INFINITY WEALTH FUTURES CO.,LTD
泰國兆華期貨有限公司

ReforceTech™
Mineral Fiber Reinforcement Technology

CASE STUDY

PRECAST INSULATED WALL PANELS

Hospital for the Elderly, Stavanger Norway





Precast insulated wall panels delivered to site with integrated windows and blinds



Precast insulated façade panels in place

Project Profile:

Category:	Institutional Healthcare Mid-rise Community Hospital for Elderly
Owner & Developer:	Stavanger Kommune
Structural Engineer:	Ramboll
General Contractor:	Skanska
Precaster:	Block Berge
Completion:	December 2016

Technical details:

Precast Element:	Precast Insulated Wall Panels 35mm (1.38 in) outer concrete layer White polished concrete finish
Concrete Type:	C50/60 - 7250 psi Concrete
Composite reinforcement solution:	Cem-FIL MiniBars™ 43mm @ 7 Kg/m^3 - 11.8 lbs/yd^3 Composite bars used to reinforce at stress concentrations (window & door opening corners)
Other:	Unique panel design with integrated windows and blinds cast-in at the factory

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MINIBARS™ / CASE STUDY

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Project description:

For this 6-story hospital building project in Stavanger, the precaster was asked to supply architectural insulated wall panels that were lighter and thinner in profile than standard panels, while also installing windows and blinds at the factory during production.

Thinner wall panels allowed increased usable internal floor area within the building's external footprint. They also reduced panel weight and shipping costs for more efficient installation by the contractor.

The precaster reduced the wall panel's outer layer from 80 mm (3.15 in) to 40 mm (1.57 in) and then polished down to 35 mm (1.38 in).

By replacing all the welded wire reinforcing (WWR) steel mesh and rebar with Cem-FIL MiniBars™ corrosion-free composite macrofiber, the need for cover concrete was lowered, and the outer wythe thickness was reduced by 50%.

Non-metallic composite rebar was also used at stress concentration areas such as the inside corners of windows and door openings.

The hospital facility owner and managers will not have to worry about corrosion of steel reinforcing in concrete exposed to the weather. Therefore, the lifecycle cost of the cladding system is lower, too.

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