

**ASEC 2008
ABSTRACT**

Title of abstract:	Failure of Housing Due to Reactivity Can Be Minimised
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Abstract:	<p>Major structural failure attracts public interest, particularly if there is loss of life or a major economic impact. Failures that have caused economic loss or possible injury and do not get press attention, may be in the legal system with most cases settled with confidentiality agreements; we are left with rumour and little fact as to what was the cause. Over my 45 year career I have been involved in the above from many perspectives. The greatest loss to the community is from highly reactive soils failing housing, costs to maintain, repair the rate at which replacement is required exceed all natural disaster costs. The major contributors in this (slow) degregation in lightweight construction is trees growing/dying, plumbing repairs/leaks and drought/or wet cycles. The Building Commissions Guides to Standards and Tolerances for when a builder hands over to the consumer is $\pm 5\text{mm}$ per 3 meters length, or $\pm 10\text{mm}$ whole house with age. Three times that appears to be the upper limits that's acceptable to owners. The majority of our housing stock on reactive soil exceeds this high limit. We have the means of controlling these failures, placing foundations deep enough to avoid the affects of moisture variation. The methodology will increase life span, reduce our need to replace our housing stock, and costs should be slightly less than current systems. This methodology should be converted to a "deemed to comply" similar to slabs, strip footings as called up in AS2870 1996.</p>