

# Case Study



## Precast Insulated Wall Panels Ramirent Kungsängen Sweden

### Project Profile

**Category:**

Commercial Building

**Owner & Developer:**

Kilenkryssset

**Structural Engineer:**

AFG Consulting Engineers

**General Contractor:**

Kilenkryssset

**Precaster:**

Kilenkryssset

**Completion:**

2015



### Technical Details

**Precast Elements:**

Precast Insulated Wall Panels  
1 ½" (40mm) outer concrete layer  
Stucco-style finish, painted black or white  
2 ¼" (60mm) inner concrete layer

**Concrete Type:**

7250 psi (C50/60)

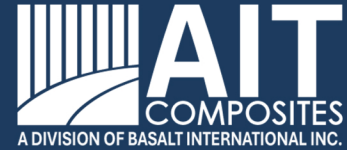
**Composite reinforcement solution:**

Basalt MiniBars™ 9.6lbs/yd3  
(43mm @ 5.7 Kg/m3)

Composite bars strengthening at corners in  
window and door openings

# Case Study

## Precast Insulated Wall Panels Ramirent Kungsängen Sweden



### Project Description:

Kilenkryssset wanted to build a 2-story front office and 3-story warehouse with wall panels that were 50% less weight and a thinner profile than standard precast panels. This allows an increase in the building internal footprint and rentable space. The lighter panels reduce the cost of transportation and smaller cranes to improve efficiency on site and simplify installation. All the Welded Wire Reinforcing (WWR) mesh was eliminated by using Basalt MiniBars™, a corrosion-free, high performance structural FRP composite macrofiber. This reduced the need for concrete cover resulting in panels that were 50% lighter. The outer layer was reduced from 3" (80mm) to 1.5" (40mm). The inner layer went from 4.75" (120mm) to 2.25" (60mm). FRP composite rebars were used in the stress concentration points at the corners of windows and door openings. Note that panels were non-prestressed, horizontal one-story high from column to column, and stacked as opposed to the vertically oriented prestressed panels.

## AIT Composites

A Division of Basalt International Inc.  
[www.aitcomposites.com](http://www.aitcomposites.com) | [www.basaltintl.com](http://www.basaltintl.com)

33 Steamboat Ave  
Winterport, ME 04496  
+1 888 491 1516

This information and data contained herein is offered solely as a guide in the selection of reinforcement. The information contained in this publication is based on actual laboratory data and field test experience. We believe this information to be reliable, but do not guarantee its applicability to the user's process or assume any responsibility or liability arising out of its use or performance. The user agrees to be responsible for thoroughly testing any application to determine its suitability before committing to production. It is important for the user to determine the properties of its own commercial compounds when using this or any other reinforcement. Because of numerous factors affecting results, we make no warranty of any kind, express or implied, including those of merchantability and fitness for a particular purpose. Statements in this publication shall not be construed as representations or warranties or as inducements to infringe any patent or violate any law, safety code or insurance regulation. Advanced Infrastructure Technologies reserves the right to modify this document without prior notice.

© 2024, Basalt International Inc. All Rights Reserved. In collaboration with ReforceTech.