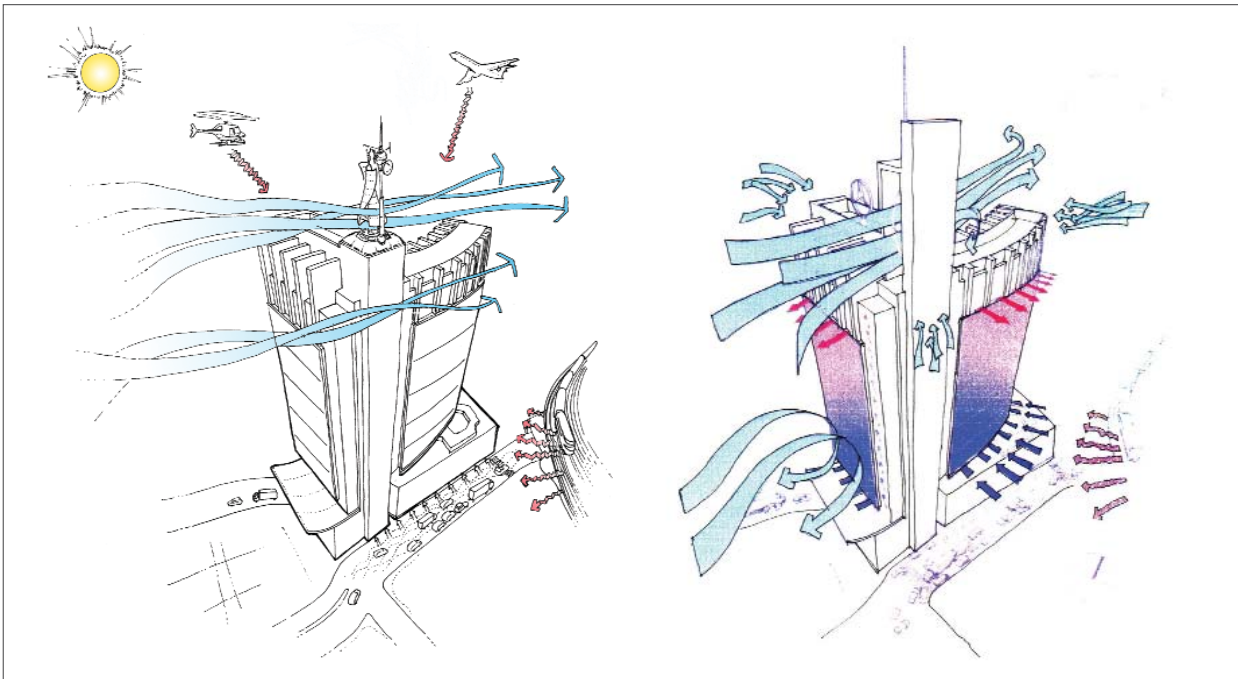


BATTLE McCARTHY ©

Consulting Engineers & Landscape Architects



PROJECT:

CIR Martini Tower, Brussels

CLIENT:

Spond Brussels Business centre

ARCHITECTS:

Kohn Pedersen Fox Associates / Samyn / Jaspers

BM SERVICES:

Building Services Engineering

VALUE:

£65m / 70,000m² GFA

DESIGN BRIEF

The Centre International Rogier is an existing tower block constructed in the late 1950's on the site of the original north Brussels station. It has the French community of Belgium's National Theatre incorporated into the podium levels along with retail units.

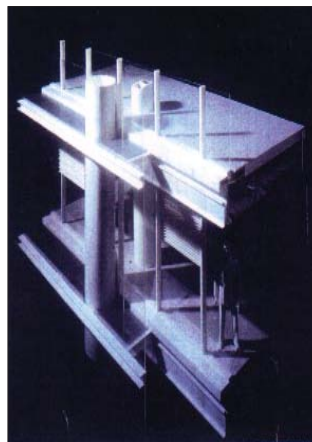
The new office and theatre development (French Brussels National Theatre) will be for a new tower block of 8 stories constructed over and around the existing theatre. The low energy high rise tower includes wind turbines, double skin, and chilled ceilings.

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DESIGN INITIATIVES/ACTIONS UNDERTAKEN

The Centre International Rogier has been designed as an efficient and low energy development using modern technologies, and the integration of the building as a whole, making all systems work together:

- Overall energy consumption reduction of approximately 60% compared to a conventional fully air conditioned solution.
- Approximately 65% of the building is daylight via the full height clear glazed facade for 48% of the year, where an open plan layout is adopted.
- A highly flexible and adaptable office layout allows for numerous variations of partitioning, open planning or combined systems, within a double window mullion minimum grid system.



Facade studies



Photo of model from north



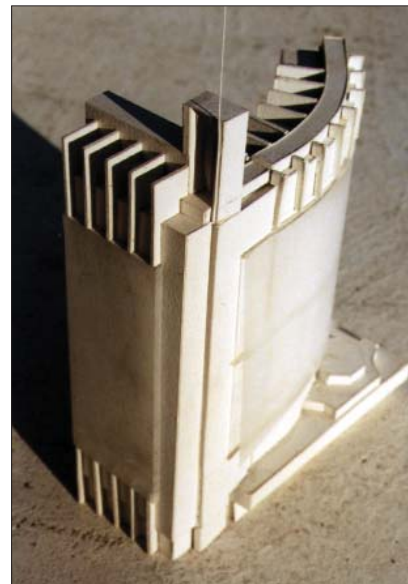
Photo of model from south



Turbo jets

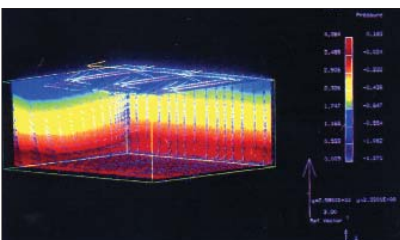


Windside



Initial architect's sketch model

- Primary fresh air supply to the active chilled beams takes further advantage of free cooling for up to 60% of the year.
- Ice store led chilled water system taking maximum benefit from night time off peak chiller operation.
- A double wall system that reduces external noise, provides a zone for services distribution, a natural office air extract path and a means for controlling and collecting solar radiation.
- The possibility for the installation of wind turbines and an innovative adaptation of architectural design can provide up to 5% of the buildings annual electrical demand.
- An active chilled beam comfort cooling system has been designed for this development in conjunction with roof mounted cooling towers, which provide the facility for free cooling for 55% of the year without the need for mechanical refrigeration.



CFD showing typical floor plan



Ground floor plan showing uses and limit of demolition (red)



Typical high rise floor plan