

EASYCRAFT WALL & CEILING LININGS

PERFORMANCE CONSIDERATION

ARE YOU CHOOSING THE BEST PERFORMING MATERIALS FOR YOUR PROJECT?

Easycraft engaged an independent testing facility, ALS (www.alsglobal.com) to carry out a series of performance tests in line with National Construction Code (NCC) requirements.

The intent was to pitch Easycraft Materials against commonly used wall lining materials specified in the Australian Construction Market.

Soft Body Impact Resistance Test

NCC Specification C1.8-5(b) ASTM E695.

Standard used for Measuring Relative Resistance of Wall, Floor, and Roof Construction to Impact Loading.

TEST DESCRIPTION

This soft body impact test was tested in accordance with ASTM E695. The Test requires:

- **impact bag**
 - weighing between 27.2 and 27.3 kg
 - between 225 and 260mm in diameter
 - filled with loose, dry sand
- measuring tape
- displacement transducer
- rigid support frame
- bag dropping rig
- test samples

The bag is raised to a starting height of 152mm. The drop height is increased by 152mm for each test until either the sample failed, or the pendulum or bag dropper was perpendicular to the sample. The height of drop was measured vertically from the point of impact on the sample to the centre of gravity of the bag.

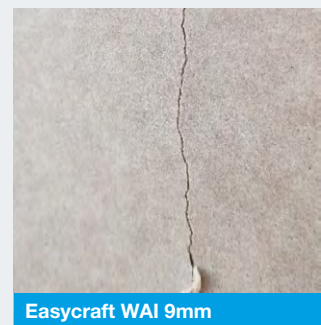
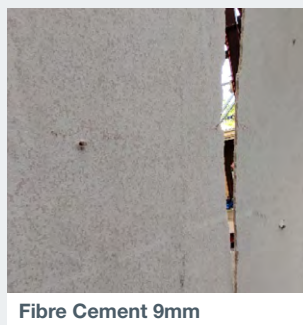
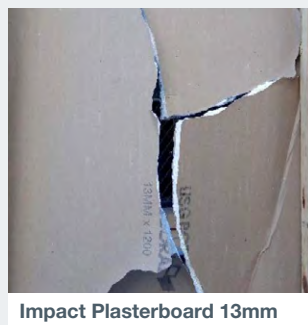
The bag is then released by smoothly and swiftly opening the hinged doors of the bag dropping rig. This causes the bag to swing as a pendulum, removing wobbling. The reading on the displacement transducer was recorded to measure the instantaneous deflection of the sample as well as any damage observed.

Two failure criteria were defined for this test, major and minor failure:

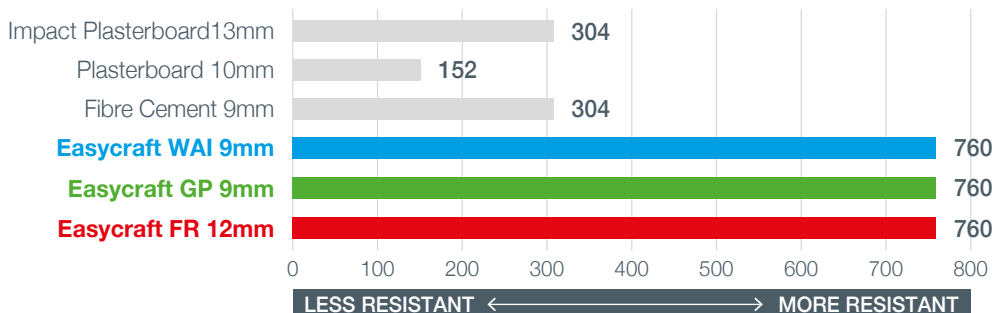
- major failure is defined as when the entire sheet has failed and requires major repair or replacement of the sheet
- minor failure is defined when cracks are visible in the sheet or joint



Soft Body Impact Resistance Test Results



Soft Body Impact Resistance Test Results (Major Failure) (mm)



Easycraft is 2.5 times more impact resistant than traditional lining materials, making it the product of choice for high traffic areas.

Hard Body Impact Resistance Test

BS EN 1128:1996.

Cement Bonded particleboards - Determination of Hard Body Impact.

