

## Estimation standard reaction forces

The structural department at beSteel performed structural calculations in order to obtain the standard reaction forces of different construction scenarios. These reaction forces can enable the client to have an approximative view required for the preparation of the foundation calculation the structure. Note that exact reaction forces of the beSteel structure of every specific project are given after obtention of the engineering report established by beSteel. This estimations cannot make any commitment with a result.

Two construction scenarios are taken into consideration:

- **Light building:** In this situation, the cladding composition of the different parts of the building is considered light. For instance, the composition of the floor may consist of one layer of structural hardboard.
- **Heavy building:** In this situation, the cladding composition of the different parts of the building is considered heavy. For instance, the composition of the external walls may consist of one layer of bricks.

The detailed composition of the two described scenarios is presented in *Table 2*. These compositions should serve as an example of the possible options to build a Light or Heavy building.

The reaction forces for a Light and Heavy building are presented in *Table 1*. Each one of the building levels represents an individual load, so that a building composed by a ground floor, two intermediate floors and a roof has a reaction force of 185 kN/m for a light building.

*Table 1. Reaction forces according to the composition of the building*

Reaction forces		
Building levels	Light building	Heavy building
Ground floor	50 kN/m	65 kN/m
Floor + 1	50 kN/m	70 kN/m
Floor + 2	50 kN/m	70 kN/m
Roof	35 kN/m	50 kN/m

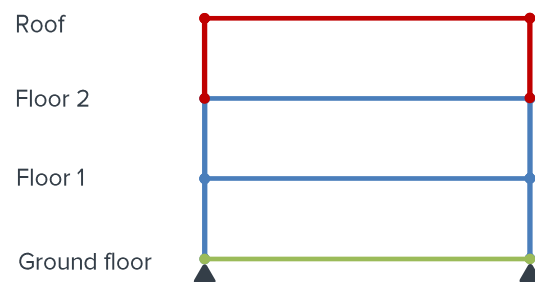


Table 2. Examples of the composition for a light and heavy building

	Light cladding	Heavy cladding
External walls		
	BA13 / ETEX (LaDura® Premium)	Bricks – Nelissen® N70
	OSB3 / Unilin® Durelis®	PUR unilin® Utherm wall®
	Frame steel profiles, mineral wool	OSB/3
	Aquapanel® / WeatherDefence®	Frame steel profiles, mineral wool
	Insulation	OSB/3
Stucco Render	Stucco Render	
Floor		
	Parquet	Tiles
	BA13	Concrete chape
	Heating screed	PE membrane
	Insulation	Insulation
	OSB/3	OSB/3
	Frame steel profiles, mineral wool partially filled	Frame steel profiles, mineral wool partially filled
	Wooden purlin	Wooden purlin
BA13	BA13	