

SOLAR FAÇADE

The aim is to get the most sun light in the vertical use and changing the flat design of the common solar panels.

The panels are dependent on the following inputs:

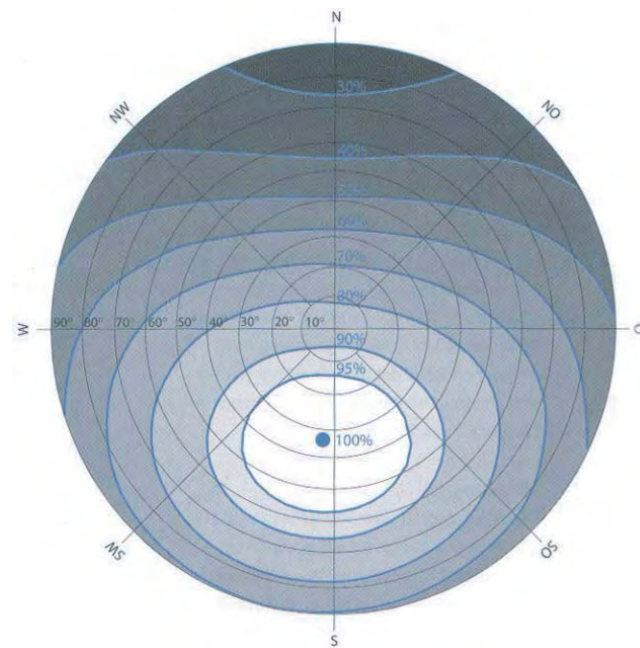
- Direction to the sun
- Location and shape of the building
- Position of openings (windows etc.)

The design follows the result of these inputs and could be modified by adding different design parameters.



Parameters

This diagram shows the profit of a solar panel dependence on angle of inclination to the horizon (0-90%) and the direction within one year.



Calculation to get the correct distance between the panels

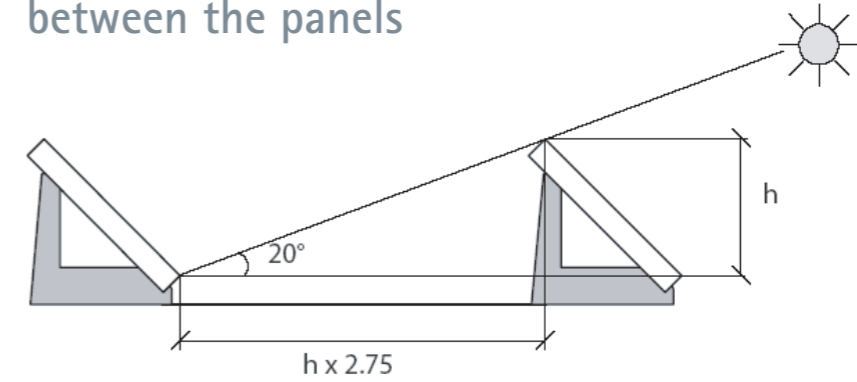
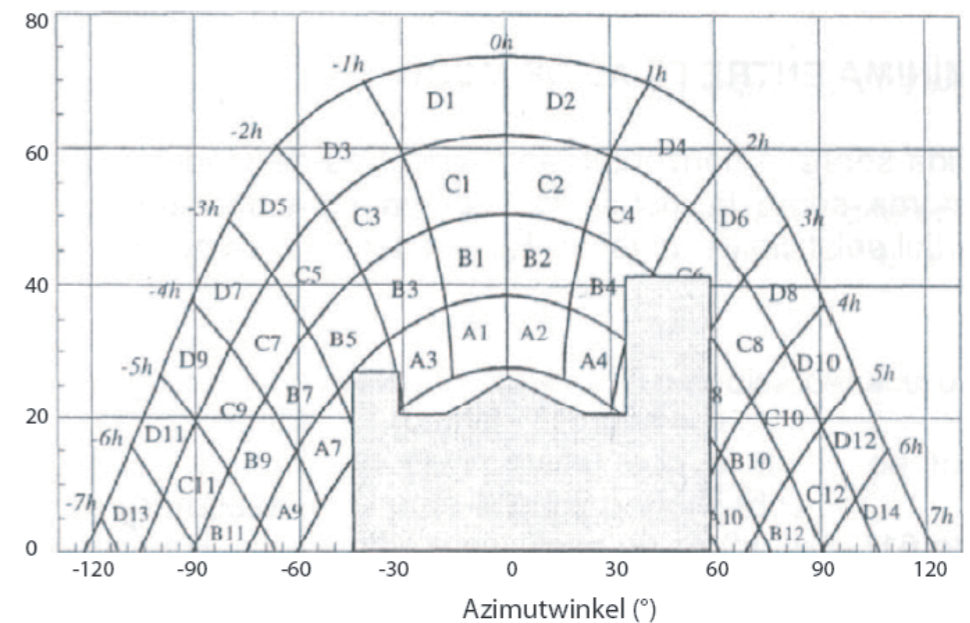
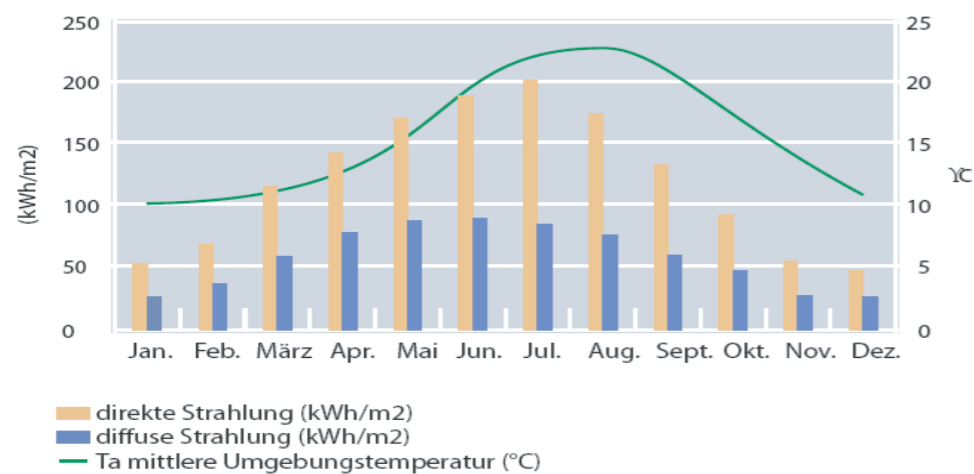


