

Terra Sigillata



Equip de Recerca Arqueomètrica
de la Universitat de Barcelona
eraub@ub.edu

Introduction

Terra Sigillata is considered to be the most important fine ware of the Roman period, as it is found wide spread in the Roman empire and abroad.

Its characteristics are a fine red gloss and often a decoration using moulds and stamps (*sigilla*).

It was produced in standardized shapes, most often as plates or cups.

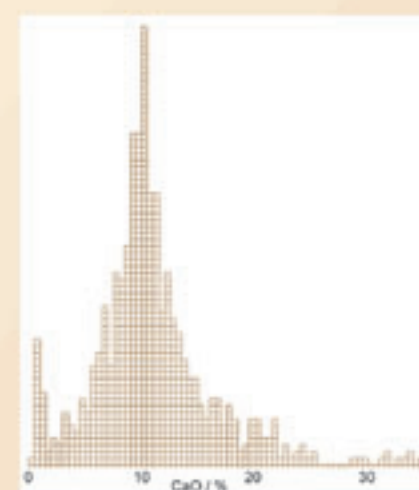
Depending on the region of production, it is classified as *Italian*, *Gaulish* or *Hispanic* Terra Sigillata.



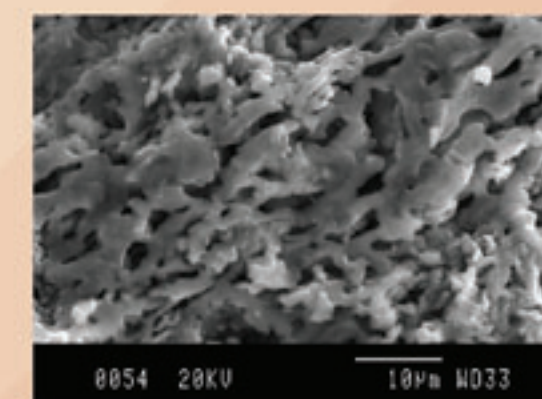
Examples for Terra Sigillata vessel forms

The matrix

The composition of the clays used for production of Terra Sigillata varies largely, although calcareous clays were used preferably.



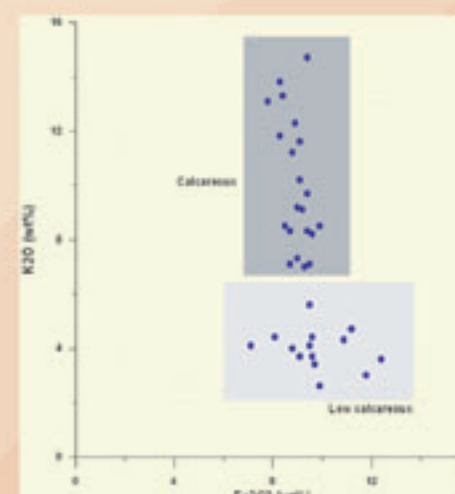
Distribution of the CaO contents of vessels analyzed with XRF



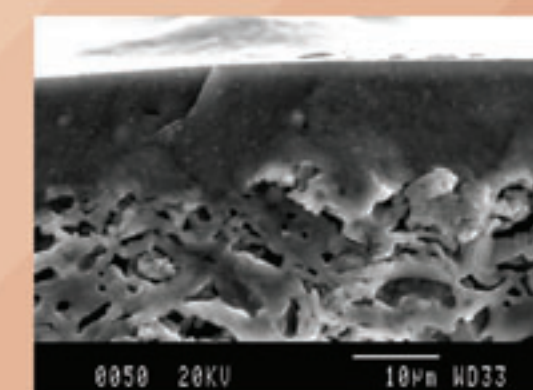
Microphotograph of a sherd from La Graufesenque, France

The gloss

In contrast to the matrix, the glosses of archaeological Terra Sigillata exhibit very low CaO contents. At the same time they are rich in Fe_2O_3 . The content of K_2O varies largely, which points to the use of illitic (high K_2O) as well as non-illitic clays (low K_2O) for the production of the glosses.



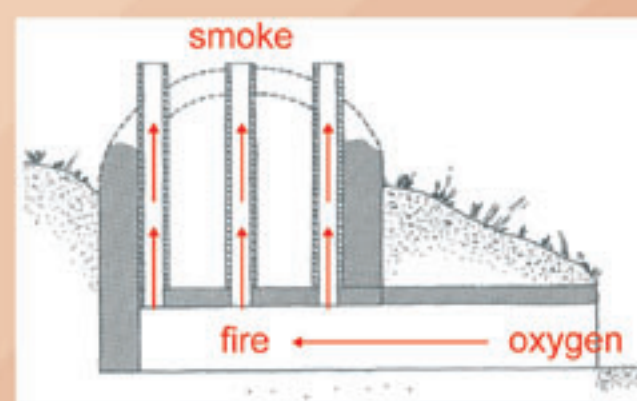
K_2O and Fe_2O_3 contents of glosses analyzed with SEM-EDX



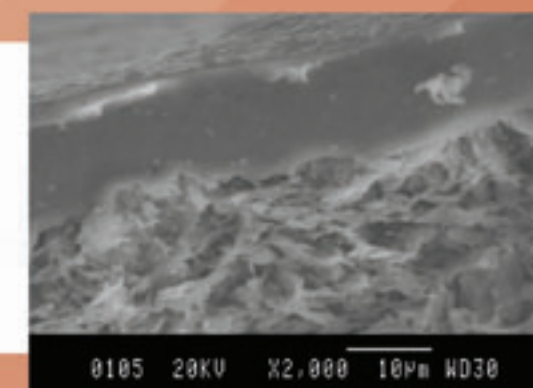
Microphotograph of the matrix-gloss interface of the sherd from above

The firing

In order to achieve the red colour of the gloss, the firing conditions had to be as oxidizing as possible. The best results were achieved in radiation kilns, in which the vessels had no direct contact to the smoke of the fire. Vessel and gloss have been fired in the same firing cycle at temperatures between 800°C - 1050°C , the most frequent temperatures being around 950°C / 1000°C - 1050°C .



Schematic sketch of a radiation kiln



Briquette experimentally fired for 10 hours at 950°C