



BACKGROUND INFORMATION

Timbeco took part in the construction of the Stjørdal Torgkvartalet Shopping Centre in Trondheim, Norway. The extension of the existing shopping centre included new commercial premises in total of 14,000 m² over three floors and a garage for 175 cars. The new building was connected to the existing shopping centre with a gallery. The total budget of the project amounted to 215 million Norwegian kroner and the date of completion of the works was 1 December 2017.

Main contractor: Skanska

Location: Trondheim, Norway

Type of building: service and commercial building

Floor surface area: 14,000 m²

Architecture: AMB Arkitekter

Duration of the installation of the timber panels: 11 weeks

Volume of the timber panels: 3,500 m³



TECHNICAL SOLUTION

The architectural solution, a combination of tilted and vertical walls, was requested by the client. As the project in question was an extension of an existing shopping centre in the city centre, the building had to fit in the urban environment and match the peculiarities of the specific district.

The technical solution of the facade and the layered structure of the panels were developed by the design team of Timbeco.

FACTORY SET

The set included thermally insulated wall panels and parapet elements. The total installation time of the timber panels was 11 weeks, the building was weatherproofed in 7 weeks. The doors, windows, and roofing material were installed on-site.

“ It is common in the construction of hybrid structure buildings that different sections of work are performed by separate companies and thus, cooperation between the project team of Timbeco, the main contractor, and other subcontractors was crucial. In the case of the Torgkvartalet project, the project team of the main contractor was very strong, which enabled the main contractor, the architect, and the suppliers of steel and concrete to cooperate very closely in the planning phase.

Tõnis Vaiksaar, sales manager, Timbeco Woodhouse

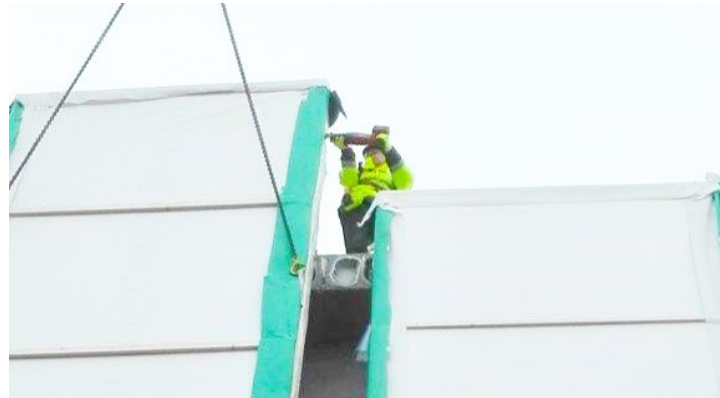


CHALLENGES

The structure of the building is a so-called 'hybrid structure' which combines concrete floors, steel posts and beams, and facade panels on a wooden structure. Finding a solution for such a structure with tilted walls is either a huge engineering project or an EXTREMELY time-consuming on-site work, no matter which facade solution is used.

As it is common in the construction of these hybrid structure buildings that the aforementioned sections of work are performed by separate companies, the cooperation between the project team of Timbeco, the main contractor, and other subcontractors was crucial.

During the installation works, attaching of the wall panels to the concrete structure posed a challenge. As a large number of panels were installed at an angle, the installation works had to be very accurate to achieve the desired outcome.



Timbeco has been designing all buildings in the last ten years in BIM, thus, we have been able to minimise the number of unexpected situations encountered on the site. We are happy to state that our partners have been treading the same path in our target markets in the last few years and the project in question was also included a comprehensive process in BIM.

One great challenge in the design works was sticking to the required thickness of the walls. The external dimensions of the building were specified in the terms of reference and it was not permitted to change the indoor surface area.

In the course of the design works, various approvals had to be obtained from other contractors to achieve suitable tolerances.

In the case of this project, the project team of the main contractor was very strong, which enabled the main contractor, the architect, and the suppliers of steel and concrete to cooperate very closely in the planning phase. Even though the client decided to use artificial timber panels in the late phase of the project, the good cooperation between the project teams enabled to obtain the approvals quickly and complete the works on time.





BEST SPECIAL SOLUTION AWARD AT THE 2018 ESTONIAN PRE-FAB HOUSE OF THE YEAR COMPETITION

Torgkvartalet Shopping Centre was acknowledged as the best special solution at the prefabricated house competition organised by the Estonian Wooden Houses Cluster and the Estonian Woodhouse Association.