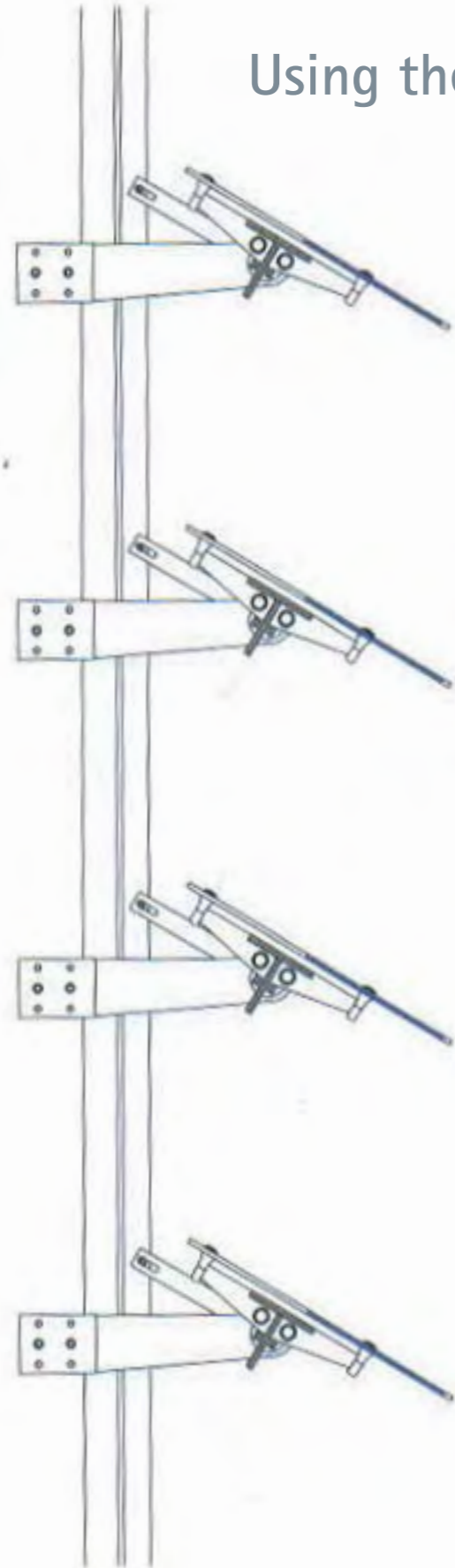
Diagram to find out the azimuth angle, in relation to the day light and shadow casting objects.



Direct radiation of the sun during a year.

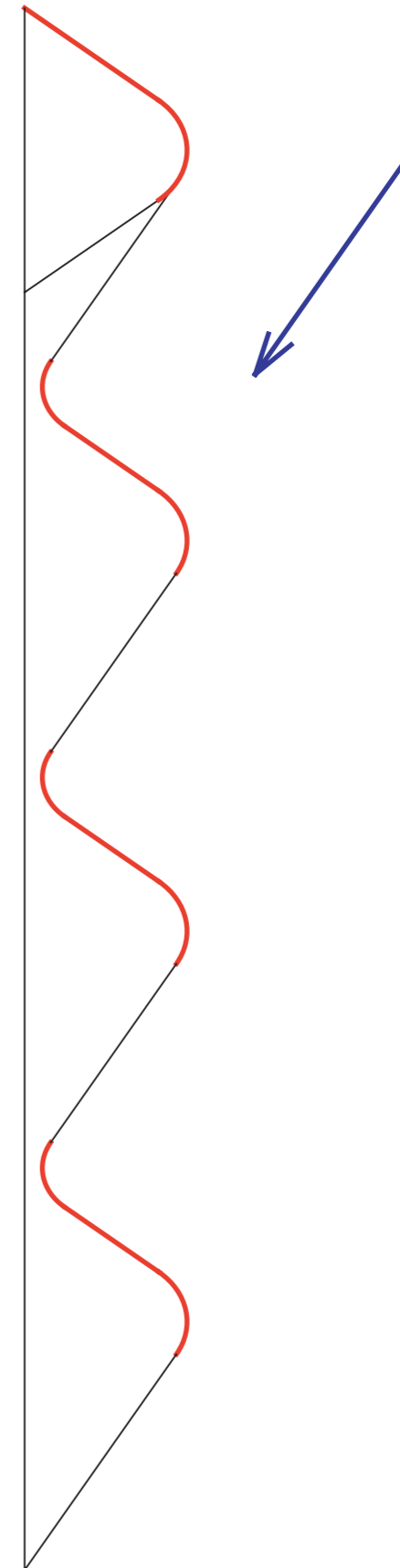
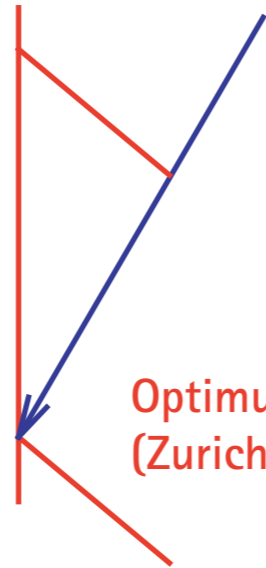


