

# CERTIFICATE OF TEST

**Issued by :** National Engineering Laboratory  
Flow Centre

**Certificate No. :** MSCV-03

**Date of Issue :** 2 September 2004



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**Authorised Signatories:**

D Hare, L Hunter, R Hone, D. Rooney

**Customer** Forest Safety Products Ltd. Units 3 & 4, The Old Bakery, Lower Tuffley Lane, Gloucester, United Kingdom, GL2 5DP

**Project No.** PPE400000

**NEL Test Mark:** MSCV-03

**Specimen Received Date:** 2 September 2004

**Date of Test** 2 September 2004

**Specimen Description:** Forest Safety Soft Landing System (Type ALTAPACK) providing fall protection primarily in the construction industry. The system is designed as a matrix of energy absorbing mats lashed together to prevent persons slipping between mats at their joints. The mats are constructed from an outer woven polypropylene fabric, sealed with a continuous stitched seam. The mats are filled with filler type ALTAPACK concave shaped expanded polystyrene chips (see Appendix I, Fig 2) contained within a polythene liner. A typical view of a system layout can be seen in Appendix I, Fig. 3. Plastic type quick release connector's fixed to the top of the mat enable secure fastening between mats.  
**(Dimensions single mat: 550 mm wide x 550 mm deep x 2500 mm long.)**

**Object of Test** The object of test was to ensure the soft landing system complied with the test requirements of test standard Ref. PAS 59: 2003 Titled "Filled Collective Fall Arrest Systems".

**Method of Test** A series of 6 mats were interconnected in a single layer matrix and placed compactly on a flat concrete non-yielding floor within a wooden enclosure of height 1.2 metre x 4.38 metre x 1.65 metre. A rigid steel test mass conforming to specification BSEN 364:1993, Section 4.5 was used incorporating an accelerometer positioned on the top face to measure decelerations in the vertical plane. A 300 mm dia x 20 mm thick plywood disk was fixed to the underside of the test mass to protect the product from any damage. The mass was raised 2.55 metres above floor level and released via a quick release device to free fall vertically upright onto various positions on the mat matrix. Positions for each test are indicated in Appendix I, Figure 1.

**Results** See Appendix II – Table of Results and Appendix III – Test acceleration graphs.

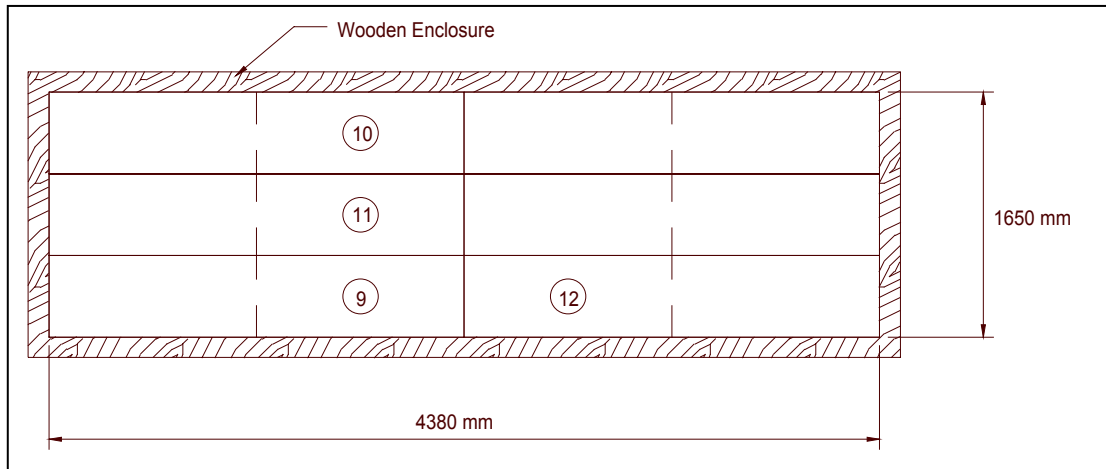
**Comments** Forest Safety Landing System Type REPS passed testing to PAS 59: 2003 test standard.