TEST DESCRIPTION

The materials required are as follows:

- test mechanism
- micrometer to measure sample thickness
- test samples

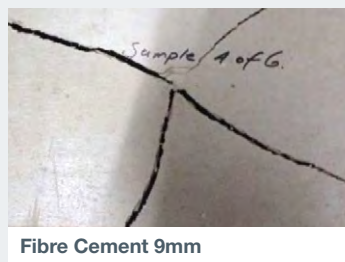
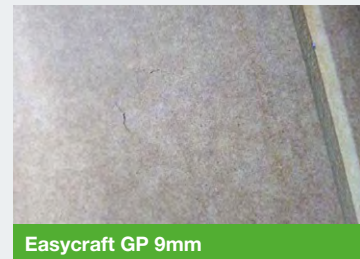
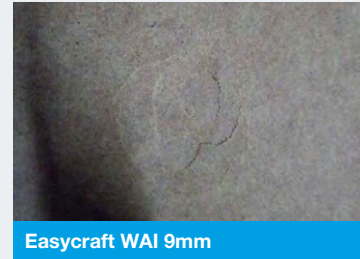
The test is positioned on a level, solid, rigid surface. The test sample was clamped to the supporting frame so that all four sides overlap equally by no less than 7mm. The falling body was raised to 25mm above the samples' surface and allowed to drop freely, impacting the sample. The falling body was not allowed to bounce and strike the sample a second time, this was done by catching the falling body after the initial impact.

The drop height was increased by 25mm increments and then the falling body was dropped again. This process continued until the falling body either penetrated the test piece, leaving a clearly visible hole or leaving a series of cracks. The height at which failure occurred was recorded. This process was carried out with all test samples.

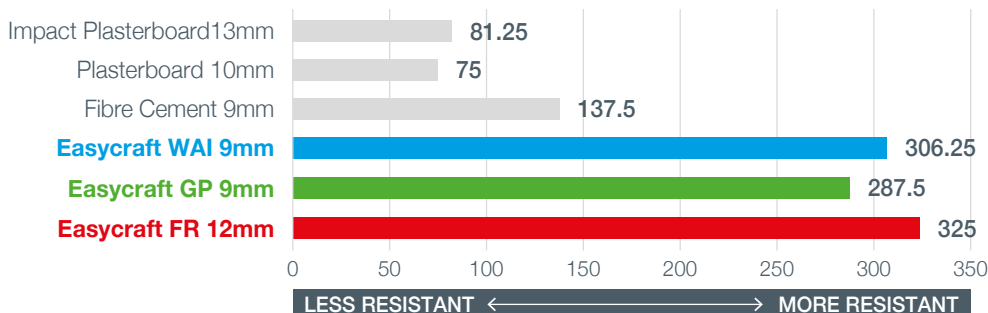
Hard Body Impact Test Rig



Hard Body Impact Test Samples



Hard Body Impact Resistance Test Results (mm)



Against other materials tested, Easycraft is well over 2 times more impact resistant according to Hard Body Requirements.

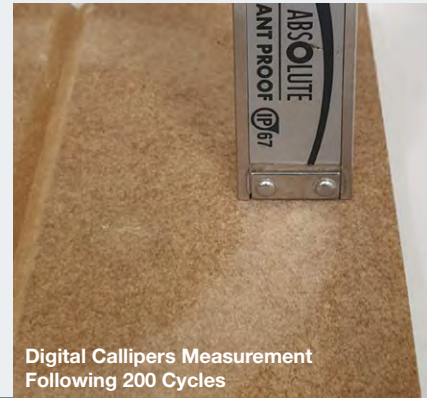
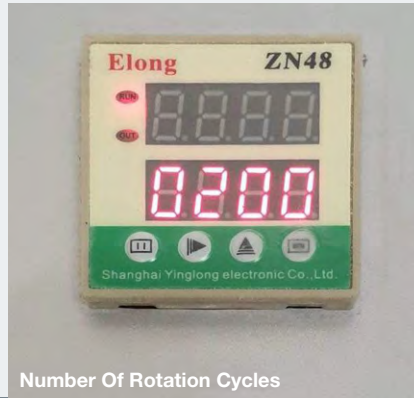
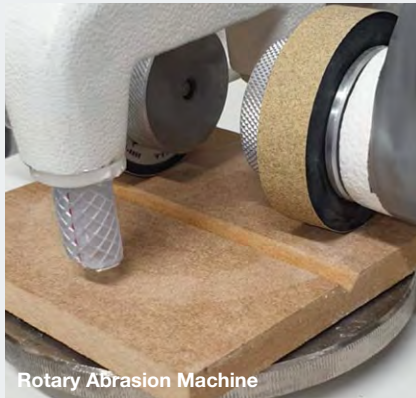
Abrasion Resistance Test

ASTM G195-18.

