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Prof. B. Samali
Institute Director
Institute for Infrastructure Engineering
University of Western Sydney
Locked bag 1797
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Dear Prof. Samali,

You have raised with us a number of points regarding the AFS LOGICWALL® system about which you requested clarification. We discussed each of them in length at our meeting on March 6 and I have set out below summary responses.

Is fibre cement sheet suitable for formwork purposes?

Fibre cement is an ideal substrate for drywall construction in wet areas where there is significant likelihood of exposure to moisture. In the case of LOGICWALL®, the time of exposure to water is brief during the curing period of the concrete. During this time the sheet will absorb some moisture but it will not impact system performance nor create voids or mould. This water will evaporate during the concrete curing process.

Testing has shown that 370g/m² water is absorbed by the fibre cement from concrete in the first minute. 29% of the internal surface is occupied by the flanges of the steel studs. The resulting absorption for two sides will therefore be 525 g/m². This represents 3.5% of the concrete mix water. In practice the compaction process will be completed in significantly less than 1 minute following placement. It is our view, and evidence would suggest, that this has no impact on void formation.

Mould requires 3 conditions to form: presence of spores, moisture and organic matter. Any moisture from the concrete that is absorbed by the board will evaporate when it reaches the surface. If mould forms on the board and the organic component of the mould is from the board then there would have to be ongoing moisture present from an external source, presence of spores along with a breakdown of the external coating.

Will contaminants pass down cracks at the metal “C” sections?

The close spacing of crack initiators ensures that the size of cracks that result from shrinkage will be less with LOGICWALL® than is the case with conventional concrete so the likelihood of contaminant ingress is reduced relative to conventional construction techniques, not increased.

Do the manufacturing processes of the “C” section compromise its performance?

Many misrepresentations are in the market regarding the “C” section and internal frame construction. The frame joining process is not spot welding – it is a pressing system analogous to rivets. The important factor in respect of the cut edges of galvanising relates to the extent of reduction of zinc available to cathodically protect exposed steel. The reduction

in available zinc due to the cut edges of the metal studs within 30mm of the concrete surface is less than 0.7%. This is considered insignificant.

Does LOGICWALL® require a protective coating to meet the requirements of AS3600?

The metal “C” sections are corrosion resistant so do not need to rely on concrete cover for corrosion protection. The external protective coating functions as part of the system which exists at the surface of LOGICWALL® to form the façade system. As with any façade system protective coatings contribute both a decorative and protective function of the façade system. AS3600-2009 allows for the function of a protective coating to be considered in determining the exposure category which has consequences in respect of specifications such as the concrete grade and cover required. However this is irrelevant as LOGICWALL® does not rely on the protective coating as part of the integrity of the concrete aspects covered by AS3600.

What are the maintenance requirements of the LOGICWALL® system?

The AFS LOGICWALL® system requires maintenance of the coating system applied to be undertaken in line with the suppliers recommendations to ensure the applied system maintains the decorative and protective functions of the façade.

Is LOGICWALL® reliant on protective coatings for fire protection and hence an “alternate solution”?

The fire performance is attributed only to the concrete core elements which do not rely on a protective coating. The external expert report shows that the FRL can be determined using AS3600-2009 which is a valid means to use a deemed to satisfy solution as evidence of suitability in compliance with the BCA.

I trust that the detail above fully covers all the issues that you raised and will be able to form the basis of a review of your opinion.

Yours sincerely,



Steve Darwell