

5th paper: **Sustainability through Wind Catchers**

Abstract

Wind catchers provide natural ventilation of air that is free from pollutants and dirt as its air source is the elevated strata of the atmosphere, which flows into the interior spaces, regardless of the buildings orientation and its relation to the wind direction.

Contrary to the case of window ventilation, ventilation through catchers does not lead to higher noise levels in the interior space.

The size of the cross-section of the wind catcher tower is determined by the surrounding temperature. It is reversely proportional to the temperature: as the air temperature at the catcher inlet is higher than the maximum comfortable internal air temperature, the cross-section must be smaller in size. This is given the condition that the air must be cooled down as it passes through it via wet fabrics or damped coal boards placed between steel grills. The airflow can also be directed over a water feature such as a fountain to increase its humidity

Keywords: Wind catchers, natural ventilation

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