

"CONCRETE as a SOURCE."



The main idea of this proposal is if it is possible to think concrete as an energy source. This source provides heat and light to the space without any additional unit. Every unit is casted into concrete. The structure is insulated, heats the space and provides a special light that acts like daylight. This source uses energy with an optimum level. The Earth needs alternative energy sources. This concrete structure gains its energy mostly from sun, and others (geothermal, wind, etc.)

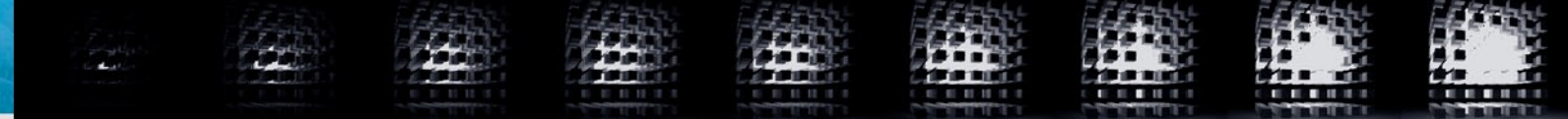
There are 2 inspirations for this design one of them is; there is only one element that can gradually define its opacity and it's the source of life 'water'. The first layers of the iceberg transmit the light not only light that is coming from sun, but also the skylight to inner layers as well. The first question is Is it possible to reverse this situation and so that this logic makes the concrete the light source of the space, by this way pure space is formed..

The other question is Is it possible to think the space and the environment as one according to lighting. By this way during a day every color of the light can be a part of the space. The amount and the color of this light is directly related and mostly identical with sky and sun light. When the weather is cloudy the light that is coming from windows is united with the newly formed light by concrete structure. So that walls, ceilings whether its load bearing or not, become light sources. Light is where it is needed, amount and its location is totally adjustable. Besides becoming a light source, the structure can provide heat during winter and in summer sunlight is stored to produce light and heat energy. By this way energy is used in optimum level.

The other and the 2nd inspiration is the daylight itself. Every color of sunlight during any season, any day of the year can be an actor of the space. Time takes its place by the help of sun and skylight in the space. Actually there is another interesting feature of the iceberg first layers become load bearing and iceberg is formed layer by layer, such as the light is transmitted to inner layers starting from outer layers.



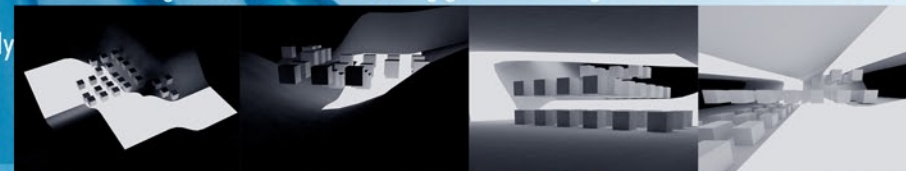
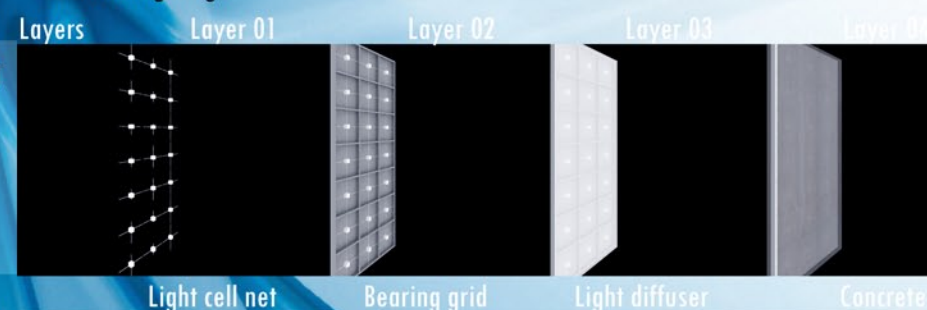
LIGHTING DIAGRAM



00 01 02 03 04 05 06 07 08 09
Light diffuses into concrete starting from one light cell from inside and opacity helps to diffuse the light to all the surface (lighting is increasing in volume) and so that all surface illuminates the space. The lighting layer that is casted into concrete gets the same shape the concrete surface has. A Light Cell has a specific location in a network and it is casted into concrete. The place of the light can be configured to any section of the concrete.



Light cells are like pixels in LCD monitors. Unlike pixels each cell is 3 dimensional. They lighten the surface starting from inside. Each cell is a powerful lighting unit. Light color changes according to sky and sunlight. Besides these lights environment has its own light. The colors of seasons like white of the winter, also change the color of inside lighting.



The structure consists of 4 layers. Lighting layer is casted into concrete. The first layer is the light cell net. The net links light cells and connects each one to the system. 2nd layer is the bearing grid, grid transfers the loads and reinforces the concrete structure. 3rd layer is light diffuser, this layer is for directing the light rays in the concrete. and the last layer is concrete which its opacity is defined and configured. The lighting and heat system is controlled according to weather conditions and the sun by computer and can easily be configured manually.