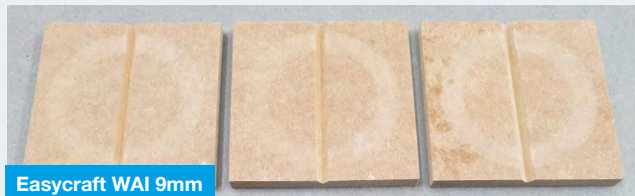
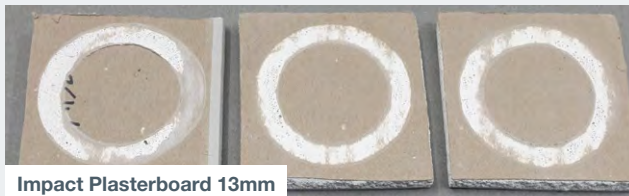
Standard used for conducting wear tests using a rotary platform abramer.

TEST DESCRIPTION

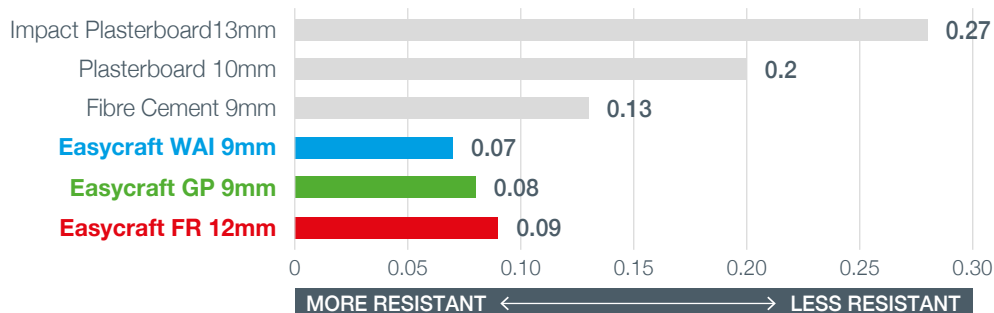
Abrasion Resistance is determined via ASTM G195-18. Three representative specimens subjected to 200 cycles using CS-0 wheels mounted with S-42 sandpaper strips with a 500g load. The vacuum nozzle was set approx. 7mm above the top of the specimen. Measurements were taken using a calibrated digital calliper at four evenly spaced points along the wear path on each specimen.



Abrasion Resistance Test Samples - after 200 cycles



Abrasion Resistance Test Results - Depth (mm)



Against other materials tested, Easycraft lining is clearly the most abrasive resistant material.

Surface Indentation Test

The surface indentation test was carried out in accordance with **National Construction Code Specification C1.8-5(d)**.

TEST DESCRIPTION

At three points on the surface of an undamaged sample sheet.

The Test requires:

- a rounded pin of diameter 10mm attached to an instrument to apply 150N through the pin
- vernier callipers
- test rig to hold sample in place
- samples of materials

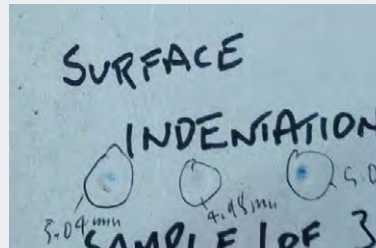
Sample placed inside the test rig so that it is fixed to simulate actual construction. The steel rounded pin of diameter 10mm is placed into the indentation machine and a force of 150 newtons is applied to the sample through the pin for five (5) minutes. The pin is removed and placed at a different location on the sample allowing for the test to be conducted again.

Each of the three indentations were labelled on the sample and the diameter of each was measured using callipers and recorded. This process was repeated for each sample.

