iznik

Iznik ceramics

The process of Iznik tile making has mainly four sequential stages.

- The initial stage is the making of a quartz body that is to be used as tile substrate; mixing homogeneously the fine quartz with clay and fluxes, followed by shaping and drying procedures produces the Iznik tile body.
- The second stage consists of the production and application of a white fine slip, which is compatible with the quartz body followed by firing at temperatures 900-1000oC to obtain a glassy substrate for under glaze decoration.
- The third stage is the application of contour lines, patterns and decorations with colours obtained from inorganic oxides.
- Finally, the last stage is the application of a fritted transparent glaze on decorated surfaces followed by glaze firing at temperatures below 1000oC.

Studies on Iznik ware : Laboratory and Workshop

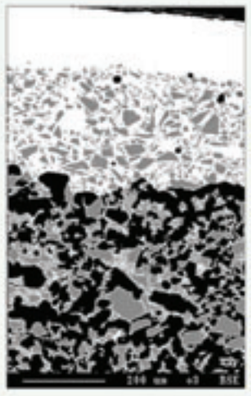
In order to perform reproduction experiments in the laboratory and in the ceramics atelier various samples of frit, body, slip, pigment and glaze were produced and put together to form an Iznik ware.

Recovery studies were mainly focused on frit compositions, body, slip and glaze formulations.
First, various frits were synthesized in the Laboratory; this was followed by the production of glaze formulations from these frits that were then applied on quartz based substrates. In general, glaze making, applying to a substrate and firing were investigated before proceeding to a full-scale prototype reproduction of a tile.

Microstructural comparisons are done between the original excavated samples and replicated samples.

As can be seen reasonable successful results were obtained for a complex structure of a multilayer Iznik ceramics with good color appearances and optical properties.

One of the main problems is the repetitive process stage, which is not easy to control, and cracks in the body and glaze occurred during the two stages firing. Due to the furnace problems and difficulties with studying lead containing compounds so much effort was given to calibrate the old kilns in our laboratories. However, good results were obtained in respect to lead solubility and hardness.


Microstructure of an Iznik tile

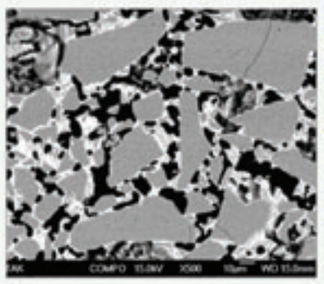

Frit making in the laboratory


Body preparation


Frits


Frits


Pottery artefacts


The microstructure of a tile specimen body produced in the TÜBİTAK MAM MCTRI labs


SEM-EDS studies


Images from the laboratory studies

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