VENTILATED AND INSULATED RAINDSCREEN CLADDING
AN EFFECTIVE METHOD FOR EXTERIOR WALL CONSTRUCTION

PREVENTING THERMAL BRIDGES
As the insulating material is on the outside of the structural wall, it can easily be mounted without interruptions caused by floor slabs. In this way, any thermal bridges that occur at each floor slab can be prevented. These thermal bridges are also the cause of surface condensation that may result in fungus growth.

DISSIPATING HEAT FROM THE SUN
The ventilated rainscreen cladding system has a cooling effect when temperatures outside are high. Most of the sun’s rays are reflected away from the building. Heat passing through the exterior wall panel is partially dissipated by the ventilating effect of the space between the exterior cladding panel and the structural wall. Any residual heat managing to penetrate the building is very minor.

RAINSCREEN
Architectural wall-cladding panels act as a rainscreen on the outside of the building and keep the structural wall absolutely dry. The air space connected to the outside air evacuates water and humidity that might have penetrated behind the wall-cladding panels through its horizontal or vertical joints. This water will never reach the load bearing wall and/or the thermal insulation.

PROTECTING THE BASIC STRUCTURE AND LOAD BEARING WALL AGAINST TEMPERATURE VARIATIONS
In view of the fact that the insulation material is applied to the outside of the building, changes in temperature are very minor compared with those found in conventional constructions where insulation is applied on the interior. This principle works in summer and winter in both hot and cold climates.

PREVENTION OF INTERNAL CONDENSATION
Insulation material can be applied to the outside of the structural wall because it is protected effectively by the architectural exterior wall panel. Because of differences in vapour pressure and temperature passing through the wall, condensation has been shown to occur close to the ventilated area and not in the structural wall itself. As a result, the ventilating effect is easily sufficient to dry out the thermal insulating material.

FACE FASTENING
Architectural panels can be fixed by means of visible fixing elements to the substructure that links them to the load-bearing wall. Screws and rivets are available in colors closely matching the architectural panel. These fixings become nearly invisible when looking at a building from a normal distance. Certain architectural trends promote the idea of being “honest” when using products and promote the use of more “obvious” fixing elements, in effect using them as aesthetic elements of the façade cladding. Each fixing method must take into account the characteristics of the product to be fixed such as its thermal and moisture movement.