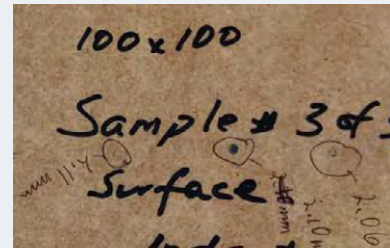
Surface Indentation Rig



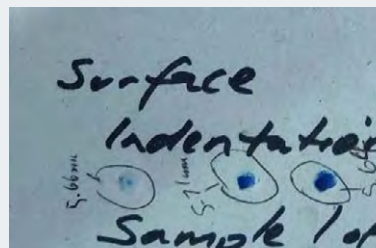
Surface Indentation Test Samples



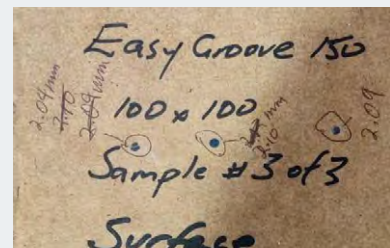
Impact Plasterboard 13mm



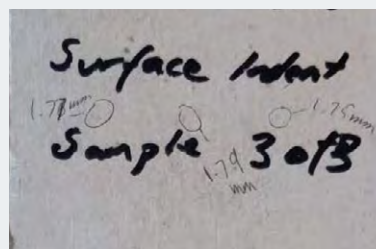
Easycraft WAI 9mm



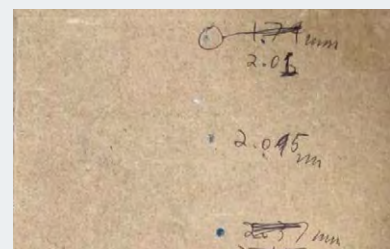
Plasterboard 10mm



Easycraft GP 9mm

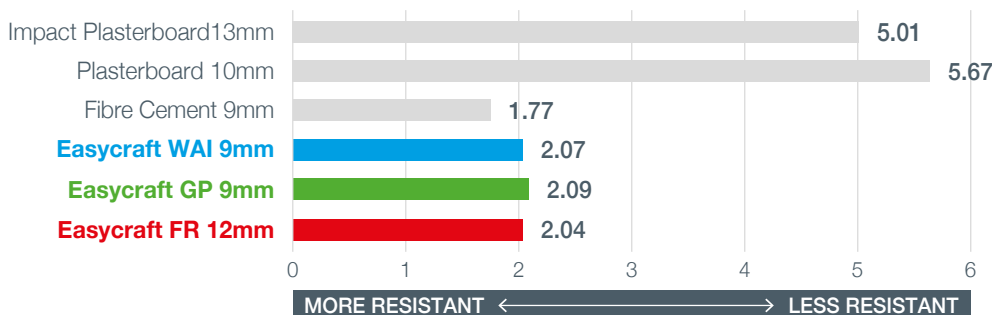


Fibre Cement 9mm



Easycraft FR 12mm

Surface Indentation Test Results - Depth (mm)



Apart from Fibre Cement, Easycraft outperformed other competitors.

Easycraft outperforms on every level!

...make an Impact with Easycraft.

OTHER PERFORMANCE CONSIDERATIONS & ADDITIONAL REASONS TO CHOOSE EASYCRAFT

- > No Maintenance Required – Due to Easycraft Impact Properties
- > Accreditations / Green Credentials / Sustainability / Zero Waste Manufacturing
- > Custom Design Opportunity / Flexibility of offering / Flexibility in finish (pre-primed ready for your selected finishing coats of paint)
- > Acoustic Performance NCC Code Compliance (F5.3 – ISO 171) – Performs Equally to plasterboard for transmission acoustics
- > Thermal Performance (NCC Section J)
- > Point of Difference / Aesthetically Appealing
- > Cost Effectiveness – More competitive than Plasterboard & Fibre Cement
- > Speed of Installation / Ease of Use – installed 1/3 of the time of Plasterboard & Fibre Cement
- > Zero Waste (Economy – Cut to Fit)
- > Fire Rated Material – NCC Code Compliance (Spec C1.10 - AS 5637.1) – Group 2
- > Alternative Substrates available to deal with any environment – General Purpose Interior, Wet Area Interior, Semi Exterior & Fire Rated

**See the full
Range of
Easycraft
Products.**

Contact your Easycraft Regional Sales Manager to provide you with more information, and for further support with your next project.

** Full test report documentation available on request.