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13 August 2019

Revision 3

Brickworks Building Products
738 - 780 Wallgrove Road
HORSLEY PARK NSW 2175

Attn: Cathy Inglis,

RE: TERRACADE TL TO TN SYSTEM CHANGE REVIEW LETTER

INTRODUCTION

Core Project Consulting have been engaged Brickworks Building Products to undertake a review of the Terracade TN cladding system and provide comment on the compliance with the testing requirements of AS4284.

It is understood that prototype testing was carried out on the Terracade TL cladding system by Ian Bennie and Associates in January 2006 as documented in their report *No. 5004S1.* The testing included an Air Infiltration Test, Water penetration Test and a Structural Deflection Test as per the procedure outlined in Australian Standard AS/NZS 4284:1995.

GEOMETRIC REVIEW

Core have been provided with the both the Terracade TL and TN tile profiles, as well as the respective suspension rail top hat subframe profile. The main difference between the two cladding panels is:

- TN system is 1mm thinner than the TL system
- TN system hook cavity is 0.2mm narrower.

In addition to the above the TN suspension rail has a wider flange of 6mm and all other profile dimensions are equivalent. In this regard the TN suspension rail has a slightly more effective profile.

We note that, with the exception of the thickness discrepancies listed above, the panels have identical dimensions in height and width.

TESTING PROCEDURE OVERVIEW

The water penetration test procedure outlined in AS4284 has both a static and a cyclic component with water sprayed completely and continuously over the exterior face of the test sample at a specified rate for the entire duration of the test. Initially there is a static pressure applied to the sample installation of the cladding system followed by a cyclic pressure where the air pressure differential is reduced to zero for 2 minutes between each stage. After every subsequent stage there is an increase in pressure.

The Air Infiltration Test involves a constant negative and positive static pressure of 150Pa applied to the sample cladding system, and any air infiltration is measured and recoded.

The Structural Deflection Test procedure involves cyclic positive and negative wind pressures to be applied to the test sample with the pressure differential reduced to zero for 2 minutes at various intervals throughout the test.

CONCLUSION

As the modification to the exterior of the facade system only includes the thickness of the panel, there will not be any differential changes to results of the Air Infiltration Test or the Water Penetration Test. As the panel is 1mm thinner there is expected to be a minor increase in the deflection results, however as the greatest recorded deflection for the TL cladding system was Span/3067, the slight increase in deflection to TN cladding systems will still be well within acceptable tolerances.

Overall it is our opinion that the changes to the cladding system from Terracade TL to Terracade TN are minor and will not have any impact on the results for water penetration and air infiltration as per AS4284. Therefore the results of the testing are applicable to both systems.

The TN system was tested under the ultimate load test as per AS4040, and as per the results of this test it is noted that the system will also work sufficiently in New Zealand conditions.

Should you have any queries on this inspection report, please do not hesitate to contact the undersigned.

Yours faithfully,

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Structural Engineer
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Reviewed By:

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