BETWEEN A ROCK AND A HARD PLACE

A ROCK ON AN ICE FLOE: THAT'S WHAT ERICK VAN EGERAAT'S AMSTERDAM OFFICE BLOCK IS SUPPOSED TO LOOK LIKE.

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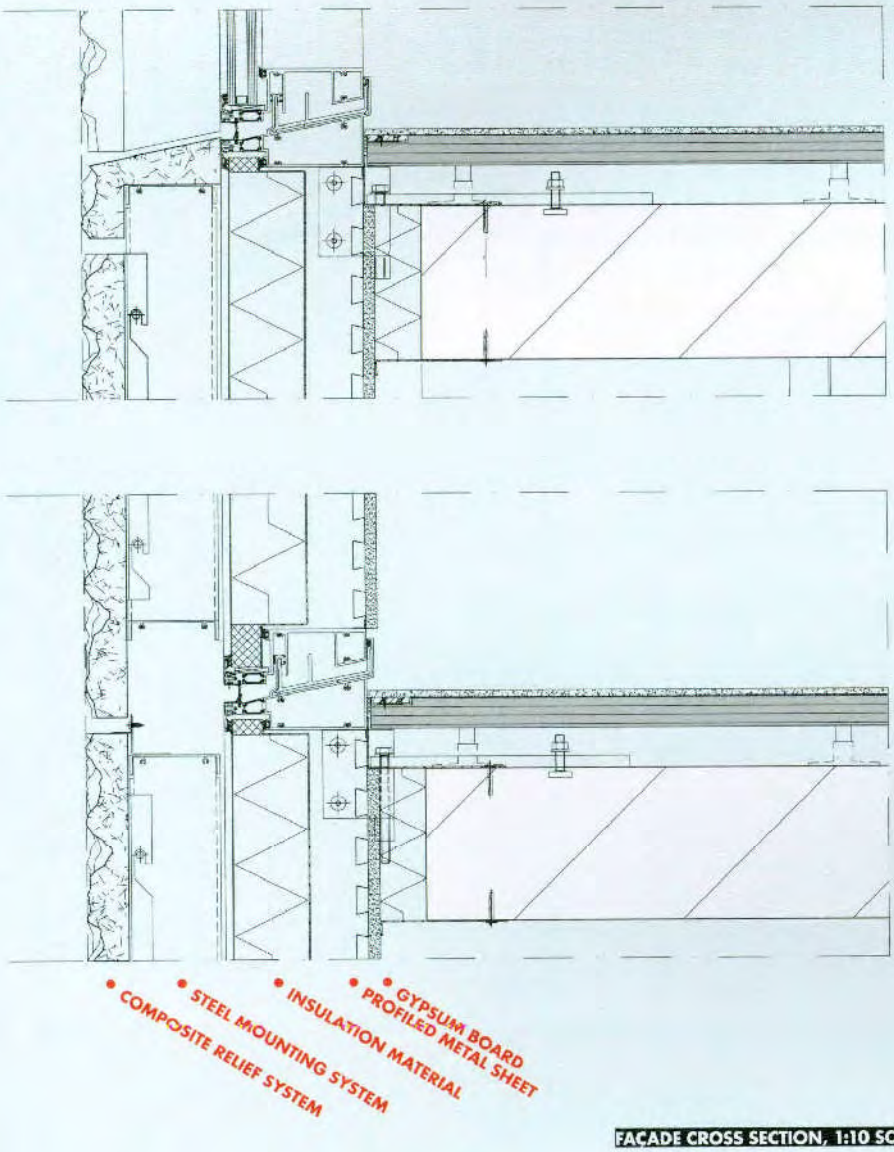
OVERVIEW RENDERING

THE ROCK IS A STRIKING BUILDING composed of two juxtaposed volumes and featuring a transition from light to heavy materials. The first ten storeys of the tower block are glass, but the higher you look the more stone takes over from the glass façade. 'The nub of the idea is a rock on ice,' explains Harry Kurzhals, Associate Director of Erick van Egeraat Associated Architects. 'These days many office buildings are a repetitive addition of the same office cells and made of glass. We wanted to introduce differences in the inside and outside character of the offices. By using the image of a rock we are able to propose a variation in the office building landscape. The Rock stands for solidity and sticks out above the surrounding buildings.'

The Rock is located in a densely built area, and this has consequences for daylight exposure in the lower levels. To ensure an ergonomic and pleasant work environment, the first fifteen



FAÇADE CROSS SECTION, 1:10 SCALE.

THE HIGHER YOU LOOK THE MORE STONE TAKES OVER FROM THE GLASS FAÇADE

DETAIL RENDERING.

storeys are encased in a mixture of (partly printed) glass and aluminium. The use of two main materials (glass and natural stone) allows each volume to retain its individual character. Van Egeraat wanted to use natural stone for the rock-like volume. This created a problem: ItalianSerpentino weighs more than 2,800 kg/m³. A heavier façade requires a sturdier mounting system. To reduce costs, an alternative was sought. 'Permasteelisa Central Europe (PCE) [the subcontractor in charge of producing and mounting the elements onto the façade] asked us if we could produce a light-weight cladding element that would look like Serpentino,' says technical director Albert Ten Busschen of Poly Products. For the development of the Composite Relief System, CRS for short, the company carried out tests on the material for a year and a half – from wind pressure to fire resistance to UV and moisture protection. 'We offer a 10-year warranty. This is normal for this kind of product, but it doesn't mean that it falls off the façade after 10 years. The life expectancy of the element is 60 to 100 years. This has been confirmed in reports by the British research institute BRE, among others,' says Ten Busschen.

In the factory in Werkendam 30 m² of CRS façade panels are produced every day. 'We start by lining the mould,' Ten Busschen explains. 'A gravel layer [the layer of natural stone that gives the panel its rocky appearance] of 5 mm is applied to a layer of adhesive. A special primer secures this layer to the fibreglass-reinforced polyester laminate. The binding layer that provides stiffness consists of foam glass granules and resin. These follow the random, rocky structure of the mould, onto which a second fibreglass-reinforced layer is applied.'

The panels are then cut to size with a water-jet cutting machine, perforated with bolt holes, labelled and shipped to PCE. The Heerlen-based façade builder mounts the elements along with the windows onto large aluminium frames. These frames are then affixed to the building façades on site. The great advantage of CRS is its light weight. Ten Busschen: 'These composite panels weigh 30 kg/m², one third the weight of cut natural stone. Using this light base material means a lighter support structure is sufficient. This makes high-rise assembly significantly easier.'

The façade is expected to be completed this summer. Among all these storeys lined with CRS, some panels have a smooth finish, reproducing the appearance of cut natural stone. Other panels, on the other hand, feature a finishof rough stone gravel, to underscore the unpredictable character of The Rock.