## Distribution

Forest Safety Products Ltd	1 Copy
NEL	1 Copy

**Tested by:** L. Hunter.....

**APPENDIX I – TEST SET-UP & GLOSSARY**



**Fig. 1 – Plan View Soft Landing System Type ALTOPACK Vertical Test Positions 9, 10, 11 & 12**



**Fig. 2  
Side & Top View of Filler Material**



**Fig. 3  
Typical System Layout**

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**APPENDIX II – Table of Results**

<b>Test No.</b>	<b>Drop Height (metres)</b>	<b>Drop Mass Orientation</b>	<b>Drop Position on Mats</b>	<b>Test Mass Weight</b>	<b>Peak acceleration G</b>
9	2.55	Vertical Dry condition	Centre of mat (see Fig. 1 App I)	102 kg	9.55 G
10	2.55	Vertical Dry condition	Centre of mat (see Fig. 1 App I)	102 kg	9.41 G
11	2.55	Vertical Dry condition	Centre of mat (see Fig. 1 App I)	102 kg	11.65 G
12	2.55	Vertical Dry condition	Centre of mat (see Fig. 1 App I)	102 kg	11.45 G

**Note.** All acceleration data was low pass filtered during test at 30 Hz to remove any unwanted high frequency content.

**Note.** All test equipment calibrated over full range to traceable national standards by independent EN 17025 calibration laboratory.

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**APPENDIX III – Test Acceleration Graphs**

This appendix contains acceleration/time history graphs for all four tests.

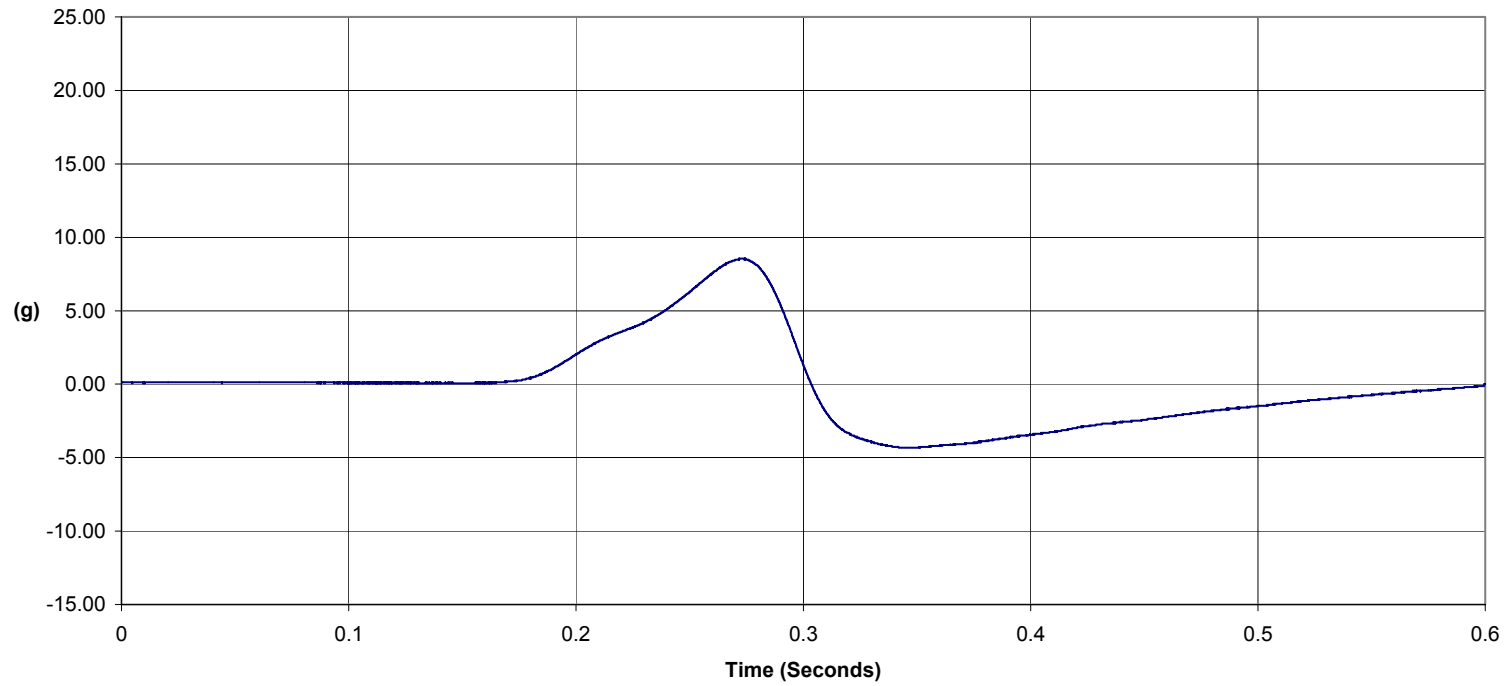
All acceleration data was low pass filtered during test at 30 Hz to remove any unwanted high frequency content.

