APPLICATION OF NEG ARG FIBRE

Ref. No. 009 MARCH 1992

Nippon Electric Glass

NEG ARG Fibre, manufactured by Nippon Electric Glass Co., Ltd., is used throughout the world as a reinforcement for cement composites, including asbestos replacement products.

Renovation of Multi-Story Schönbühl Building in Lucerne

The landmark Schönbühl building in Lucerne, Switzerland, was designed in the late 1960s by the world-famous Finnish architect Alvar Aalto. The building is part of a shopping center complex with the same name.

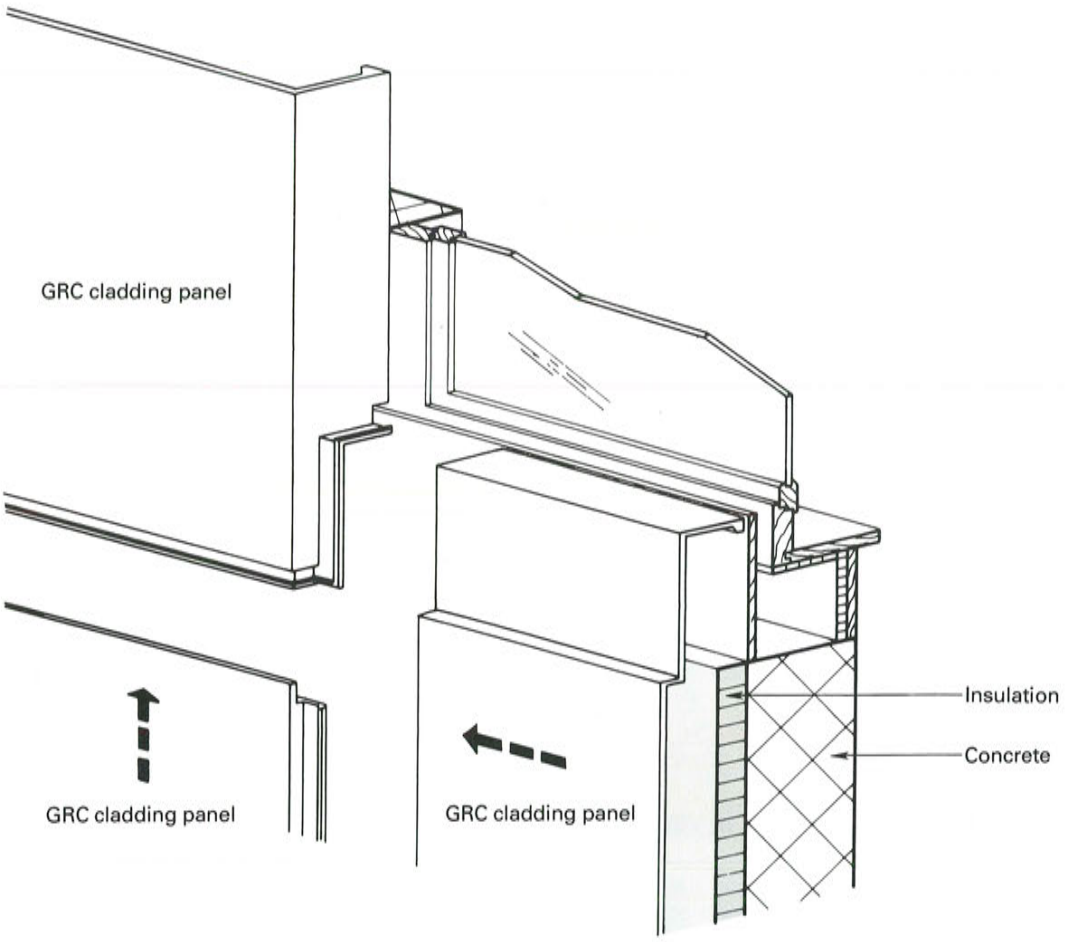
The building consists of prefabricated concrete elements. The facade is made of wall panels which can bear weight, as opposed to finish materials which usually cannot. The concept of using such load-bearing wall panels embodies a number of advantages. By using load-bearing panels, the use of anchors and fastening aids to hold up the panels can be avoided. This eliminates the risk of weakness as a result of corrosion of anchors and fastening aids. In this building, all of the concrete elements are set on floor slabs and are monolithically connected to the slabs. Therefore, by using this method, potencial renovation problems are limited to surface work. A structure built or renovated by the same method but with ordinary elements, however, would not meet the modern requirements for thermal insulation.

