




DK_Højbjerg_Kragelundskolen		
Image 01: Common room © gpp arkitekter A/S	Image 02: The south façade of the new building © gpp arkitekter A/S	Image 03: Site plan © gpp arkitekter A/S
		
Building Specifications		
Address	Parkvej 18, 8270 Højbjerg, Denmark	
Building Category	Educational	
Year of Construction	1938 (The old part is renovated in 2010 and a new building is added at the same time)	
Special Qualities	Low energy class 1	
Location	56° northern latitude, 10° eastern longitude. Located in urban area	
Climate	Cfb (warm temperate climate, moist with adequate precipitation in all months and no dry season, warm summer with the warmest month below 22°C)	
Vent. Cooling Site Design Elements (Solar Site Design and Wind Exposure Design, Evaporative Effects from Plants or Water)		
The building is sheltered from wind and sun by the leaf tree plantings located to the east, as well by the existing school building in north direction		
Vent. Cooling Architectural Design Elements (Form, Morphology, Envelope, Construction & Material)		
<p>Form: Two storeys Z-shaped building. The new building is connected to already existing school building</p> <p>Morphology: The new building consists of main entrance, teaching facilities, administration and common room, which is the core of the building. The existing part accommodates teaching facilities. The floor area of old and new buildings is 5,100m²</p> <p>Envelope: The new part has large window sections with brise-soleils on the facades and skylight sections on the roof</p> <p>Construction: Heavy mass building</p>		
Vent. Cooling Technical Components (Airflow Guiding Components, Airflow Enhancing Components, Passive Cooling Components)		
Single sided ventilation is the main ventilation principle. The windows in the façade are used as inlets and outlets. Hybrid ventilation is used when natural ventilation isn't efficient enough. Openings are both automatically and manually controlled.		
Actuators, Sensors and Control Strategies		
<p>Temperature and CO₂ sensors are placed in each zone. Users can also control the system manually. 30 min after the last manual control instance, the system switches back to automatic control.</p> <p>Weather station measuring temperature, humidity, CO₂, wind and solar irradiation was set on the rooftop</p> <p>NV Comfort™ system is used to control the hybrid ventilation</p>		

IEA EBC Annex 62 Ventilative Cooling

Building Energy Systems (Heating, Ventilation, Cooling, Electricity)
Hybrid ventilation with mechanical exhaust (heat recovery) Information about heating and electrical systems is not available
Building Ownership and Building Facility Management Structures
Aarhus municipality owns the building. Architect: gpp arkitekter A/S
Acknowledgements
n/a
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