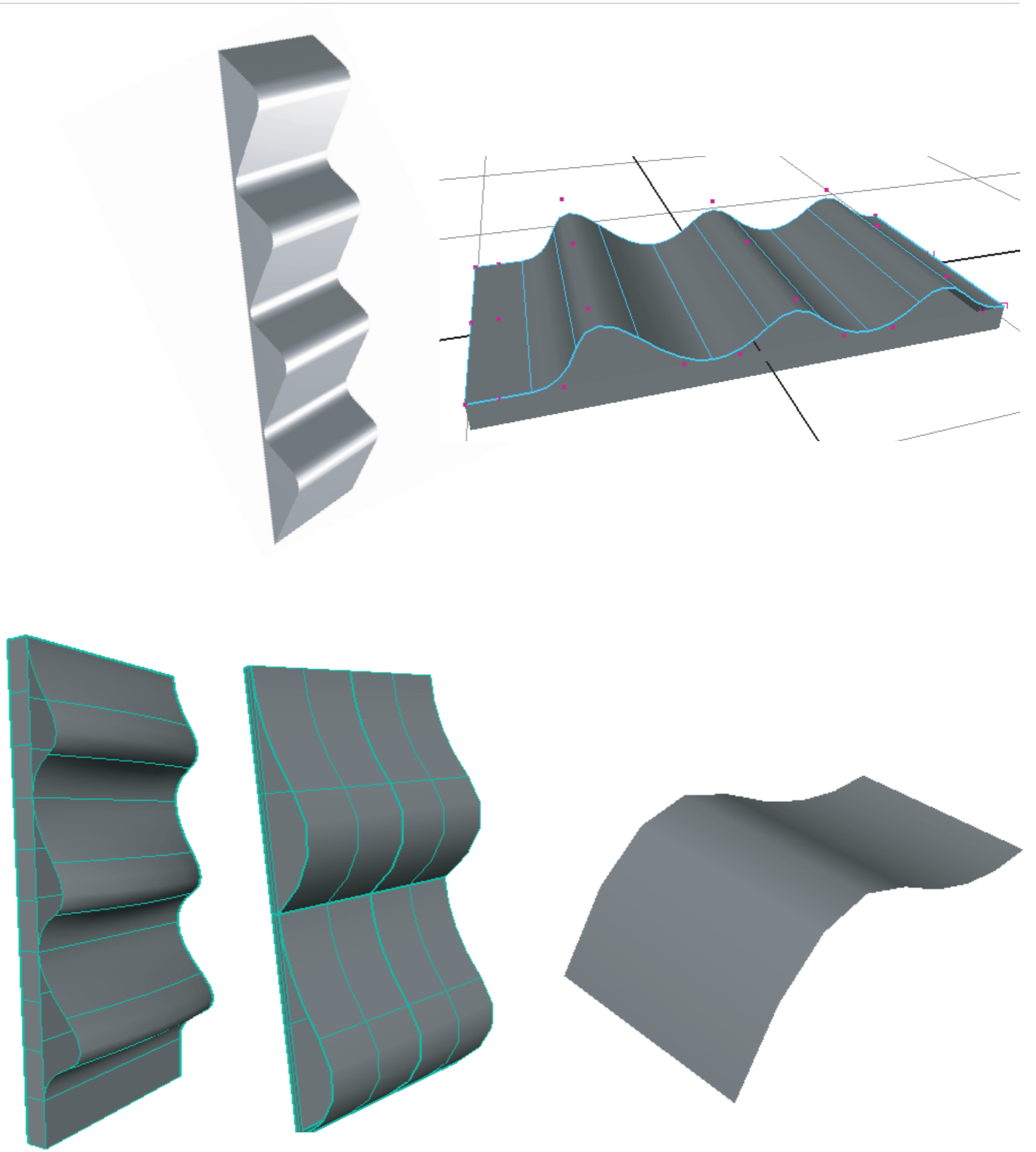
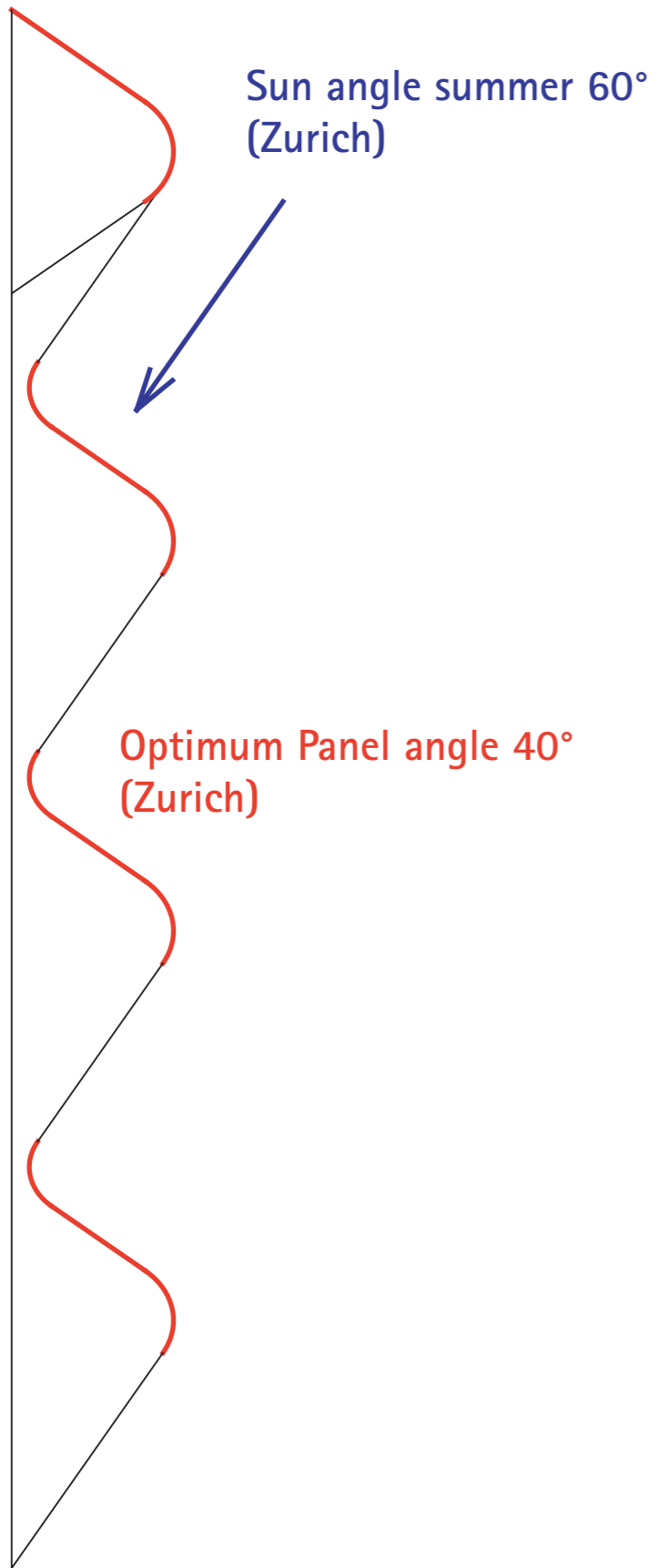
Using the parameters to develop the ideal shape



