SATRA TESTING

Performance of three Wisewool products/assemblies compared with two common commercial fill products: hardness, and response to repeated pounding.

International method and minor modification
The following methods were adopted, and carried out by SATRA, UK, an independent, accredited test laboratory.

EN ISO 2439: 2008 Flexible cellular polymeric materials - Determination of hardness (Indentation technique (ISO 2439:2008)
Method A - Determination of the 'indentation hardness index' was used.

EN ISO 3385:2014, Flexible cellular polymeric materials - Determination of fatigue by constant pounding - Load applied for 10% of the cycle time.

Post-pounding (80,000 cycles) test readings were taken after 10 minutes recovery time (as per EN ISO 3385: 2014) and after 6 hours recovery time (a deviation from the standard method) included to indicate propensity to recover.

Values >100 N are quoted to the nearest unit; values <100 N are quoted to nearest 5 N, as specified in the standard test method.

4.1 Testing at 6 hours post pounding

The inclusion of further testing after 6 hours recovery is a useful addition to the standard test protocol (Table 1, Figure 1) as it provides a measure of recovery and what might be considered recovery in use.



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4.2 Thickness

With respect to thickness, the loss in thickness after pounding and 6 hours recovery time, in increasing order (i.e. least change to most change) is as follows: Foam ~3%; **WW WiseLayer ~5%;** Polyester ~15%; WW Squab ~20%; WW WiseFill ~25%.

4.3 Hardness

The loss in hardness after pounding and 6 hours recovery time, in increasing order (i.e. least change to most change) is as follows: Foam ~30%; **WW WiseLayer ~32%;** Polyester ~50%; WW WiseFill ~59%; WW Squab ~67%.

4.4 Considerations in end use

The WW Squab was created as one example of how WW WiseLayer and WW WiseFill could be assembled for a proposed application in upholstered furniture. Many other combinations are possible but not tested as part of the present series.

The performance of WW WiseLayer and Foam was similar in relation to repeated pounding.

This report was prepared by Professor Emeritus Raechel Laing and Dr Cheryl Wilson for company internal reporting records