRODUCTION AND ASSEMBLY

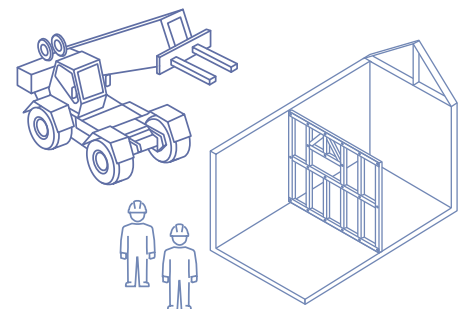
Precise production and assembly in our factory, under controlled conditions to guarantee the precision and quality of our product.



3

TRANSPORT

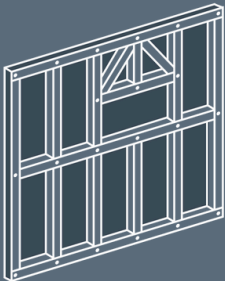
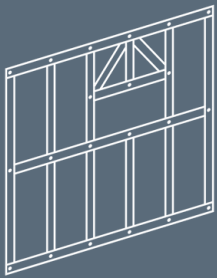
Delivery is organized according to the construction sequence to ensure smooth assembly.



4

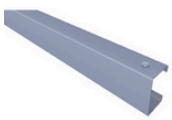
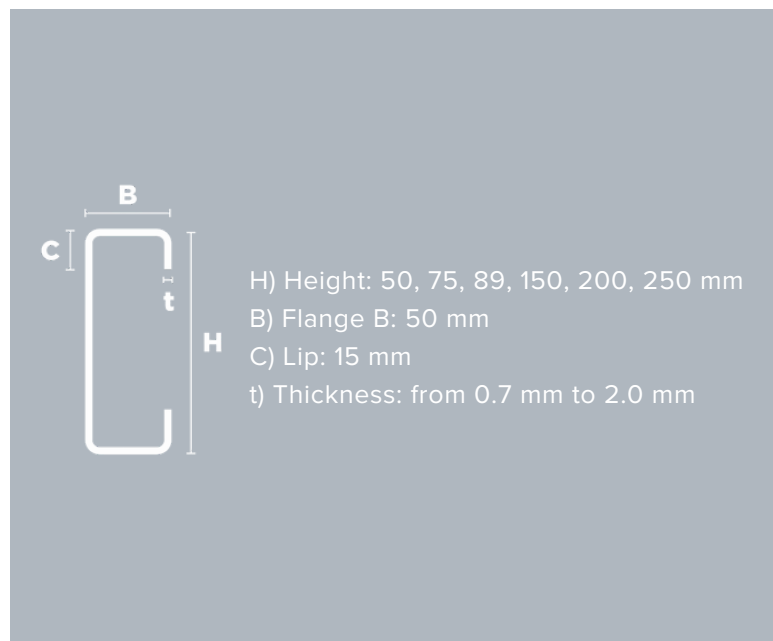
INSTALLATION ON THE SITE BY THE CONTRACTOR

Quick, easy, and labor-saving installation. Technical assistance from our beSteel Certified Advisor is available.



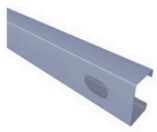
Steel, our foundation.

beSteel profiles are made from Arcelor Mittal Magnelis® steel. They have high quality and are corrosion resistant. Consisting of 3.5% aluminum and 3% magnesium.



SCREW HOLE

For a quick, simple and precise assembly.



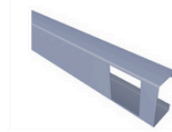
SERVICE HOLE

For electrical applications.



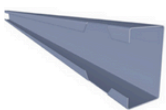
INDEX HOLE

For connections with bolts.



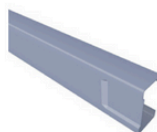
WEB NOTCH

Profiles fit together horizontally.



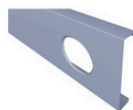
LIP NOTCH

For mounting profiles easily.



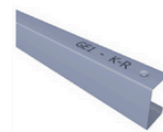
SWAGE ENDS

For precise fixing of profiles.



UTILITY SERVICE HOLE

Hole of 120-140 mm for sanitary elements and ventilation.



PRINT ID LABEL

For time-saving, well-organized installation.

On the road to carbon neutrality.

CRADLE TO CRADLE

Steel construction is one of the few methods that offers a clear answer to the need for circular construction.

This means that steel structures are 100% recyclable and offer a solution that can be dismantled without compromising quality.



XCARB® - TOWARDS A CARBON NEUTRAL STEEL

beSteel is convinced that steel has an essential role to play in helping society to decarbonize, and that it will be a large part of the solution to this problem.

That's why we are proposing the XCarb® program to reduce Europe's CO2 emissions from steel production, and are aiming for carbon-neutral steel by 2050.



TRADITIONAL CONSTRUCTION OR LIGHT STEEL CONSTRUCTION? THE OBVIOUS ANSWER.

It may come as a surprise to you, but it takes more steel (reinforcement) to build reinforced concrete than steel-frame.

Cold bending of sections improves steel's performance and load-bearing capacity. This results in a solution that's efficient in terms of raw material use, and environmentally friendly thanks to its ease of disassembly and recycling at end-of-life.

ULTRA FAST CONSTRUCTION

With offsite production and assembly in a controlled environment, we avoid delays on site, enabling quick and accurate installations.

SUSTAINABLE AND LIGHTWEIGHT

30% lighter than wooden construction methods. A hybrid module made of light steel also helps to reduce the CO2 impact of the construction sector.

360° EXPERTISE AND DIGITAL FOLLOW-UP

We produce your light steel frame and monitor your project internally from A to Z. You can be sure that it meets the strictest technical requirements and rules for stability.

CONTACT

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www.be-steel.eu

SCAN THE CODE FOR MORE ABOUT
OUR PRODUCTS AND SOLUTIONS



**BESTEEL IS A PROUD
MEMBER OF
THE BUILDUP COMPANY**