Sun angle summer 60°
(Zurich)

Optimum Panel angle 40°
(Zurich)

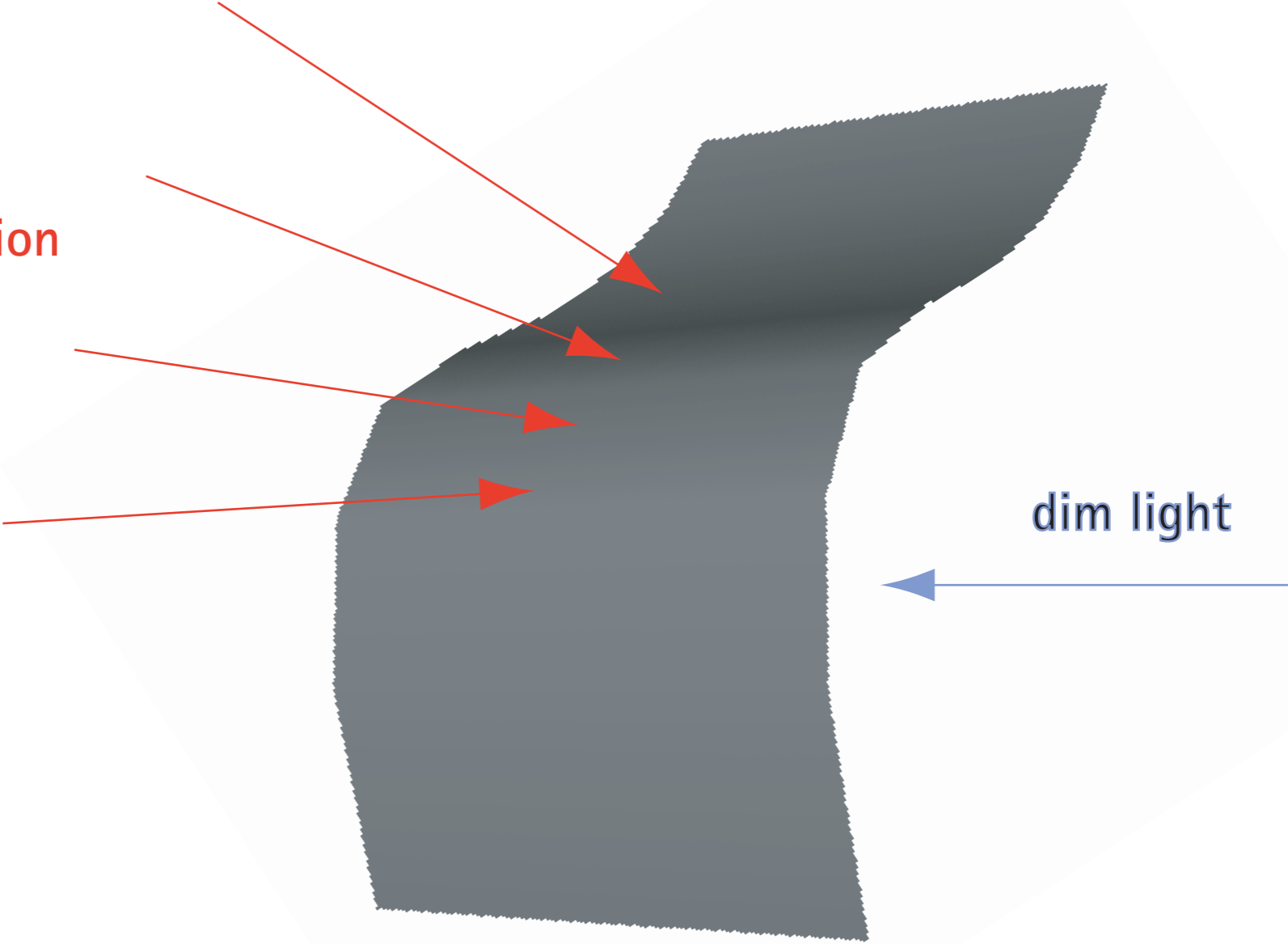




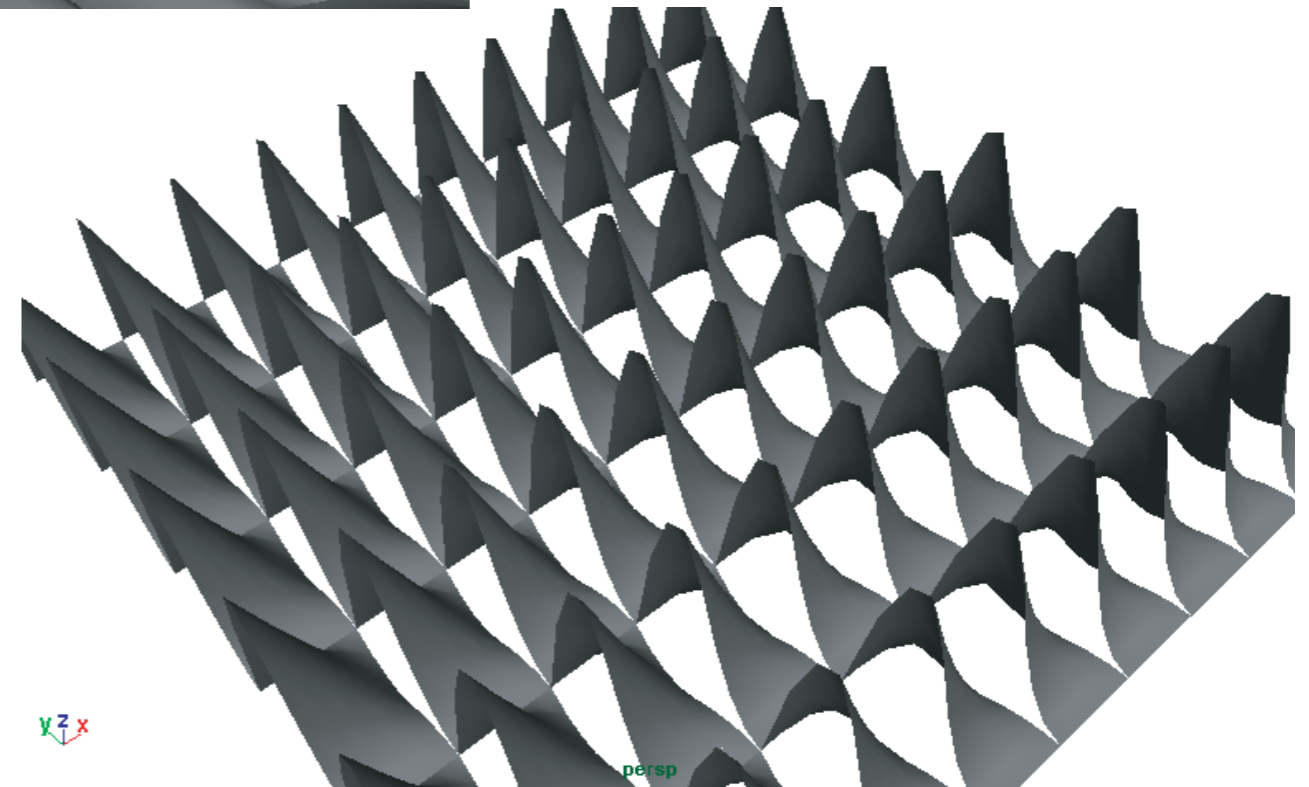
