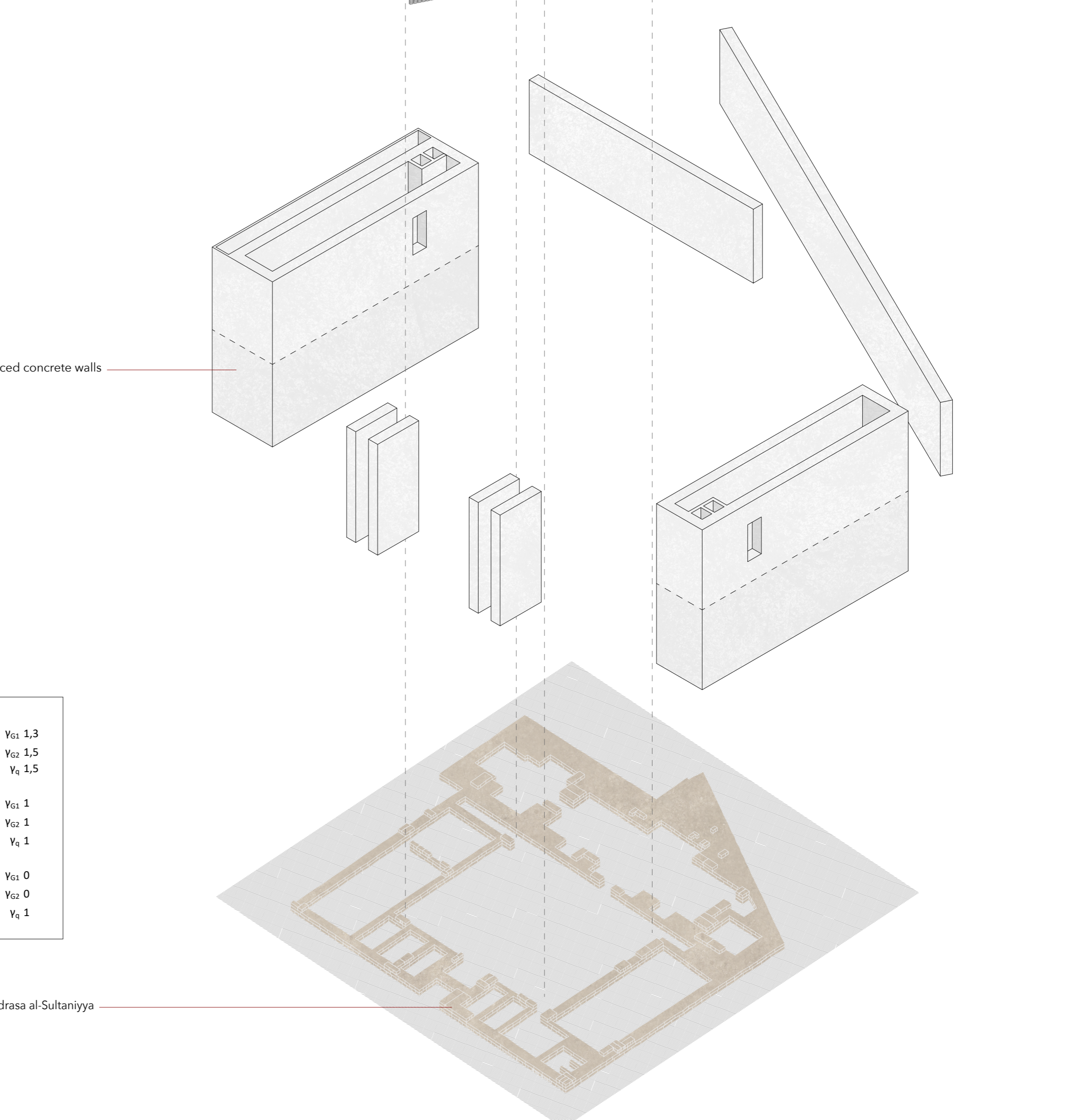
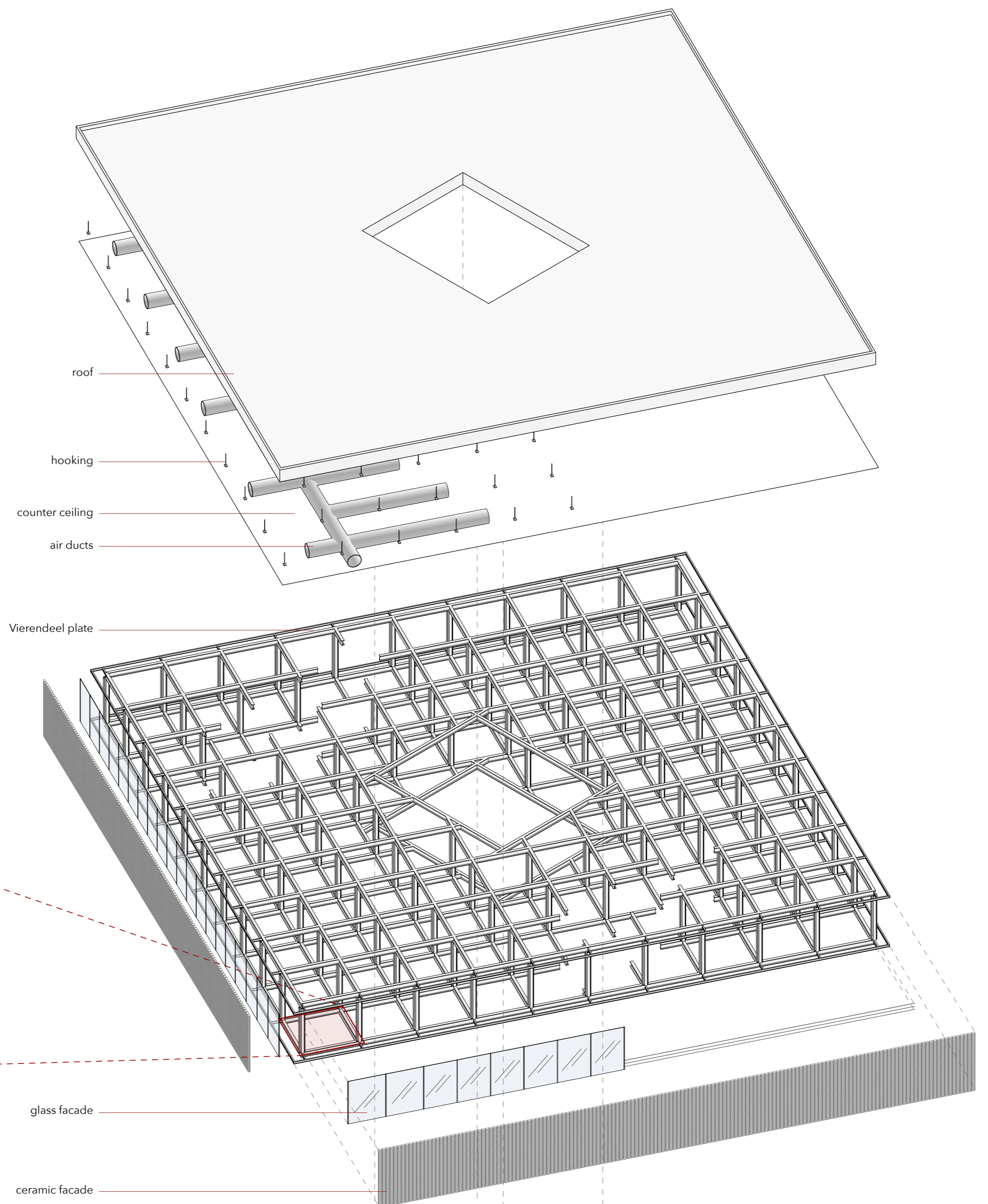
