

INFLUENCE OF ADDITION DUNE SAND POWDER TO CEMENT, ON THE PROPERTIES PHYSICAL-MECHANICAL AND DEFORMABILITY OF CONCRETE

S. Guettala*, B. Mezghiche and M. Mellas
Research Laboratory Civil Engineering R.L.C.E.B, University of Biskra, 07000 Biskra,
Algeria

Received: 5 September 2011, **Accepted:** 10 February 2012

ABSTRACT

This experimental work has focused on studying the possibility of using the dune sand powder (DSP) as a part mass addition to Portland cement. The incorporation of dune sand powder form substitution to Portland cement yields a new variety of cement compound with physicalmechanical properties superior to those of Portland cement.

The results obtained show that the contribution of addition dune sand powder to the cement binding activity resulted primarily from three effects: Physical, physical-chemical andchemical. These effects act simultaneously and in a complementary way on the properties physical-mechanical and deformability of concrete.

Keywords:

Portland cement; dune sand powder DSP; concrete; physical-mechanical;
deformability