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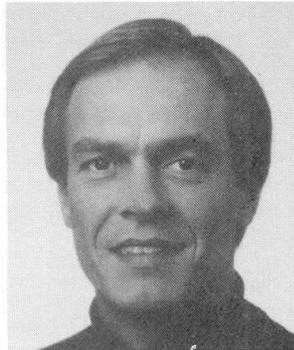
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## Fastening Systems for Suspended Rear Ventilated Facades

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### Summary

The suspended rear ventilated facade in conjunction with appropriate insulation and supporting structure systems jointly offer optimal protection, preservation and embellishment for any building even in difficult situations.

Fascinating and original architectural effects can be obtained by utilising widely varying cladding material, surface structures, colours, formats, patterns, joint designs, structural sections and manifold attachment systems.

#### 1. Rear ventilated facade

On new buildings as well as on existing buildings (maintenance, preservation and embellishment) the suspended rear ventilated facade system is the system that fulfills all the physical construction and design requirements for a facade: it insulates the structure from cold, heat and precipitation, it protects and decorates the building, it provides a comfortable environment inside the building, it saves heating energy costs, it permits diffusion of moisture.

Consequently the market offers a wide range of substructures for the different panel materials and systems with visible or hidden attachment.

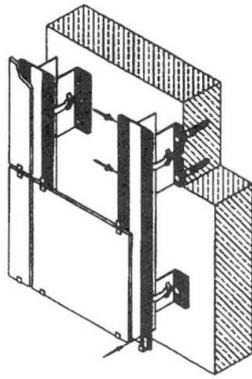
In conjunction with a sophisticated anchoring the planner and architect is given a complete range of tools in order to give each facade an individually styled look.

#### 2. Substructure principal and aspects to be considered

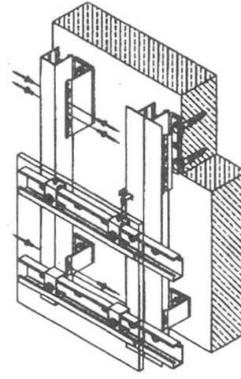
There are two categories of substructures (see fig. 1,2).

While the design of new buildings and their facades may be done using standard substructures, the cladding of existing buildings must be planned by taking into consideration the situation and the details of each individual building:

- additional weight from heavier facades (foundations, etc.)
- nature of the foundation for anchors (pull-tests with plugs may be necessary)
- walls may be uneven or have a strongly segmented structure (see fig. 3).
- defective zones (anchoring in certain areas impossible or too costly)
- with sandwich panels (three-layer construction): does it make sense and can the anchoring be attached to the outer cladding or should it be to the load-bearing layer ?)
- anchoring in the joint zones, corner zones (see fig. 4), etc.

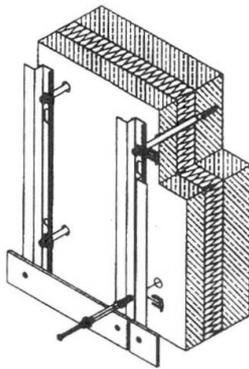


a) Excentric anchoring

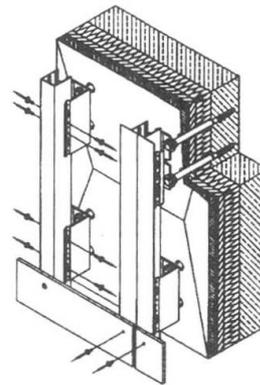


b) Centric anchoring

Fig. 1: Systems with brackets



a) Fixing with distance wallplugs



b) Fixing with distance wallplugs and brackets

Fig. 2: Distance systems

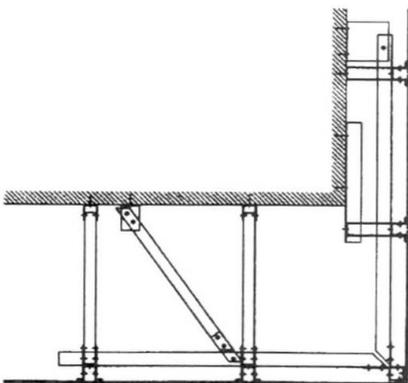


Fig. 3: Example: distance up to 700 mm

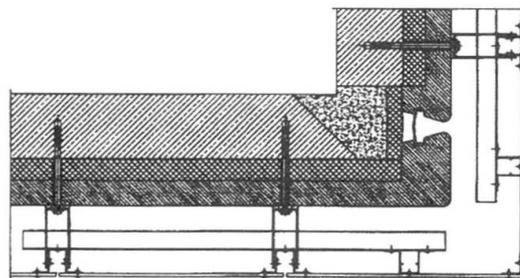


Fig. 4: outer corner WBS 70