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**Test No.9**  
**NEL Test Mark: MSCV-03**  
**Forest Safety Ltd. - Soft Landing System**  
**Bag Type: ALTAPACK**  
**Peak Vertical = 8.55 g (9.55 G)**



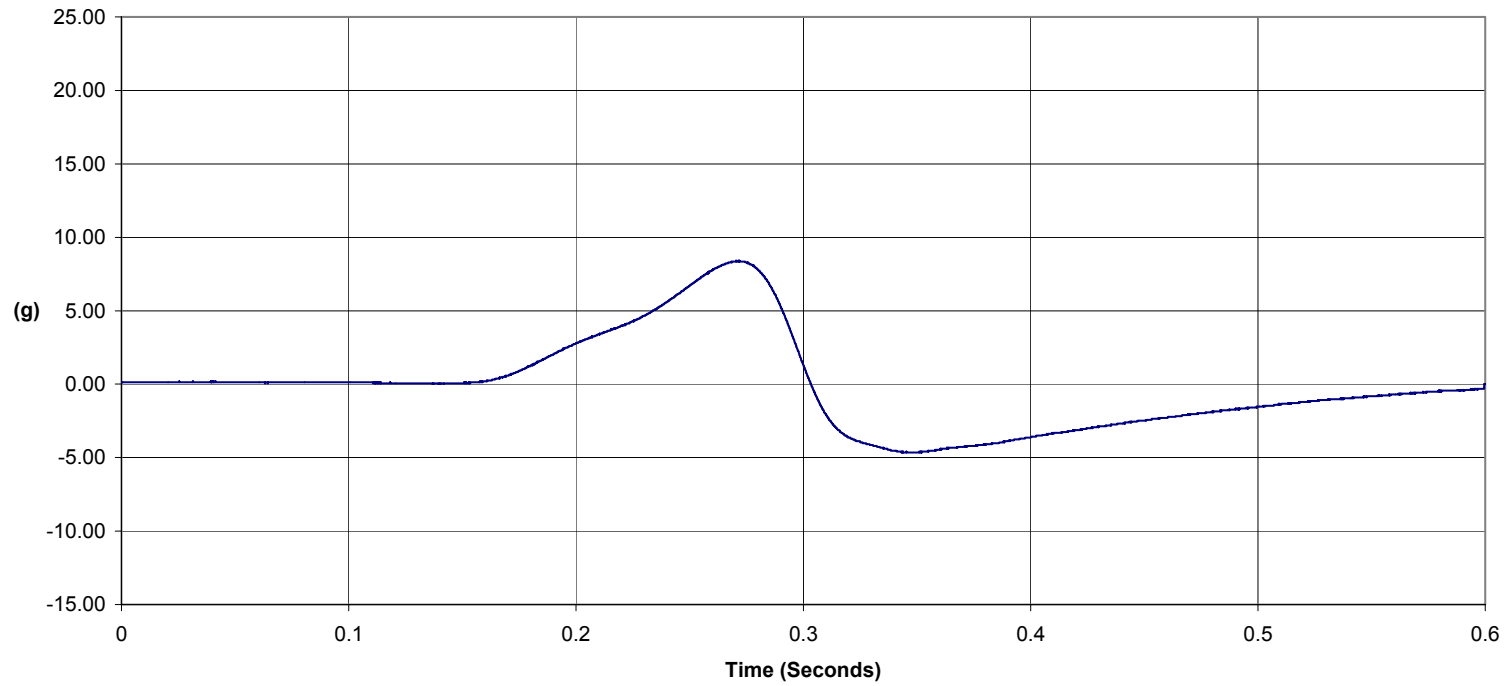
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**Test No.10**  
**NEL Test Mark: MSCV-10**  
**Forest Safety Ltd. - Soft Landing System**  
**Bag Type: ALTAPACK**  
**Peak Vertical = 8.41 g (9.41 G)**



