

7.8.Yeniçeri Bath (Edirne city)

This bath building was located in the city center of Edirne. The construction date of the building was assumed in H.824-855 (1421-1451 A.D.), in the period of Sultan II. Murat (Say, 2011). This bath got its name from the Yeniçeri soldiers who used this bath. The location of this bath structure was very close to the “Rumeli dev irme acemi o lanları oca 1-educational building for soldiers” building (Usal, 2006). The current situation of the building was ruin and partly collapsed. Functional and structural layout of the existing building was investigated (Say, 2011).

The closure of the warm area was cross vault. On the top of the vault there was an octagonal opening. One iwan was connected to the warm area with arch. The closure of the iwan was dome form with six pieces (Say, 2011).

The hot area was composed of one central area connection with two or three iwans. The closure of the central area was simple dome. Pendentive and muqarnas structural elements were used in the central area for the connection between wall and the dome. One big iwan was composed of seven slices of dome which connected to the central area with arch. In half dome structures muqarnas structural elements were used as transitional elements. The closure elements of the ‘halvet’ were; vault, spiral dome and a simple dome structures (Say, 2011).

The masonry wall structure of the building was one row of cut stone with two rows of brick layout. The closure and transitional elements were built in a high quality workmanship. Yeniçeri bath was specific in the usage of its closure and transitional structural elements. Pendentive structure was not used. And the vault structures were used very rare. Curvilinear openings with glass closures ‘filgözü’, were used in a high percentage according to other bath structures (Say, 2011).



Fig 7.85: Perspective view of Yeniçeri Bath 1



Fig 7.86: Perspective view of Yeniçeri Bath 2



Fig 7.87: Perspective view of Yeniçeri Bath 3



Fig 7.88: Perspective view of Yeniçeri Bath 4

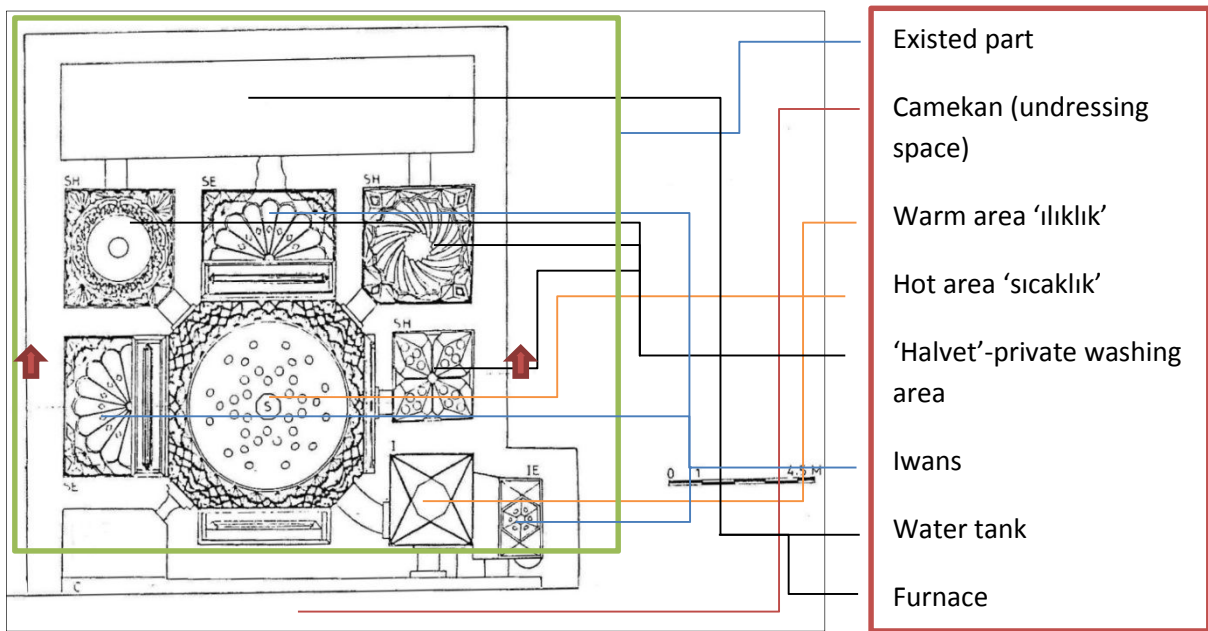


Fig 7.89: Yeniçeri Bath, functional specifications (Say, 2011).

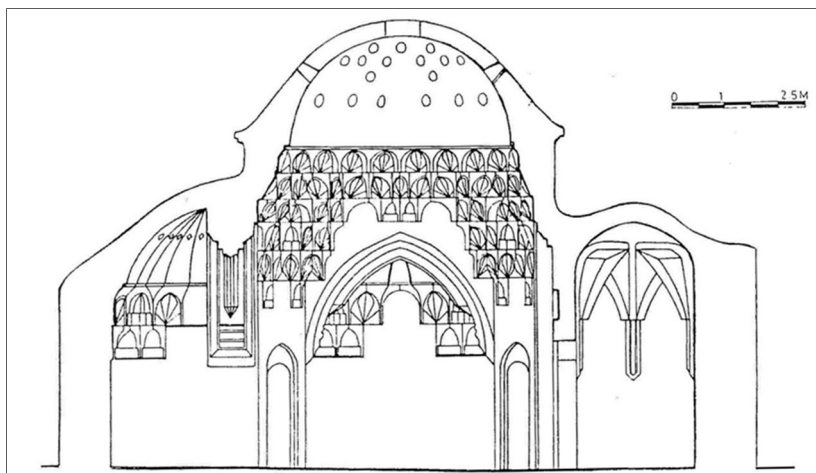


Fig 7.90: Yeniçeri Bath, section (Say, 2011).

