

18<sup>th</sup> May 2021

RD221

## Health Based Building Rigid Air Barrier Magnum Board

Health Based Building (HBB) rigid air barrier Magnum boards were tested for peel adhesion. Testing was carried out using Thermakraft Thermaflash window flashing tape and Thermakraft Premium Joining Tape (PJT) using the ASTM D3330 Method A (180 degrees peel). Three samples of each were tested on Health Based Building Magnum boards and calculated the average results for peel adhesion. Note, Thermakraft Thermaflash is a window flashing tape, and Premium Joining Tape is for substrate joining purposes.

### Results

Date	Peel Adhesion Force (N/mm)	Adhesion Rating	Adhesion Scale for Rigid Air Barriers
Thermakraft Thermaflash	1.87	<b>Good</b> (Cohesion Failure)	<p><b>Excellent</b> = D = Delamination of the substrate (substrate breaking down)</p> <p><b>Good</b> = C = Tape cohesion failure (glue left on substrate)</p>
Thermakraft Premium Joining Tape	1.48	<b>Good</b> (Cohesion Failure)	<p><b>Acceptable</b> = A = Adhesion failure, strength <math>\geq 0.55\text{N/mm}</math> (no glue left on substrate)</p> <p><b>Fail</b> = A = Adhesion failure, strength <math>&lt; 0.55\text{N/mm}</math></p>

### Chemical Compatibility

The chemical compatibility of the tapes was observed at ambient temperature (20-25°C), and no reaction took place for any of the tapes. However, Thermaflash resulted a change in colour of the Magnum board, this was seen when one corner of the tape was peeled off. No texture change was observed with the colour change.

The two tape samples were also placed in the oven at 70°C for 24 hrs and 48 hrs. No change in chemical compatibility was seen at this temperature.

### Conclusions

Both Thermaflash and Premium Joining tape achieved a good adhesion rating on the HBB Magnum board. No chemical compatibility issue was found at room temperature and at 70°C in an oven when the tapes were applied onto the smooth white face of the Magnum board.

### Recommendations

- It is recommended that HBB to carry out similar product performance tests to confirm the products are compatible when used as a system.
- HBB to investigate the cause of the Magnum board's colour change.

Figure 1: Oven Samples When Peeled Back



Figure 2. Peel adhesion test of Health Based Building Magnum boards

