

CNR-ICVBC Plaster Analyses

Plaster analyses at the CNR-ICVBC confirm that there are links between plaster types and periods. There is however a clear correspondence between the results achieved by these different methods, even though some variations, mainly depending on the different criteria that are used for petrographical-chemical analyses and those described above, are present.

Within each macroscopical group, more petrographical groups can be recognised as follow:

Type A (1st style)

- 1.1 group* medium grained, bimodal, quite abundant binder, prevailing pyroxenes;
- 1.2 group* medium grained, bimodal, quite abundant binder, many pyroxenes, volcanic and carbonatic fragments;
- 1.3 group* very fine grained, unimodal, only pyroxenes;
- 1.4 group* medium grained, bimodal, quite abundant binder, prevailing volcanic fragments;

Type B (1st style)

- 1.5 group* medium-coarse grained, mainly unimodal, quite abundant binder, prevailing volcanic fragments;
- 1.6 group* medium grained, abundant binder, same amount of pyroxenes and volcanic fragments, carbonatic fragments;
- 1.7 group* coarse grained, quite abundant binder, volcanic fragments;

Type C (2nd style)

- 2 group* fine grained, mainly unimodal, quite abundant binder, prevailing pyroxenes;

Type D (3rd style)

- 3.2 group* fine grained, unimodal, scarce binder, prevailing pyroxenes, carbonatic fragments;

Type E (3rd style)

- 3.1 group* medium-coarse grained, unimodal, quite abundant binder, prevailing volcanic fragments, carbonatic fragments;
- 3.3 group* fine grained, unimodal, scarce binder, same amount of pyroxenes and volcanic fragments;

Type F (3rd and 4th style)

- 3.4 group* medium grained, unimodal, quite abundant binder, same amount of pyroxenes and volcanic fragments, carbonatic fragments;

Type G (4th style)

- 4.1 group* fine-coarse grained, abundant binder, carbonatic fragments, lumps, crushed bricks;

Type H reused plaster fragments, lumps, crushed bricks, carbonatic fragments;

As already observed from the macroscopical point of view, it is evident that the mortars of the samples coming from the public buildings of the Forum show a superior quality with respect to those of the private buildings of the Insula I 9. In particular the petrographic study allows to recognise the following general characteristics in the Forum mortars:

- higher amount of binder;
- lower porosity-
- prevailing unimodal grain size distribution;
- homogeneous distribution of the filler with respect to the binder;
- lower amount of lumps.

These characteristics suggest a better selection of filler and lime, the use of a lower amount of water together with more attention in mixing lime and filler. Moreover an higher attention in the setting and curing of the mortar can be supposed as suggested by the absence of shrinkage phenomena in spite of the large amount of binder.