The owner of the Schönbühl building decided to use GRC cladding panels because they not only leave sufficient room for installing thermal insulation but they also allow the original design of a building's exterior to be preserved. In this case, the main concern was placed on restoring the original design.

The cladding elements consist of glass fibre reinforced concrete panels of a mere 12 mm in thickness, which are equipped with a steel frame of the back. Taking full advantage of GRC's design flexibility and light weight, the joint pattern, smooth surface and color tones on the exterior of the building have been tailored to restore the original look designed by Alvar Aalto.

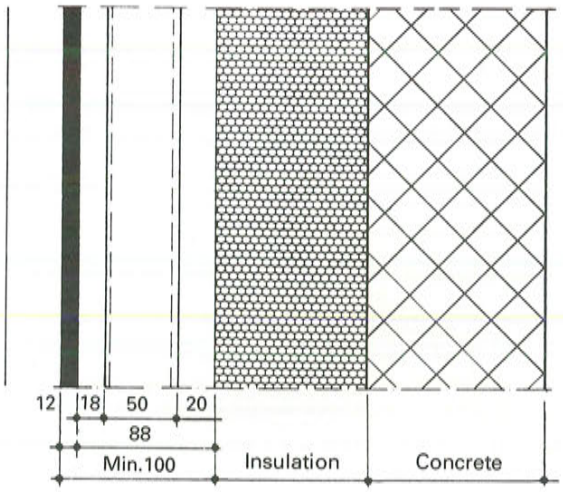
GRC cladding panels thus matched the requirements of the building owner perfectly; that is, they allowed for the preservation of the building's original appearance and met today's stricter standards regarding thermal insulation.

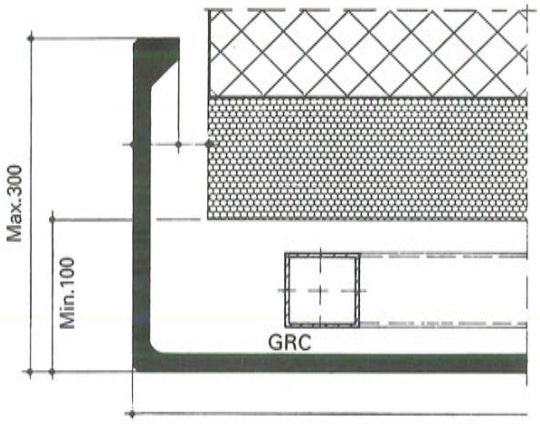
●Iso. View of Installation

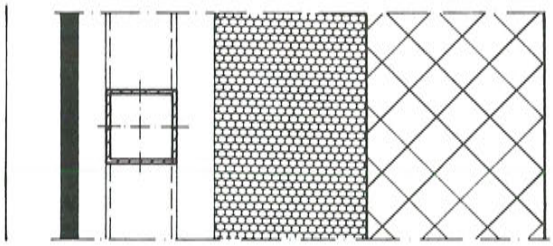


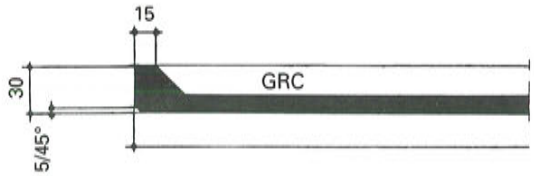
●Details of Construction

Unit: mm

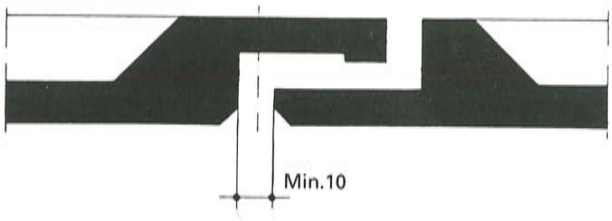


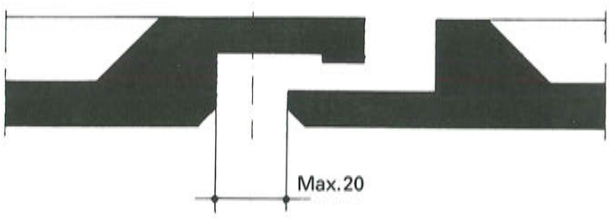






●Joint Patterns





Schönbühl building under renovation
The left half of the building indicates the surface before the renovation while the right half shows the renovation using GRC panels in progress.

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2C JUL'96 Printed in Japan