

CASE STUDY

PROJECT SIZE: SMALL (<\$5,000)

TIMEFRAME: 4 – 6 WEEKS

Comparing the Effectiveness of a Moisture Resisting Treatment on Fibres

Client: A mat manufacturer had developed two treatments for fibres which were intended to improve the water vapour absorption resisting properties of the fibres.

Problem: The client wanted to evaluate the effectiveness of the two treatments against untreated fibre.

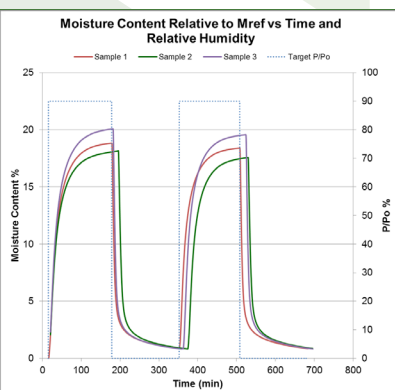
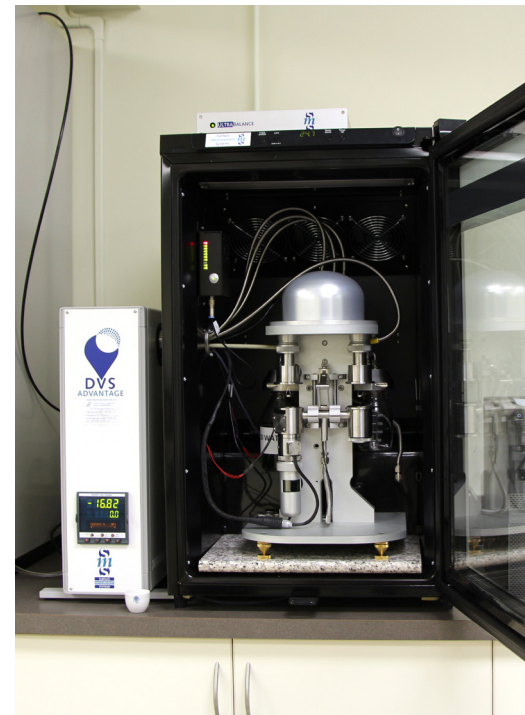
Details:

- The client was interested to see if the treatments maintained their effectiveness over multiple wet/dry cycles.
- The treatment process would not be scaled-up until the value of the treatments was known, therefore quantities of the treated fibres that were available for testing amounted to a few grams.

Recommended Tests & Rationale:

FibreCITY developed a specific testing program to determine the effectiveness of the treatments and deliver reliable and accurate results.

- **Dynamic Vapour Sorption** – The DVS can expose small amounts of material to a controlled vapour environment and measure small changes in mass. A program for the samples was created, exposing them to alternating cycles of high humidity and low humidity to determine if the treatments continued to resist moisture uptake after multiple exposures.



Outcome

Exposing the treated fibres to cycles of high and low humidity showed that even over repeated exposure, the treated fibres displayed a lower moisture content at saturation as well as a slower absorption rate than the untreated samples.