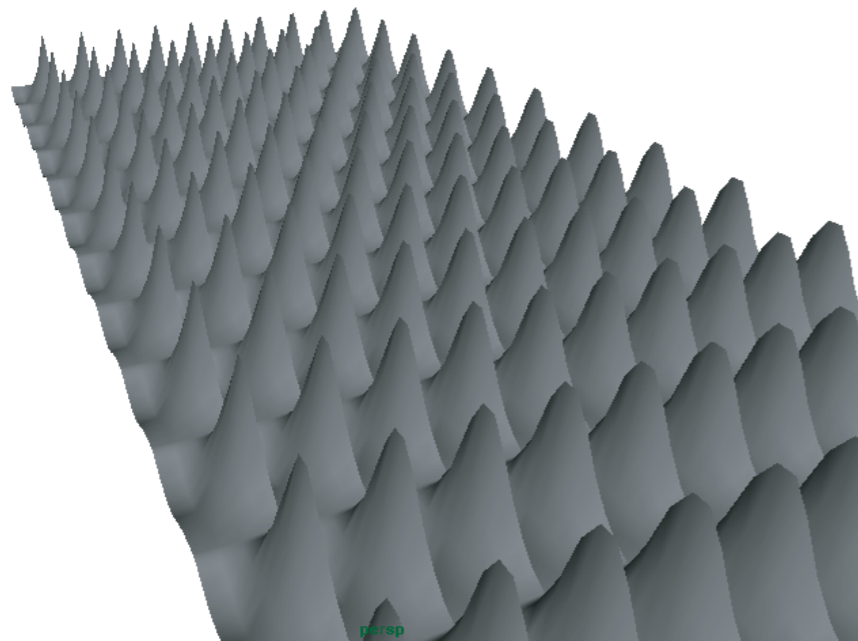
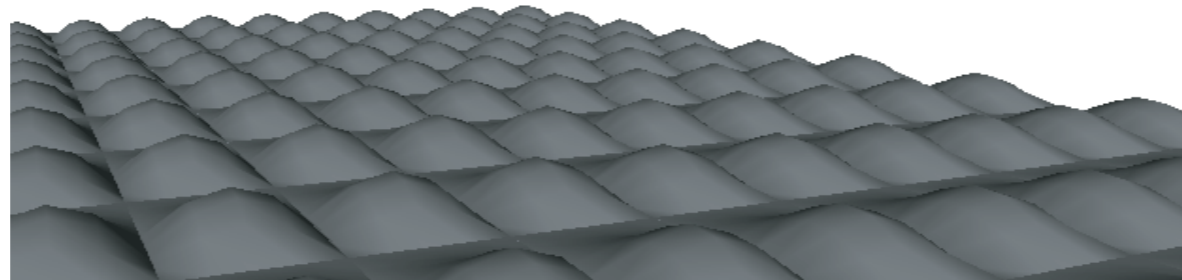
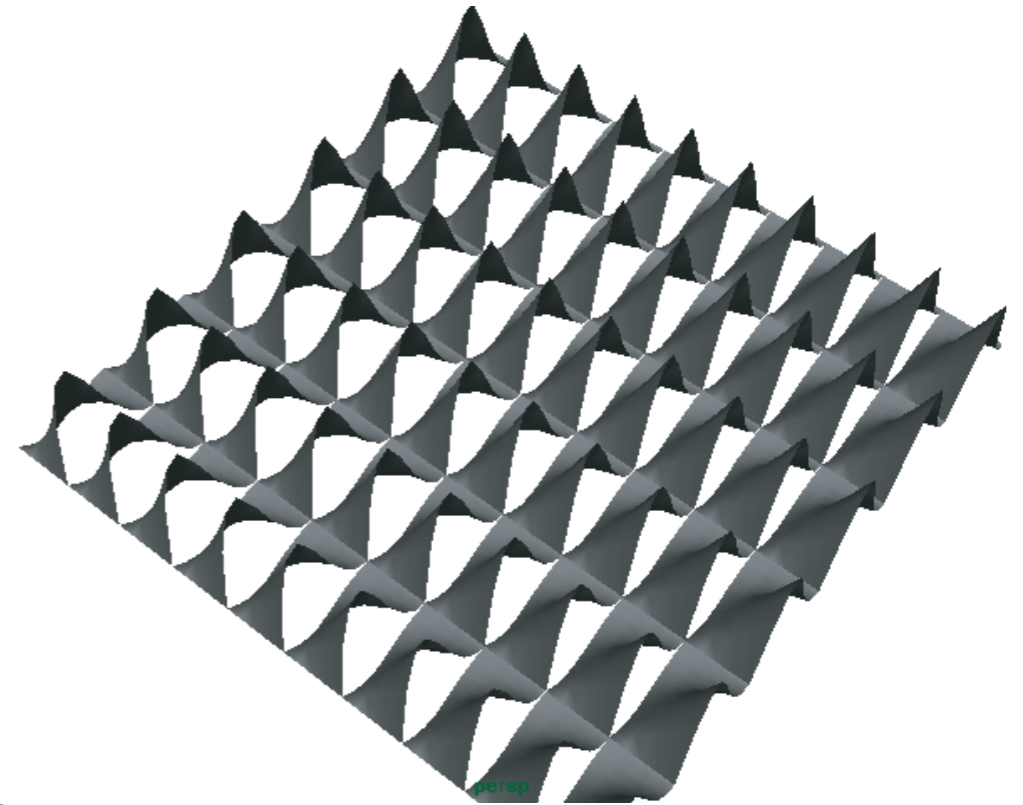
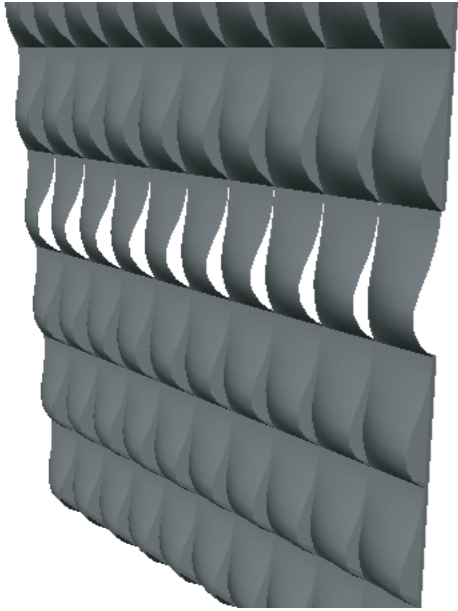
One solar panel

