

Structure Formation of Cement Paste at Hydration of Sulphoferrite Cements

Y.R. Krivoborodov, S.V. Samchenko

*D. Mendeleev University of Chemical Technology of Russia,
Moscow, Russia*

It is known that structure formation of cement paste depends on many factors, especially on ettringite crystallization.

The aim of our investigation was the study of hydration and structure formation of cement contained sulphoferrite phases. The different methods were used: XRD, EPMA and chemical selective dissolution methods. It was shown at hydration of sulphoferrite phases Fe-rich ettringite was crystallized. Its habit of crystal is dendrite which disintegrate on the separate crystals. Many of them contain Si. It can be explained by their penetration into gel C-S-H. The other crystals of Fe-rich ettringite do not contain Si. It was promoted by their late formation at hardening.

In conclusion can be said that crystallization of Fe-rich ettringite did not accompanied by destruction but it packed cement paste.