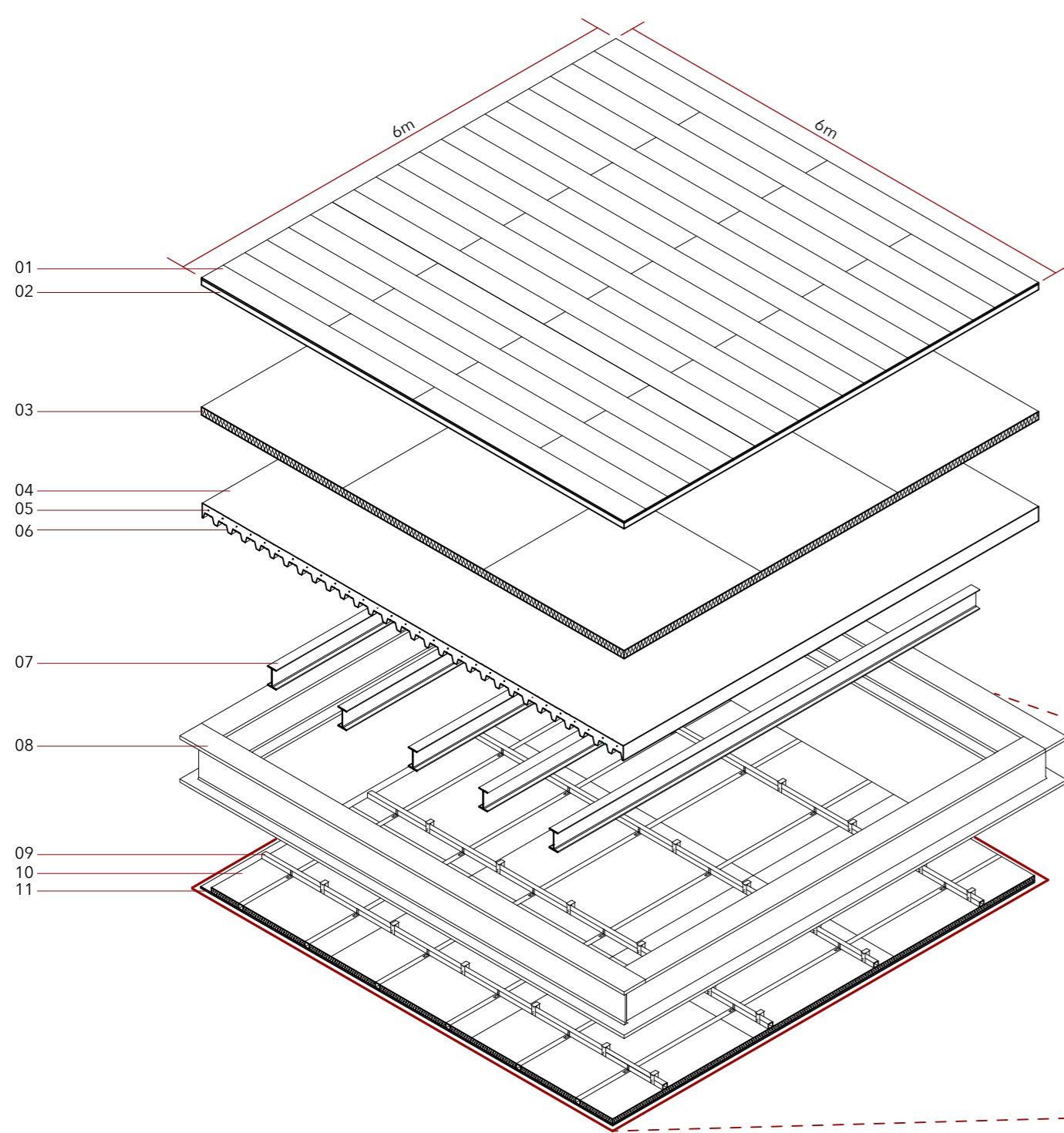