CHAPTER 7: CASE STUDIES



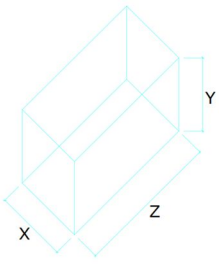
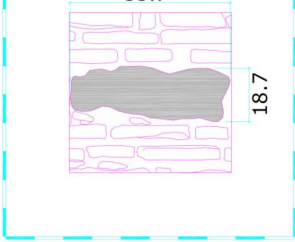
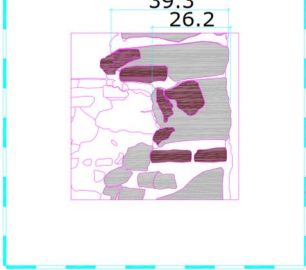
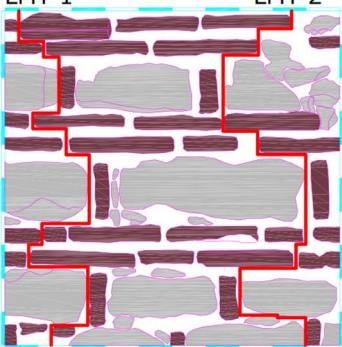
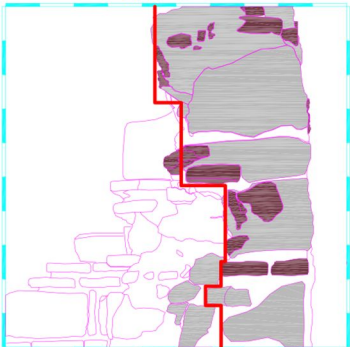
7.8.1. Methodological application (A)

Table 7.55: Qualitative methods for evaluating the quality of the walls in Yeniçeri bath: A

| Qualitative Methods for Evaluating the Quality of the Walls | |
|---|---------------|
| Edirne City, Yeniçeri Bath | |
| Masonry blocks of stone flakes roughly squared with inner filling stones and divided horizontal brick layering | |
| | PHOTOS |
| | SCHEMA |

CHAPTER 7: CASE STUDIES

Table 7.56: Qualitative methods for evaluating the quality of the walls in Yeniçeri bath: B

| | | | |
|---|---|---|--------------------------|
| <p>Description of Yeniçeri Bey Bath: Masonry stone structure is composed with stone flakes very roughly squared , horizontal and vertical brick layering with pebbles infilling. There was openings for timber tie beam connection inside of the masonry stone walls. On the sections of the masonry wall small pebbles and stones could be seen. The wall fabric is three layered, it was respected to the horizontal rows and stagger with vertical joints. Diatone stones are not used inside of the masonry stone wall structure.</p> | | DESCRIPTION | |
| <p>In Yeniçeri bath; stone material is composed of volcanic tuff with green color which extract from Keşan mines. Brick materials is refractory brick therefore it is resistant to the heat. Therefore magnesium and aluminum percentage were high in the compound of the brick.</p> | | MATERIAL | |
|  <p>Stone Sample</p> |  <p>Brick Sample</p> | | |
|  | <p>'X' AND 'Y' VALUES OF THE STONES 55.7</p>  <p>18.7</p> | <p>'Z' VALUES OF THE STONES 39.3 26.2</p>  | GEOMETRY OF THE MATERIAL |
| <p>APPROXIMATION OF STONE DIMENTIONS OF THE MASONRY X=55.7cm / Y= 18.7cm / Z= 26.2cm - 39.3cm</p> | | | |
| <p>LMT 1 LMT 2</p>  | <p>LMT 1</p>  | | |

CHAPTER 7: CASE STUDIES

Table 7.57: Qualitative methods for evaluating the quality of the walls in Yeniçeri bath: C

| <i>P.D.</i> | <i>Q.M.</i> | <i>F.R.E.</i> | <i>S.V.J.</i> | <i>Q.R.E.</i> | <i>P.H.R.</i> | <i>S.R.E.</i> | <i>Category</i> | <i>Vertical</i> | <i>Out of Plane</i> | <i>In the Plane</i> | ANALYSIS OF IQM |
|--|-----------------------|---------------|---------------|---------------|---------------|---------------|------------------|-----------------|---------------------|---------------------|--------------------------------------|
| NR | NR | PR | R | PR | R | PR | <i>Method of</i> | B | C | B | |
| Vertical IQM | | | | | | | <i>Scoring</i> | | | | |
| 0 | 0 | 1.5 | 1 | 0.7 | 2 | 0.5 | <i>LMT</i> | | LMT1= 131 | LMT1= 183 | |
| Out of Plane IQM | | | | | | | | | | LMT2= 184.3 | |
| 0 | 0 | 1 | 1 | 0.7 | 2 | 0.5 | | | | | |
| In the Plane IQM | | | | | | | <i>IQM</i> | 3.5 | 3.15 | 3.15 | |
| 0 | 0 | 1 | 2 | 0.7 | 1 | 0.5 | | | | | |
| IQM=QRE x (PHR+PD+FRE+SVJ+SRE+QM) | | | | | | | | | | | |
| <i>f_m</i> (N/cm²) | min=204.6 max=338.5 | | | | | | | | | | |
| <i>E</i> (N/mm²) | min=1007.4 max=1454.9 | | | | | | | | | | |
| <i>T_o</i> (N/cm²) | min=3.7 max=5.6 | | | | | | | | | | |
| | | | | | | | | | | | MECHANIC PARAMETERS (MIN-MAX) |