



BETTER INDOOR CONDITIONS WITH ELECTRICALLY-HEATED GLASS

Good indoor air is appropriately warm and draft-free. Comfortable indoor air is also clean, noiseless and makes it possible to work more efficiently. A large window area and heating system requires a special design to avoid winter draft problems, summer overheating and unnecessary floor space. The solution lies in electrically-heated glass.

Electrically-heated glass improves the thermal comfort level for occupants in working and living environments, reduces construction costs and increases the performance of floor space. With electrically-heated glass, a modern glass façade can be designed up to 70 % more economically and without disturbing HVAC systems such as radiators or fan coils. In addition, the automatic defrosting technology of electrically-heated glass roofs prevents the safety risk of falling snow and ice, which is important, especially in tall buildings.

Electrically-heated glass

Electrically-heated glass, or electric glass, is an insulating glass unit or laminated glass, in which electricity generates heat for a desired purpose. The heat produced can be addressed up to 93 % efficiency to the desired direction using modern coatings and efficient intermediate gases. Electric glass saves a significant amount of energy compared to fan coils and radiators: the surface of the glass is not heated unnecessarily high; it stays at room temperature, which minimizes heat loss and saves up to 50 % energy.

Applications

Electrically-heated glasses are recommended for use especially as anti-condensers, as a defrost mechanism for glass roofs and as a heat source for special applications. In cold climates, electrically-heated glass is the ideal solution. The most well-known uses in Finland are the numerous igloo villages in Lapland, where an unobstructed view of the night sky is a must. Then you can see the northern lights from indoors in different shades of green. Electric glass is snow-free, ice-free and does not need continuous maintenance.

“Electrically-heated glass prevents convection and the cold wall effect, hence giving a pleasant and comfortable indoor environment, while saving money and energy”, says Timo Saukko from Finnglass.

Convection takes place when air cools in the vicinity of a window, sinks down and is replaced by warmer air that again cools. This makes the space appear drafty. The cold wall effect is also created by temperature differences: The heat transfers from human skin towards a cooler window and makes one feel that the glass is radiating cold. The surface of electrically-heated glass is warmed up to room temperature, which eliminates the temperature differences. Hence, there is no convection nor cold wall effect, which is good for both well-being and productivity.