

PLACING, COMPACTING, FISHING, AND CURING OF HIGH-QUALITY CONCRETE (HQC) CONSTRUCTION

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ABSTRACT

Since HQC mixtures are made at very low water-to-cementitious materials ratio and pozzolanic additives and superplasticizer, they generally exhibit high viscosity. Thus the mixtures tends to be very cohesive and sticky. Therefore, proper care must be exercised to optimize bleeding while placing concrete in forms for slabs and for paving of roads. Segregation may also result leading to the formation of rock pockets and honeycombing. Segregation is known to increase with free fall drop distance of non-cohesive concrete during placement. Therefore, it is desirable to place ready-mixed concrete close to the final position at the job site. This is generally accomplished through the use of a drop pipe or chute. Additionally, rate of placement of concrete should be high enough to allow concrete to remain plastic while placing a new layer. This avoids formation of cold joints and planes of weakness between the various layers of placement. Concrete should be placed in uniform layer thickness and each layer should be compacted before placing the next layer.