

ABSTRACT

Concrete is a mixture of cement, aggregate, water or without suitable admixture. To attain desirable strength and serviceability curing is necessary. Curing is the process of maintaining the proper moisture content to promote cement hydration. Concrete derives its strength by the hydration of cement particles, and thus process continuing for long time. The process of hydration begins when the molecules of the cement and water mixed. Loss of mass in a molecular level, necessarily results in an energy release. In this case the bonding of molecules results in a thermal chemical reaction this is known as heat of hydration. In field work higher water cement ratio is used, since the concrete is open to atmosphere, the water used in the concrete evaporates and the water available in concrete will not be sufficient for effective hydration to take place particularly in the top layer. If the hydration is continuing, extra water must be added to refill the loss of water on account of absorption and evaporation under normal condition, once cement and water are mixed the hydration process will begin and concrete will gain strength and serviceability with a passage of time. Super absorbing polymer (SAP) provides some degree of internally curing to concrete.

For maintain the slump, amount of SAP may require in gel form. Gel form means sufficient water added in a SAP powder. Very small quantity of the SAP should be added to maintain the same compressive strength with the decreased used of water in the same concrete mix. In the present project, we have studied various percentages of SAP is used with the normal concrete mix to study the compressive strength.