

Abstract :

In technological analysis of gilt tiles, the main concern is to determine different ways of production in different historical ages as well as studying the delicacy of laying fine gold on smooth surface of the glaze. In this research, the main goal is utilizing specific samples to find an appropriate answer for questions about methods of gilding tiles. Defining the decorating process and historical background analysis are also some of the main topics in this research. At first, production process of Mina'i and Lajvardinah tiles-usually decorated with gold leaves- has been studied. The next step is classifying different types of gilded tiles produced before Safavi era as: gilt Lajvardinah tiles, gilt Haft Rangi tiles, one-colored gilt glazed tiles and carved gilt tiles. The main goal of such classifying is to receive a comprehensive recognition of what we call a gilt tile and for this matter gathering historical analysis results method is used. As the methods of laying gold on ceramic is different in each type of tile, device analyzes such as XRF, EDX, SEM and FTIR are utilized to define ceramic and decoration materials. Presenting a theory for historical techniques can't be done only upon consisting materials and so samples of gilt tiles according to Darb-e-Imam (Isfahan) tiles are examined to evaluate the laboratory results.

Finally, gilding technique in Darb-e-Imam (Isfahan) tiles is defined as layering and then laying gold leaves on ceramics. Gilt tiles in Imam-zadeh Esmail and Haron-Velayat tomb are produced with different techniques. In the summary section of this research, using a layer of protective glue is introduced to preserve such historical heritages.

Key words: gilt tiles, technological analysis, Isfahan.