sun radiation

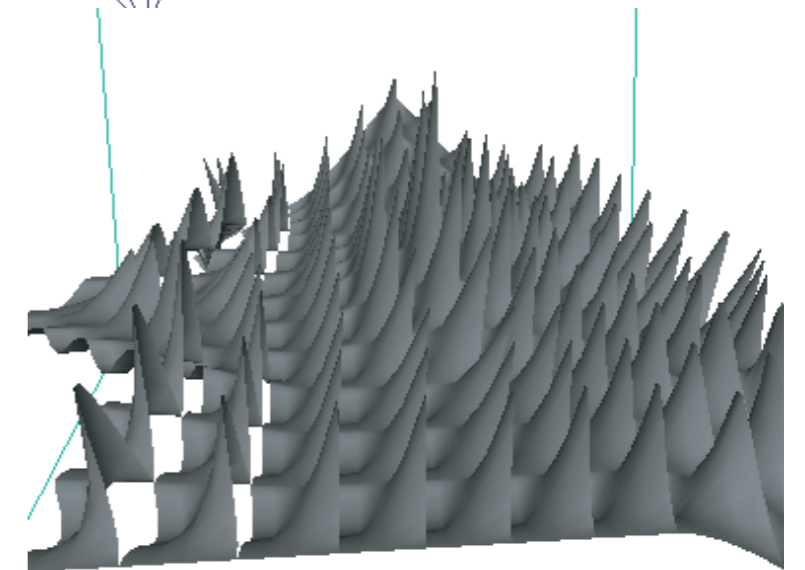
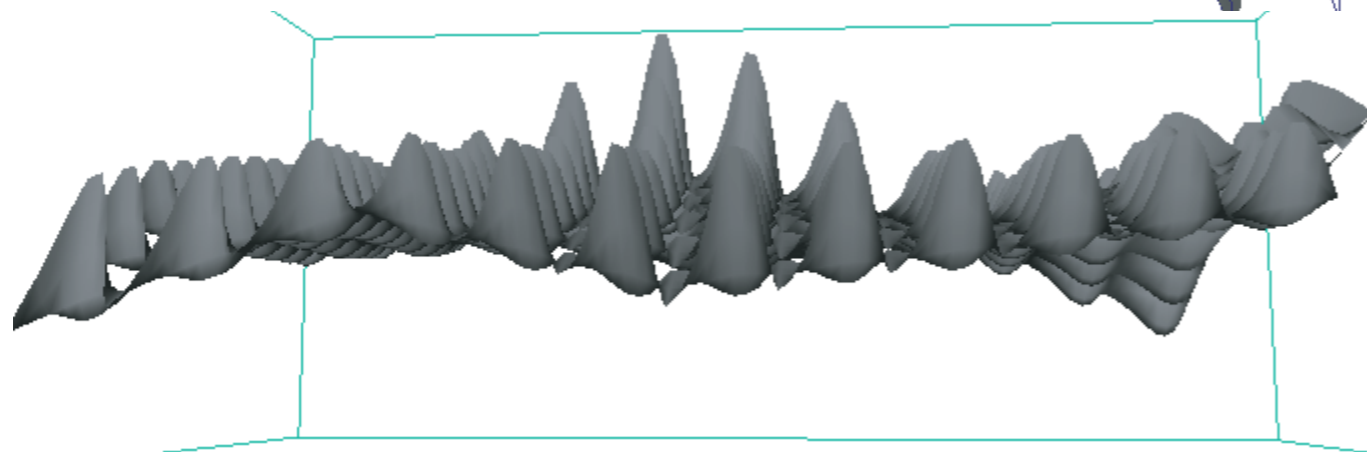
