International Journal of Civil, Structural, Environmental and Infrastructure Engineering Research and Development (IJCSEIERD)
ISSN (P): 2249-6866; ISSN (E): 2249-7978
Vol. 8, Issue 2, Apr 2018, 1-10

EFFECT OF VARIOUS ACCELERATORS ON DIFFERENT STRENGTH PARAMETERS OF M - 20 GRADE OF CONCRETE

TAPAS SINGH[1], RAHUL SEN[2] & AVINASH KUMAR SINGH[3]

[1]*Assistant Professor, Department of Civil Engineering, Technocrats Institute of Technology & Science, Bhopal, India*

[2]*Assistant Professor, Department of Civil Engineering, Technocrats Institute of Technology & Advance Bhopal, India*

[3]*Project Assistant, III CSIR-AMPRI Research institute, Bhopal India*

ABSTRACT

In this paper, researchers have presented an experimental study on concrete cubes and beams to check the impact of accelerators on the compressive and flexural strength of concrete at normal days of curing. During this experimental study ordinary Portland cement (OPC) was used to manufacture concrete mixtures M-20. Concrete mixtures for the study were designed as per the new guidelines of IS 10262:2009. 3 accelerators potassium carbonate, sodium Nitrate and calcium nitrate were used in this study and both compressive and flexural strength of specimens with different accelerators is recorded at one, three, seven, fourteen and twenty-eight days of curing with water and compared with the strengths of controlled specimens at their corresponding ages. Check the results revealed that the most percentage gain was discovered for calcium nitrite accelerator out of all accelerators at one, three, seven, fourteen and twenty-eight days compressive and flexural strength for the M-20 grade of concrete. Additionally, there's a really very little amendment in 28 days compressive strength and flexural strength with all accelerators for the M-20 grade of concrete.

KEYWORDS: Ordinary Portland Cement (OPC), Accelerators, Compressive Strength, Flexural Strength & M-20 Grade etc

Received: Jan 15, 2018**; Accepted:** Feb 04, 2018**; Published:** Mar 02, 2018**; Paper Id.:** IJCSEIERDAPR20181

Original Article