New Munch Museum - Oslo, Norway

Essay by Kayla Rasmussen

The New Munch Museum, located on the waterfront of downtown Oslo, is the new home to the largest collection of art by Edvard Munch. The design of the building was done by Estudio Herreros who originally won the competition for the project in 2009[1]. The museum opened its doors in October of 2021 after losing and regaining funding for the project as well as six years of construction. To keep up with Norway's increasing effort to minimize the carbon footprint of new buildings the design of the new museum incorporated decisions to build with many recycled materials and plan for a long building lifespan.

The basis of the building, unlike other museums, is extremely vertical. Structurally, this is achieved by having a majority of the vertical section of the building be a reinforced concrete box with steel framing holding a large glass atrium to move between floors[2]. The concrete section of the structure serves a few purposes both in design and energy saving. First, to protect the artwork it is safest to keep it out of direct sunlight which is achieved by encasing the pieces in concrete. Secondly, the concrete walls create lateral stability for the thirteen story building that has to withstand strong fjord winds. Lastly, the concrete limits heat escaping to the exterior of the building since there are no windows which allows the building to save energy especially during the cold winters expected from the Norwegian climate. In addition to the tower there is a three floor extension that is constructed with a majority steel that houses the museum entrance, restaurant, and gift shop.

During the construction process there was a problem finding a way to place the large glass panes on the 20 degree incline ten stories above the ground since there was not sufficient room for the tower crane typically needed for such a design. To combat this issue, the engineers on the project hired professional mountain scalers for their expertise and they were able to move the pieces into place while scaling the steel frame as if scaling a mountain[2].

One aspect of the building that truly sets it apart is the facade. Designed by ARUP, the undulating aluminum panels attached to the exterior of the building use different lengths of waves in the metal and varying sizes of perforated holes to reflect and retain light[3]. This choice for exteriors allow the building to save energy by diverting some amount of heat from sunlight off of the windows while still letting ample light in for the space to feel open.

A big achievement for this building was the amount of recycled or environmentally friendly materials they were able to use as well as the future energy savings the building will see. The concrete used in the building is a low carbon concrete and the steel was almost entirely recycled. The combination of the concrete and aluminum on the exterior help to lower the energy consumption and overall the building emits half of the greenhouse gasses of similar sized buildings[4]. Lastly, there is no parking structure included in the building design to encourage museum goers to not drive, instead there are spaces for bikes and easy access to public transportation[4].

Sources for this paper

[1] https://www.archdaily.com/971237/new-munch-museum-estudio-herreros

[2] https://architectnews.tumblr.com/post/665750299218214912/munch-museum-oslo-stenersen-norway

[3] https://en.nordicsteel.no/prosjekter/det-nye-munchmuseet

[4] https://www.webuildvalue.com/en/global-economy-sustainability/munch-museum-oslo.html