## STRUCTURAL DESIGN

The project consists of several overlapping layers: from below, the ruins of Madrasa al-Sultaniyya, the system of reinforced concrete walls and, placed on them, the Cultural Center, main part of the project. It is a square-shaped building (62x62m) made from a regular Vierendeel plate. This kind of structure represents the opportunity to satisfy structural needs and at the same time make spaces accessible.

### 6x6m module:

- 01 Floor finishing
- 02 Lecacem maxi - 7 cm
- 03 Knauf insulation panels expanded polystyrene - 10cm
- 04 Lecacals 1600 Rck 35 and welded mesh - 18cm
- 05 Lecacals 1600 Rck 35 and welded mesh - 18cm
- 06 Steel trapezoidal corrugated sheet EGB 2000 - 7,5cm
- 07 Secondary beam IPE 240
- 08 Primary beam HEM 550
- 09 Counter ceiling hooking system
- 10 Knauf insulation panels expanded polystyrene - 6cm
- 11 External counter ceiling panels



## LOADS ANALYSIS

$G_1$		load	
		(kg/m)	
HEB 500		30,71	0,30 kn/m
IPE 240		278	2,73 kn/m
$G_{2.1}$ (Lower slab stratigraphy)		thickness	load
		cm	(kg/mq)
False ceiling Knauf D11 system and panels	-	30	
Steel trapezoidal corrugated sheet, EGB 2000	-	22,38	
Structural concrete floor (Leca cls 1600 Rck 35) and welded mesh	18	169	
Knauf insulation panels expanded polystyrene	10	1,92	
Non-structural concrete floor (Lecacem maxi) and vapour barrier	7	42	
Floor finishing	4	20	
Internal partitions	-	100	
		385,3	3,78 kn/mq
$G_{2.2}$ (Superior slab stratigraphy)		thickness	load
		cm	kg/mq
False ceiling Knauf D113 system	-	30	
Building systems	-	100	
Steel trapezoidal corrugated sheet, EGB 2000	-	22,38	
Structural concrete floor (Leca cls 1600 Rck 35) and welded mesh	18	169	
Knauf insulation panels expanded polystyrene	10	1,92	
Lecacem maxi and waterproof case	10	42	
Lecacem expanded clay skin	12	20	
		385,3	3,78 kn/mq
$G_{2.3}$ (Perimetral closures)		load	
		kg/m	
Glass facade		275,6	2,70 kn/m
$G_{2.4}$ (Cladding)		dimensions	load
		cm	kg/m
Ceramic cladding	30x20x6	488,44	4,79 kn/m
$q$		load	
		(kn/mq)	
Cat. E1: Areas for accumulation of goods and related access points, such as libraries, archives, warehouses, manufacturing laboratories		6	

## COMBINATIONS

S.L.S	$\gamma_{G1} * G_1 + \gamma_{G2} * G_2 + \gamma_{G3} * G_3 + \gamma_{G4} * q$	$\gamma_{G1}$ 1,3
		$\gamma_{G2}$ 1,5
		$\gamma_{G3}$ 1,5
U.L.S.	$G_1 + G_2 + q$	$\gamma_{G1}$ 1
		$\gamma_{G2}$ 1
		$\gamma_{G3}$ 1
S.L.E.q.	$q$	$\gamma_{G1}$ 0
		$\gamma_{G2}$ 0
		$\gamma_{G3}$ 1