vitra firestation — project description
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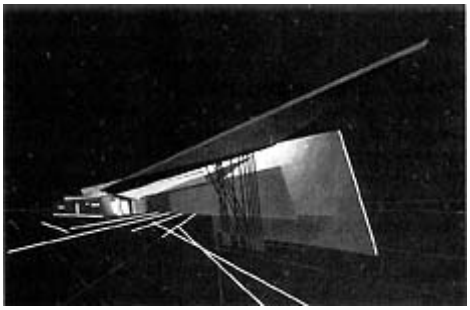

General Design Strategies and Architectural Concepts

The project began as a commission to build a fire station in the north east section of the vast Vitra factory complex in Weil-am-Rhein. The brief was soon extended to cover the design of the boundary walls, a bicycle shed, and an exercise structure for the fire brigade.

We initiated our design with a study of the overall factory site. Our intention was to place the elements of our commission in such a way that they would not be lost between the enormous factory sheds. We also used these elements to structure the whole site, giving identity and rhythm to the main street running through the complex. This street — which stretches from the chair museum to the other end of the factory site, where the fire station is now located — was envisaged as a linear landscaped zone, almost as if it were the artificial extension of the linear patterns of the adjacent agricultural fields and vineyards.

This had specific implications for the fire station. Rather than designing the building as an isolated object, it was developed as the outer edge of the landscaped zone: defining space rather than occupying space. This was achieved by stretching the program into a long, narrow building alongside the street. The building is located where the street previously made an abrupt parallel turn. This shift of direction is reflected by the fire station, which cuts at an angle into the main direction of the street and turns in on itself, leading the street around. (The

geometry of the building derives from and expresses the crossing of the two main organizing geometries of this area. The direction of the surrounding agricultural fields and factory complex is divided by a second directional movement that slices off the corner of the otherwise rectangular site; in itself the repercussion of the large field of railways passing by Weil-am-Rhein, following the direction of the Rhein. This collision of directions — formerly absorbed within the rectangular system of the site by means of orthogonal shifts and steps — is now reflected in the fire station.)

While marking the edge of the factory site, the fire station also functions as a screening device against the bordering buildings, which obscure the identity of the Vitra complex.

The space defining and screening functions of the building were the point of departure for the development of the architectural concept: a linear, layered series of walls. The program of the fire station inhabits the spaces between these walls, which puncture, tilt and break according to the functional requirements.

The movement of the fire engines constitutes the main puncture, which cuts across the linear flow of the walls and surrounding "landscape". Sliding open the doors in one of the walls reveals the fire trucks beyond, parked under a large roof. Captured between further walls, two linear spaces intersect, each relating to different parts of the program. A third space above is engendered by the continuation of the wall / beam spanning the garage space. The building is hermetic from a frontal reading, revealing the interiors only from a perpendicular viewpoint.

As one crosses the spaces of the fire station, one catches glimpses of the large red engines. Their lines of movement are inscribed into the asphalt. Similarly, the ritual exercises of the firemen will be inscribed into the ground, a series of choreographic notations. The whole building is movement, frozen. It expresses the tension of being on the alert and the potential to explode into action at any moment. The walls appear to slide past each other, while the large sliding doors literally form a moving wall.

Functional Layout

The design unifies two very different parts of the program: the housing of fire trucks and the provision of various facilities for the firefighters.

The concept of the stacked walls encompasses both parts, whereby a break or bend in the line of the building expresses the intersection of the two. The entrance to the building is precisely at this junction.

This point of entry is also the control point from which the building is operated. From here one enters the garage via the equipment space, which is separated from the garage proper by means of a freestanding plane only. The garage itself is laid out for five fire engines. Five parallel lanes run at a 60-degree angle through the wall into the garage. Two of these lanes emerge from the rear entry, allowing for outdoor maintenance. The garage presents itself in elevation as a long wall of sliding doors with a canopy floating above. The spaces for the fire-fighters are organized into three long volumes" or "beams", represented in elevation by three distinctively expressed walls. One beam is made up of a series of compartments containing the changing areas for 25 male and 10 female fire fighters. This beam includes various sanitary installations as well as a first-aid room and technical room. Its exterior wall is solid, and tilts outwards, with a series of narrow slits as the only openings. The cellular, compact volume of the beam is cut by a long, uninterrupted space with a high, rising ceiling and

continuous glazing, gently curved. This is the fitness space, and the second beam is expressed externally by the rising, curved glass wall. Three long, spacedividing steel cupboards — the lockers — mediate between the two intersecting beams. In the zone of intersection the ceiling is cut open. Here a cantilevered stair rises to a third beam; the so-called clubroom, which functions as seminar space as well. This space leads to the terrace over the fitness space; in the other direction it overlooks the garage roof. The exterior wall of this third beam is a continuation of the structural member that spans the garage. It is distinguished by a very long, relatively low opening with louvres set into it, almost as if the wall were sliced horizontally.

Construction Materials

The whole building is constructed of exposed, reinforced concrete. This proved to be the most suitable medium with which to realize our intentions: sculptural expressiveness, and structurally ambitious long spans and cantilevers. Special attention was given to the sharpness of all edges; any attachments like roof edging or claddings were avoided, as they distract from the simplicity of the prismatic form and the abstract quality of the architectural concept. This same "absence" of detail informed the frameless glazing, the large sliding planes enclosing the garage, and the treatment of the interior spaces — including the lighting scheme described below.

A number of structural achievements contribute to the intended dynamic of the design. The main span over the five lanes of the garage, including the entrance area, measures 32 meters in length. The canopy above the garage opening cantilevers 4 meters from the main beam, until it splits off, resting on a series of slender columns. From here it cantilevers another 12 meters along its axis. A 90 square meter tilted glass wall encloses the short end of the garage space. The curved, frameless glass wall of the fitness space occupies an opening with an uninterrupted span of over 29 meters. The opening in the clubroom measures 21 meters, and returns around the corner, leaving the heavy top end of this 70-meter long wall to cantilever. The stair leading to the clubroom is made from precast concrete slabs, which cantilever individually from the wall. The five sliding doors closing the garage are hung from the main beam as 23 square meter leaves, finished in brushed aluminium. The two pivot doors in the back measure 30 square meters each.

The interiors of those spaces that require insulation are rendered. The sanitary wall is tiled in glass mosaic. The lockers, which mediate between the changing and fitness areas, are made from steel and stainless steel respectively. A golden wall tilts outwards at the end of the fitness room.

Lighting Scheme

All lighting is integrated into the architecture, and is based on the concept of lines, rather than points. These lines are set into the planes as cuts from which light emanates, rather than as bodies which obtrude into the space. The lines of light direct the necessarily precise and fast movement through the building. For example, the garage is lit from cuts in the floor. These define lanes of movement for the fire engines.