

## Abstract

"Tall-e- Ajori" is one of the ancient sites that is located in Marvdasht plane and three seasons of excavation has been exceeded in this site. The goal of expeditions on Tall-e- Ajori is the discovery of architecture remains which is decorated with glazed brick, probably belongs to the Achaemenian period. The present thesis is an attempt to study the technology and pathology of glazed bricks which is excavated from this area to gain informations concern on the production process of bricks and nature of the glaze on them. Furthermore the factors in the process of destruction of these objects and deterioration process were also an essential point of view.

The first chapter of this thesis is devoted to the general studies. Introduction of glazed brick and historical studies discussed in Chapter II. Tall-e- Ajori area is also introduced in this chapter and informations about the knowhow about the exploration on this area is described accordingly. In the third chapter the bricks that have been selected for the laboratory studies, along with other bricks found in the area have been introduced. The fourth chapter is dedicated to Technology of the bricks and glaze that is based on laboratory studies. Analytical strategies carried out by means of using XRD & XRF, thermal analysis(DTA & TG), scanning electron microscopy(SEM-EDX) and petrographic studies in order to get related information about technology and the manufacturing process of bricks.

Quartz identified as the main phase constituting the bricks in a brick texture fine and uniform dispersion, and formation of secondary phases such as albite, anorthite, gehlenite and pyroxene in the brick's texture suggest that the temperature is approximately about 1000 to 1020 ° C. Lead were the main base of chemical composition of the glaze. Studies on the glazed bricks shows that water and humidity had the function as efflorescence as well as weaterind effect on the surface. Recrystallization of secoundary phases were also be the majore distraction effect in the body of the Bricks

Indeed, to consider that these objects have been placed in the soil for long time, some recommendations are given for appropriate ways for protecting these objects.

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