

A Study on Behaviour of Normal Strength Concrete and High Strength Concrete Subjected to Elevated Temperatures

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Abstract : Cement concrete is a complex mixture of different materials. Concrete is believed to have a good fire resistance. Behaviour of concrete depends on its mix proportions and its constituent materials when it is subjected to elevated temperatures. Loss in compressive strength, loss in weight or mass, change in colour and spall of concrete are reported in literature as effects of elevated temperature on concrete. In this paper results are reported on the behaviour of normal strength concrete and high strength concrete subjected to temperatures 200°C, 400°C, 600°C, and 800°C and different cooling regimes viz. air cooling, water quenching. Rebound hammer test was also conducted to study the changes in surface hardness of concrete specimens subjected to elevated temperatures.

Keywords : normal strength concrete, high-strength concrete, temperature, NDT

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