CODE: GPFP4

LIFTS

Vertical circulation:

Vertical circulation is of two types. A chain of specialised panoramic cabins run on a "looped" spiral path along the leading edge of each "arm" or "wing". Cabins progress up along one edge of the building and return along the other. Passengers must exit at the top level, the cabin progresses on a seperate track across to the other side and returns to the cafe/lookout area to pick up passengers for the downward trip. A similar connection exists in the basement under the library, to allow the lift to return to the upward path after passengers have disembarked on the foyer level. 10 cabins are envisaged in total, with a maximum of 4 moving at any one time on the upward and a further 4 on the downward loop. The upward and downward legs of the spiral path cover 360 degrees, which means the passengers receive a full panorama (cyclorama) of the surroundings by the time they reach their destination. A central vertical circular core contains two lift shafts and space for utilities and services. Seperate traditional lifts are located in a central vertical service core, along with other necessary service and utility shafts. These are for use by those not wishing to take the breathtaking spiral route and are also used for deliveries to the cafe and upper levels, as well as for disabled access to the library and conference level.

Ramps:

"the two arms are connected by two ramps encircling the central circular lift and services core."

SYSTEM OF LEVELS

Structure

The tall structure is generated by a continuously rotated single spiral unit. The two rotating "arms" or "wings" rotate at a rate of 7.2 degrees for every 3 metres (2.4 degrees / 1000mm in altitude gain). The regular rotation is suitable for the use of slip formwork used to make the concrete structure. The arms are hollow tubes 3000mm in height and a clear internal dimension of 2400m between slabs. The horizontal structure of the two opposing arms is displaced by 1500mm, the two arms are connected by two ramps encircling the central circular lift and services core. The construction process would see the central core constructed first and the arms would then follow with slip (sliding) formwork.

Construction: The structure is made in a manner which reduces site impact and minimises the amount of secondary materials required to assist in construction. Very little material needs to be "thrown out" during or after construction. Elements are pre-fabricated and are as small in size as possible (3000mm high). Repetition in the structural and finishing forms allows for economy of scale and time. The prefabricated elements use simple technology, with the exception of the pre-fabricated pyro-granite ceramic panels.

CLADDING

GLAZING

TALL EMBLEM STRUCTURE IN ZA'ABEEL PARK DUBAI

2009 XI THYSSENKRUPP ELEVATOR ARCHITECTURAL AWARD