

Expansion – No Expansion

Experimental problems with
opals of different reactivity

N. Thaulow
Aalborg Portland – R&D Division
Concrete Research Laboratory Karlstrup

SUMMARY

In an ongoing series of mortar bar expansion tests designed to evaluate the pozzolanic effect of Danish fly ash problems arose with different pieces of opal from the same locality. In the beginning it was not possible to get any expansion with 10% opal even with a very high alkali cement. Changing to another piece of opal gave 20 ‰ expansion and severe cracking in three weeks. The more reactive opal contained 3% bound water against 1.5% in the less reactive opal. Measurements on mortar cylinders containing fly ash are under way.