Structuring

For the structural analysis, first, the material properties were defined, based on the previous works and the design requirements. Afterwards, certain parameters were set as constraints in respect to the systematic modular logic of the whole design, defining the general dimensions for example for openings, arches and roofs, while the main structural elements were fixed. The inputs as in loadcases, supports and material properties were set in Karamba plugin for Grasshopper and the results were compared with the hand calculations. In cases where the values were not within the acceptable limits defined by the material properties, certain form simplifications and structural improvements were decided and another analysis was realized until satisfactory results were met. The construction process was carried out in parallel to validate the feasibility of the structure and to introduce the construction components in a kit of parts and the necessary steps during the construction process. In addition to that, an Adobe 2.0 challenge was introduced, by designing a wind catcher in combination with a staircase around it. In this process, the construction process was explored and explained, while a structural analysis was realized to confirm its stability.