APARTMENT DESIGN WITH DOUBLE SKIN FAÇADE

Case Study: East Coast Apartment in Surabaya

Name: Mefita
Registration Number: 3211 207 902
Supervisor: Ir. Purwanita Setijanti, M.Arch, Ph.D

ABSTRACT

Apartment is one type of residential buildings that cater for the upper-middle class. Based on the occupants type, aspect of comfort become priority to the design. One of the convenience that can be offered is the visual comfort of occupants to the environment around the apartment. In the case study of design there are natural conditions that can be used as a potential building namely sea that located in the East side of building. The orientation of East facing becomes a problem for apartment because it get direct sunlight that can interfere their comfort of the residents both in thermal terms because of the thermal heat load due to the facade and visual term that can cause glare.

This design has the objective to produce apartment buildings that notice the visual comfort of the building occupants watch at the scenery outside the building and thermal comfort through the reducing heat load on the façade with the principle of double skin facade (DSF) and stack-effect. This goal is realized in mass and facade of the building design through transformation design methods. The advantages of this design compared to the other design is having the design mass form that notice on the view that combine by the design of double skin façade (DSF) which aims to accelerate the pace of wind for stack-effect in the DSF cavity by enlarging the inlet cavity volume façade openings and minimize DSF cavity volume outlet openings.

The results of the design is a form of mass and facade apartment buildings that appropriate with the principle of double skin facade that uses the stack effect. This design concern visual aspect, wind, sunlight and aesthetic.

Keywords: heat load facade, double skin facade, visual comfort, design apartment, stack-effect