

Advance Panel Products Ltd.
3955 – 8 Street
Nisku, AB
T9E 8M1

August 1, 2019
File No. 2-21742

Attn: Michael La Grange

RE: Pull-Off Testing Results
Advance Panel Products General Testing
Edmonton, AB

Dear M. La Grange;

As requested, Shelby Engineering Ltd. (Shelby) personnel completed pull-off testing for a below ground insulation panel, on August 1, 2019. The pull-off testing was completed to determine bond between the XPS extruded polystyrene rigid insulation (50mm thick, R10) and the Calcium Silicate pre finished board (9mm thick) substrate. A summary of the results are as follows:

Pull-Off Test

Test No.	Date	Results (MPa)	Comments
T1	August 1 st	0.16	Bond failure at insulation backing paper & substrate interface
T2	August 1 st	0.19	Bond failure at insulation backing paper & rigid insulation interface
T3	August 1 st	0.27	Bond failure at insulation backing paper & substrate interface

****Pictures of the pull-off specimens are attached.**

All services provided by Shelby Engineering Ltd. are subject to the attached Standard Terms and Conditions for the Provision of Materials Testing Services by Shelby Engineering Ltd.

Respectfully Submitted,
SHELBY ENGINEERING LTD.

A stylized, handwritten signature in blue ink, consisting of a large, looping 'S' followed by a horizontal stroke.

Sana Bastan, P.Eng.

A stylized, handwritten signature in blue ink, featuring a series of connected, flowing loops.

Andrew Coe, P.Eng.



STANDARD TERMS AND CONDITIONS FOR THE PROVISION OF MATERIAL TESTING SERVICES BY SHELBY ENGINEERING LTD.

1. The services ("the Services") performed for the client (the "Client") by Shelby Engineering Ltd. ("Shelby") described in the report to which these Standard Terms and Conditions are attached (the "Report") have been conducted in a manner consistent with the level of skill ordinarily exercised by members of the engineering profession currently practicing in the jurisdiction in which the Services have been provided.
2. In consideration of the provision of the Services, the Client agrees to the limitation of liability provisions herein contained, both on its own behalf, and as agent on behalf of its employees and principals.
3. The total amount of all claims the Client may have against Shelby with respect to the Services, including, without limitation, claims in tort or contract, shall be strictly limited to the amount of the fee charged to the Client by Shelby for the Services. Shelby shall not be liable for loss, injury or damage caused by delays beyond Shelby's control, or for any indirect, economic or consequential loss, injury or damage incurred by the Client, including, without limitation, claims for loss of profits, loss of contracts, loss of use, loss of production or business opportunity, loss of contracts or continued overhead expense. No claim shall be brought by the Client against Shelby more than two (2) years after completion of the Services or termination of the agreement to provide the Services.
4. The Client shall have no right to set off against any amounts owed to Shelby with respect to the Services.
5. The Client agrees that Shelby's employees and principals shall have no personal liability with respect to the Services and the Client shall make no claim or bring any proceedings of any kind whatsoever whether in contract, tort or any other cause of action in law or equity, against Shelby's employees and principals in their personal capacity.
6. The Client acknowledges that the Services entail an investigation which by its nature involves the risk that certain conditions between points investigated will not be detected, and that certain other conditions may change with time after provision of the written report of the Services. The Client acknowledges and accepts such risk and is aware that the Report can only provide for the conditions at the investigated points at the time of investigation. Extrapolation between the investigated points is at the Client's risk. If the Client requires additional or special investigations outside the scope of the Report, the Client must request such additional investigations from Shelby.
7. The Report has been prepared for a specific site and in light of the specific purposes communicated to Shelby by the Client. Shelby accepts no responsibility for the findings contained in the Report if applied to a different site, or if there is a material change in the purposes communicated to Shelby by the Client. The information and opinions described in the Report are provided solely for the benefit of the Client. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT THE WRITTEN CONSENT OF SHELBY. The Client shall maintain confidentiality of the Report and ensure that the Report is not distributed to third parties. The Client hereby agrees to indemnify Shelby for any claims brought against Shelby by third parties and arising out of the Client's failure to maintain the confidentiality required under this paragraph 7.
8. Except as stipulated in the Report, Shelby has not been retained to address, investigate or consider, and has not addressed, investigated or considered environmental or regulatory issues with respect to the site on which the Services have been performed. Notwithstanding the foregoing, Shelby may be required to disclose to regulatory bodies certain hazardous conditions discovered through provision of the Services, and the Client shall not make any claim against Shelby for such disclosure.
9. The Services are solely for the provision of information to the Client and Client's agents explicitly identified to Shelby. Information reported through the provision of The Services is reviewed only for the accuracy of the communicated information and does not include or represent any engineering interpretation or opinion of specification compliance or material suitability. Shelby may provide such service upon request, solely at Shelby's discretion.

10. The Services are performed by Shelby personnel to generally accepted industry standards, unless otherwise stipulated. No other assurances are offered, included or implied.
11. The characteristics of materials tested or assessed through the provision of The Services may vary from that reported due to the passage of time, use, environmental conditions, inherent variability, construction effects and other factors beyond Shelby's knowledge or control. The results reported represent only the material characteristics and conditions at the specific location and time that The Services are performed. Shelby provides no assurances that conditions consistent with the reported results existed elsewhere or that the reported conditions will persist for any period of time.
12. The provision of The Services by Shelby shall be on an "on-call" basis. Shelby will not coordinate the provision of The Services for the project and does not offer the project management services to do so. A minimum notice of one business days' time is required within a radius of 100 km of Edmonton; minimum notice of at least two business days' time is required for areas outside the 100 km radius.
13. The presence of Shelby personnel at a site is for the sole purpose of providing The Services specifically requested; their presence shall not be assumed to include the provision of The Services for any facet of construction other than that requested and as indicated in correspondence.
14. Shelby's testing and assessing personnel cannot provide direction, including, but not limited to, the acceptance or rejection of materials, interpretation of specifications, or the means, methods, sequence, and timing of construction.
15. The results will be distributed to the Client and Client's agents as indicated to Shelby in writing. No other parties will be notified of the results, unless required by law or as necessary to protect the health and safety of persons, property and the environment.
16. Conditions of non-compliant work or materials may be found by Shelby through the provision of The Services. It is the responsibility of others to arrange for any necessary retesting of remediated non-compliant work or materials.
17. Shelby does not supply surveying as part of The Services; therefore, locations are approximations based upon information supplied by others' site personnel or existing points of reference. Shelby is not responsible for errors by others or the movement or removal of reference points.
18. Material samples will be retained for their original intended purpose, after which, samples will be discarded at Shelby's discretion, unless arrangements have been made prior to receipt of samples.
19. The provision of The Services may require reference to information generated by others and supplied to Shelby. The use of such information does not constitute a peer review or engineering acceptance by Shelby. The accuracy, completeness or suitability for a given purpose of such information, and hence any errors, omissions or interpretations of suitability for a given use, are solely the responsibility of those who generated the information.

(February 2014)