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DISCUSSION

DISCUSSION ON THE PAPER "EVALUATION OF CONTROLLED PERMEABILITY FOR LONG-TERM DURABILITY OF STRUCTURAL CONCRETE ELEMENTS" BY A.K. SURYAVANSHI AND R.N. SWAMY[1]

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While admiring the care taken in the test routines adopted here for comparing the performance of concrete cast against Controlled Permeability Formwork (CPF) with that cast against traditional forms, I would be dismayed if readers accepted the conclusions reached without seriously questioning their validity.

If one applies the normal recommended procedure for compacting concrete with that used in production of specimens used here, one must reject the use of a poker vibrator on 150-mm-thick slabs cast horizontally. Intense internal vibration of 50-mm concrete layers with very significant levels of energy applied close to the form is not recommended because of the high proportion of fines that migrate to the shutter face. Good practice recommends that pokers be kept a minimum distance of 75 mm from the form. This is extremely important in the case of CPF if one is to avoid clogging of the liner voids. In addition, the full efficiency of the permeability concept relies on a minimum head of 75–100 mm of plastic concrete to expel optimum amounts of water and air through the liner. And should one in the first instance compare a shuttered surface with a (presumably) trowelled surface?

With the above factors invalidating subsequent tests it seems unnecessary to dwell on the results—results that cannot be considered convincing, that run contrary to the collective weight of evidence obtained in a wide range of established and reputable laboratories in a number of countries. It is unfortunate that your publication has on this occasion reproduced data that is fundamentally flawed.

[1]Cem. Concr. Res. 27, 1047–1060 (1997).