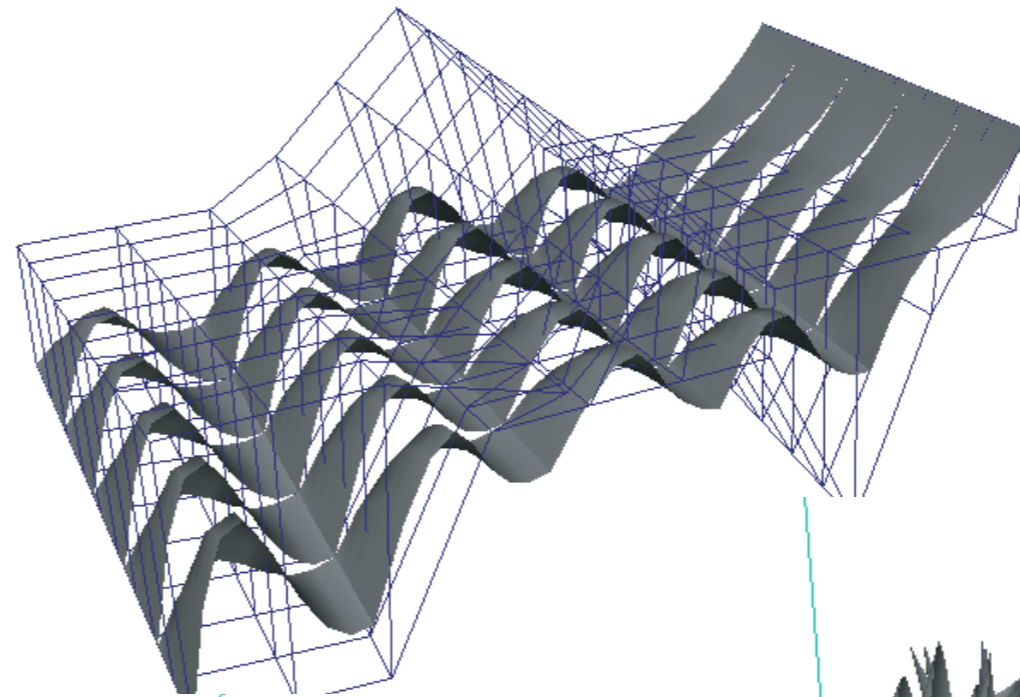
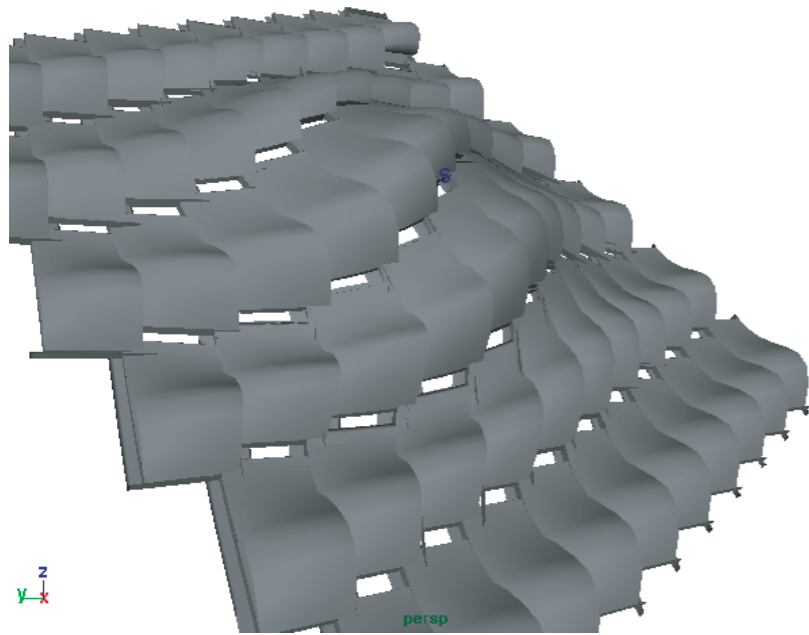
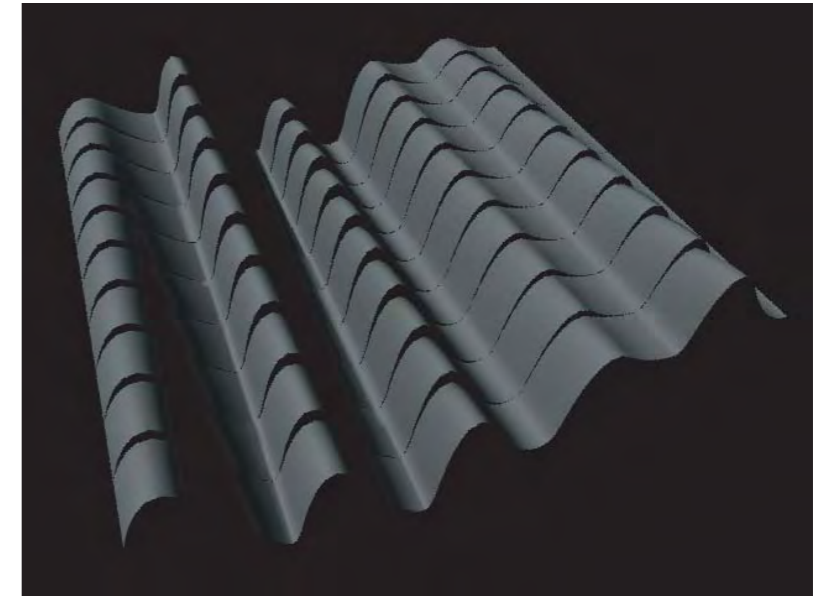
dim light

