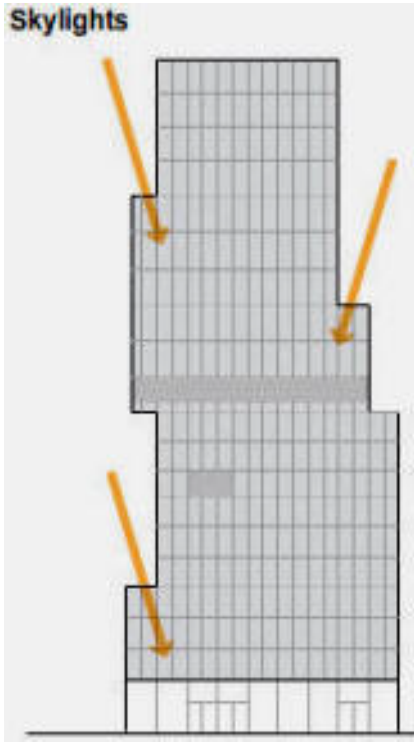
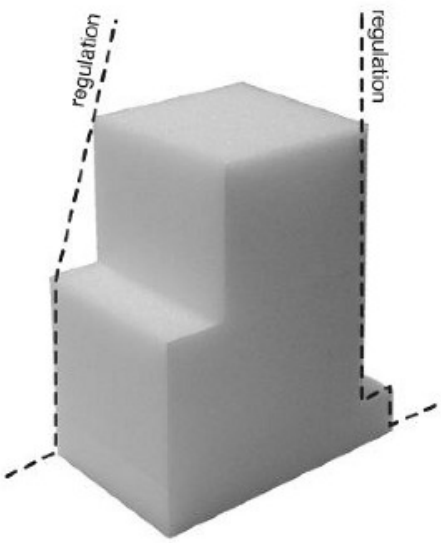
New Museum

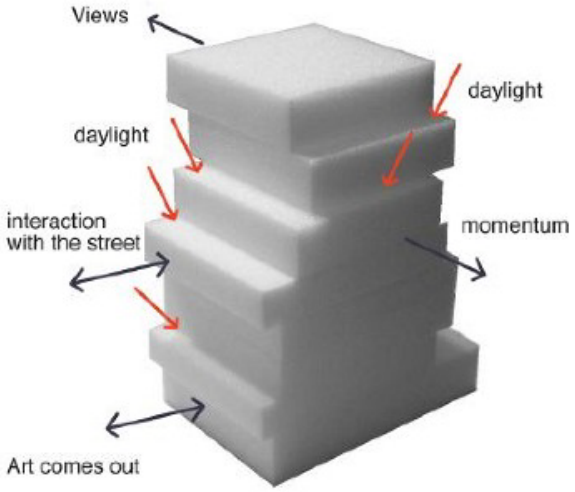
Architects : SANAA
Location 235 Bowery, New York, NY 10002, USA
Area: 58700.0 ft2
Project Year: 2007

The climate of New York state is generally humid continental. Summer is not extramely hot because of the ocean. Winter temperatures average below freezing. The significant urbanization within New York city has led to an urban heat island, which causes temperatures to be warmer overnight in all seasons.





Basic zoning makes massive static bulk.



By shifting floors the scale is redefined.

Solar +
Conduction --
Ventilation -
Infiltration -
Evaporation n/a
Internal Gains +++

Solar: The daylight will increase the heat balance. However, the building have minimum openings for light. Therefore, the solar heat is been limited.

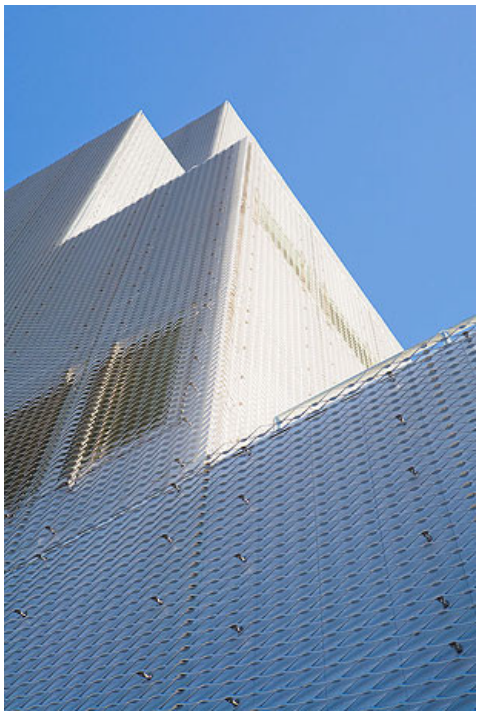
Conduction: The shifting increase the surface area which will help conduction. Internal heat has a way out

Ventilation & Infiltraton: Because the building have basically no opening, the building is like an air tight box.

Evaporation: No obvious evaporation effects.

Internal Gain: This is a major heat gain. The museum contains a large amount of people and equipment which will generate lots of heat.

Photograph by: Dean Kaufman



Spectial Element - Exterior skin

The exterior metal screen can reflect some sunlight and decrease solar heat. At the same time, it can generate a thin layer of air between screen and building and stops the conduction.

Improvement:

The building is like a closed warehouse with lots of people inside and no ventailation. Therefore, as a common sence, the inside will be overheated. My suggestation will be adding openings at two corner of each box area to create two side ventailation. So, it can carry the heat and move it out. (see figure bolow)