

Igloo Project - Igloos in Summer

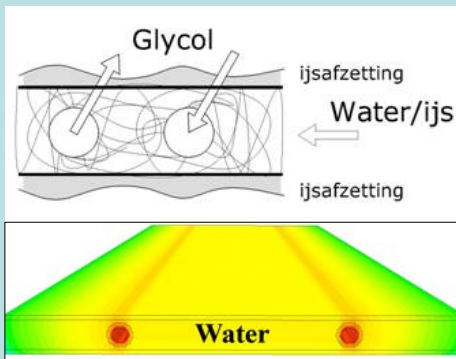


By using pneumatic moulds in combination with nets around it a freeform structure can be realized. The form gets a skin by spraying a liquid material that later solidifies. This can be concrete, polyester and even ice.

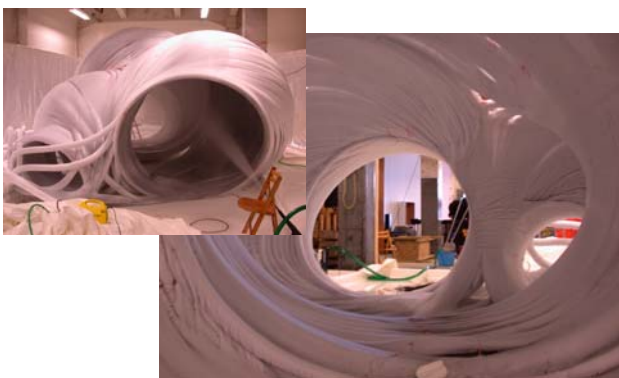
The application of ice will now be explained.



Rubber tubes are wrapped around a mould, made of PVC-coated polyester membrane. These tubes are then attached to a cooling system. After this, cold liquid glycol will be pumped through the tubes by a temperature of about -12 degrees. When the proper temperature had been reached, the tubes were sprayed with water. Slowly, layers of ice covered the mould. By a layer of ice thick enough, the mould was deflated and removed. The result is a perfectly stable and fine ice structure.



To reduce the labor productivity of the project a new a new skin was developed, formed by two membranes with between a fiber mat. Cold liquid glycol will be pumped through this mat. Icing encounter could now take place on a larger surface. To withstand leakage of glycol a new separate system is designed, The mat contains tubes transporting the glycol and also water is pumped through it.



The advantage of the method described above is that the igloo can be constructed with a temperature of 18 degrees Celsius and higher. This can be done by using a cooling machine and an inflatable mould without the need for expensive cooled areas. This results could be used in further projects and not only in terms of building igloos.