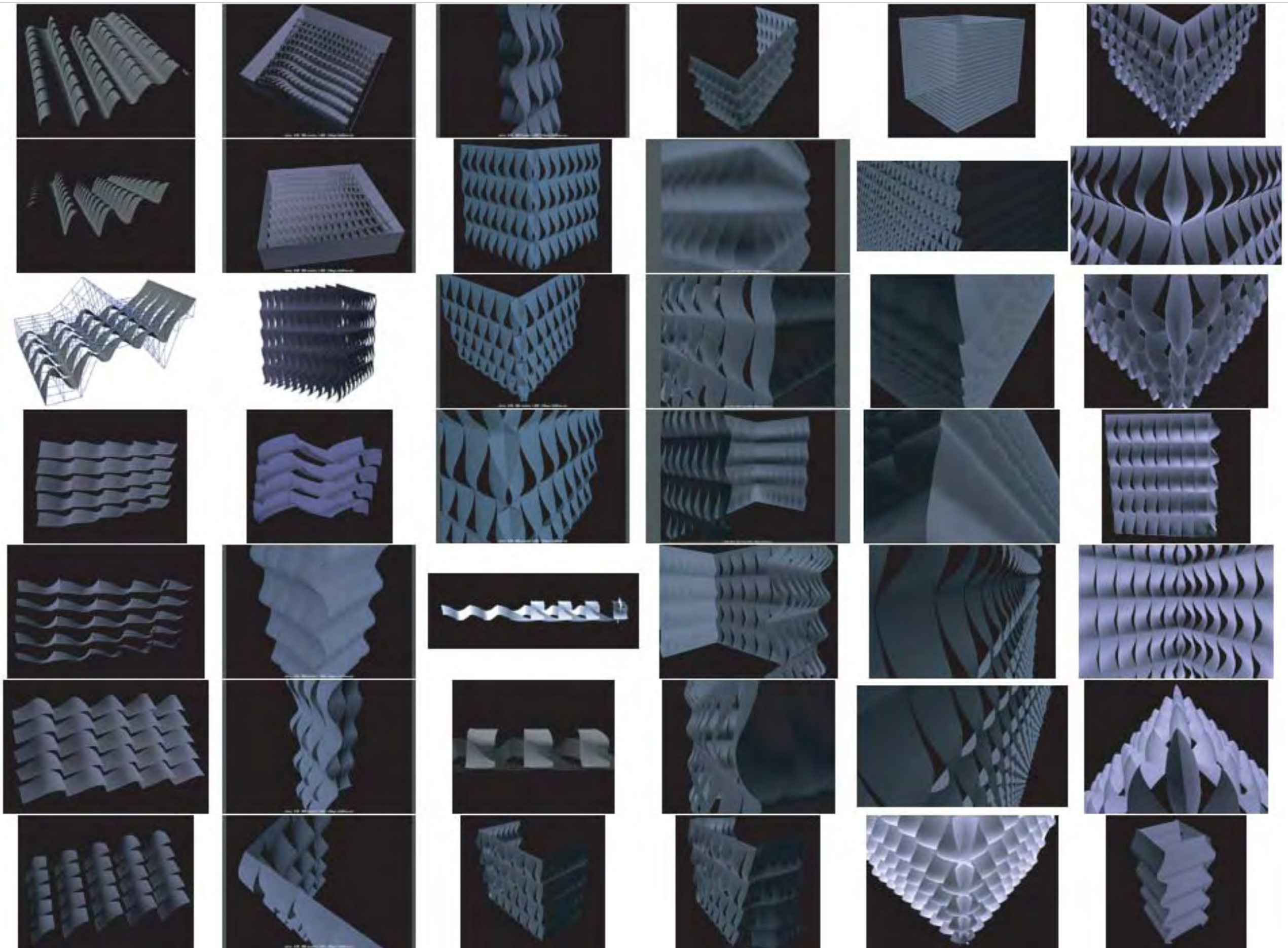


Examples using regular parameters for the solar facade.

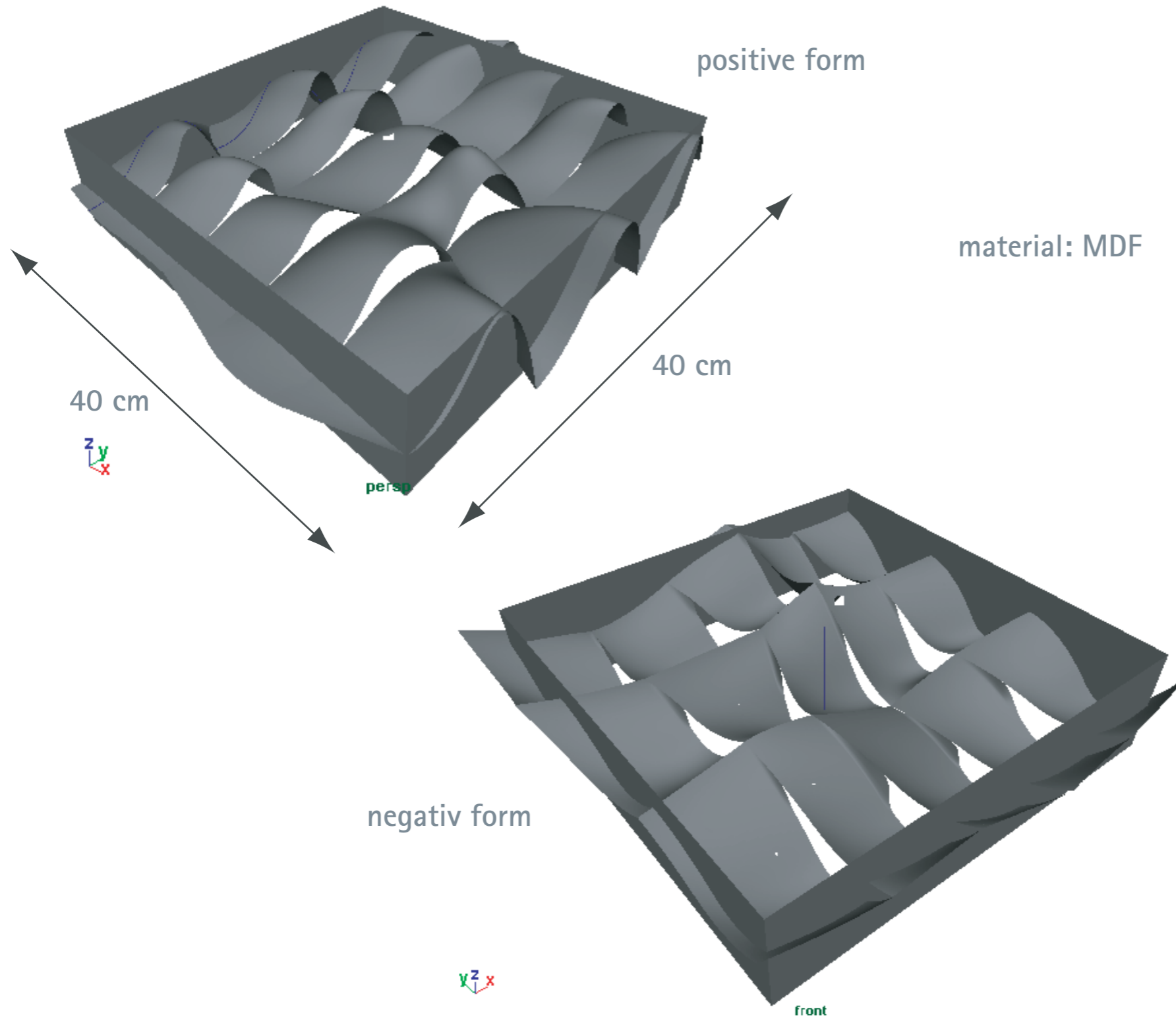


Influenced by the shape of the building and shadow casting objects (tree etc.) the facade change its shape.





Mill production



Mill production: work flow



Mill production: work flow

