

Measure Permeability to the Air of the Pozzolana (HPC) High Performances Concretes

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The measurement permeability to gases (air) of concretes is fundamental. The permeameters to the air are varying in their conceptions.

As there is no universal test, the permeability to air was determined using a method which we conceived and used at the laboratory of the university of Algiers (U.S.T.H.B) (laboratory built in the environment) Algeria. It is a simple and practical method. The principle of the functioning will be schematized later on.

Coefficient of permeability to the air of ordinary concrete at the age 28 days = $14.29 \times 10^{-17} \text{m}^2$. ($k_{oc28} = 14.29 \times 10^{-17} \text{m}^2$)

For high performances concretes with pozzolana, $k_{HPC28} = 2.91 \times 10^{-17} \text{m}^2$.

For high performances concretes without pozzolana, $k_{HPCZ28} = 6.04 \times 10^{-17} \text{m}^2$.

The test shows that the coefficient of permeability to the air of ordinary concretes is higher than those with high performances concretes, with and without pozzolana.

Keys words: Corrosion; permeability to the air; durability of concretes