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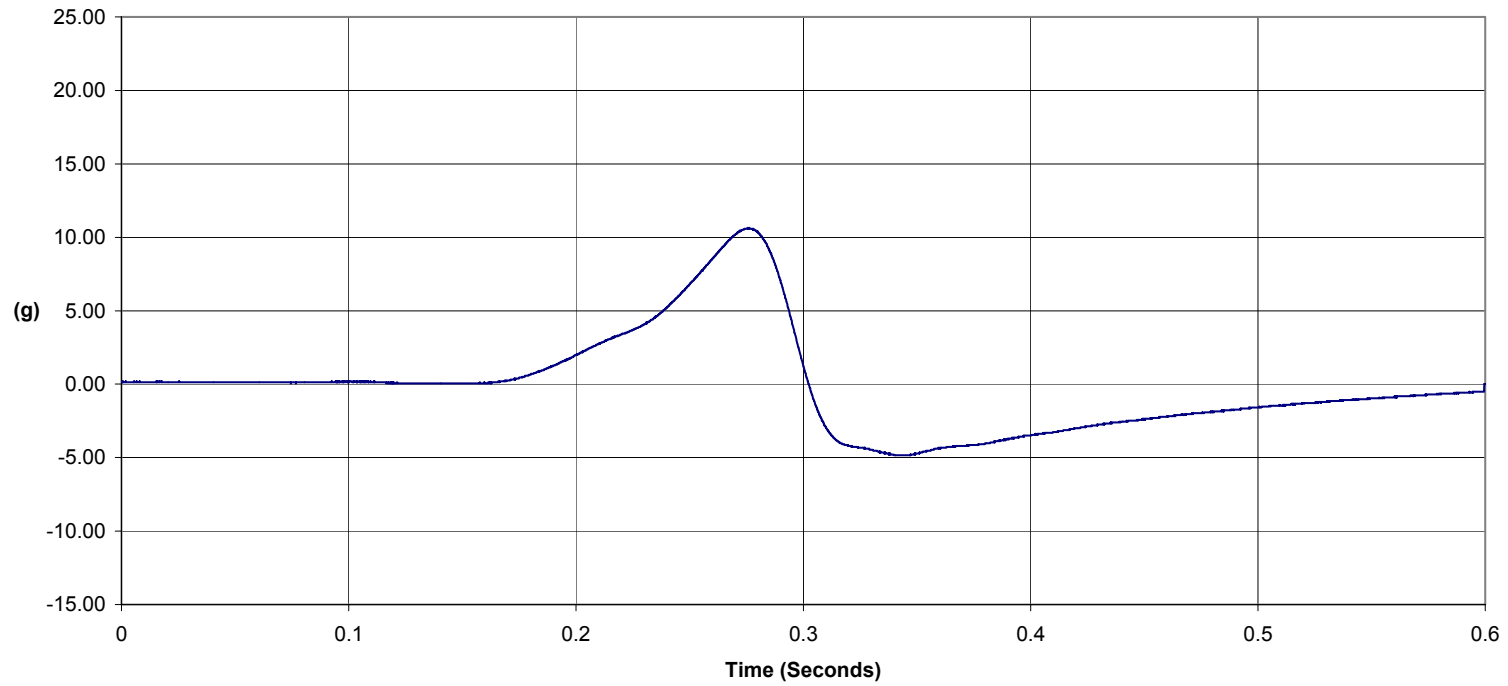
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**Test No.11**  
**NEL Test Mark: MSCV-03**  
**Forest Safety Ltd. - Soft Landing System**  
**Bag Type: ALTAPACK**  
**Peak Vertical = 10.65 g (11.65 G)**



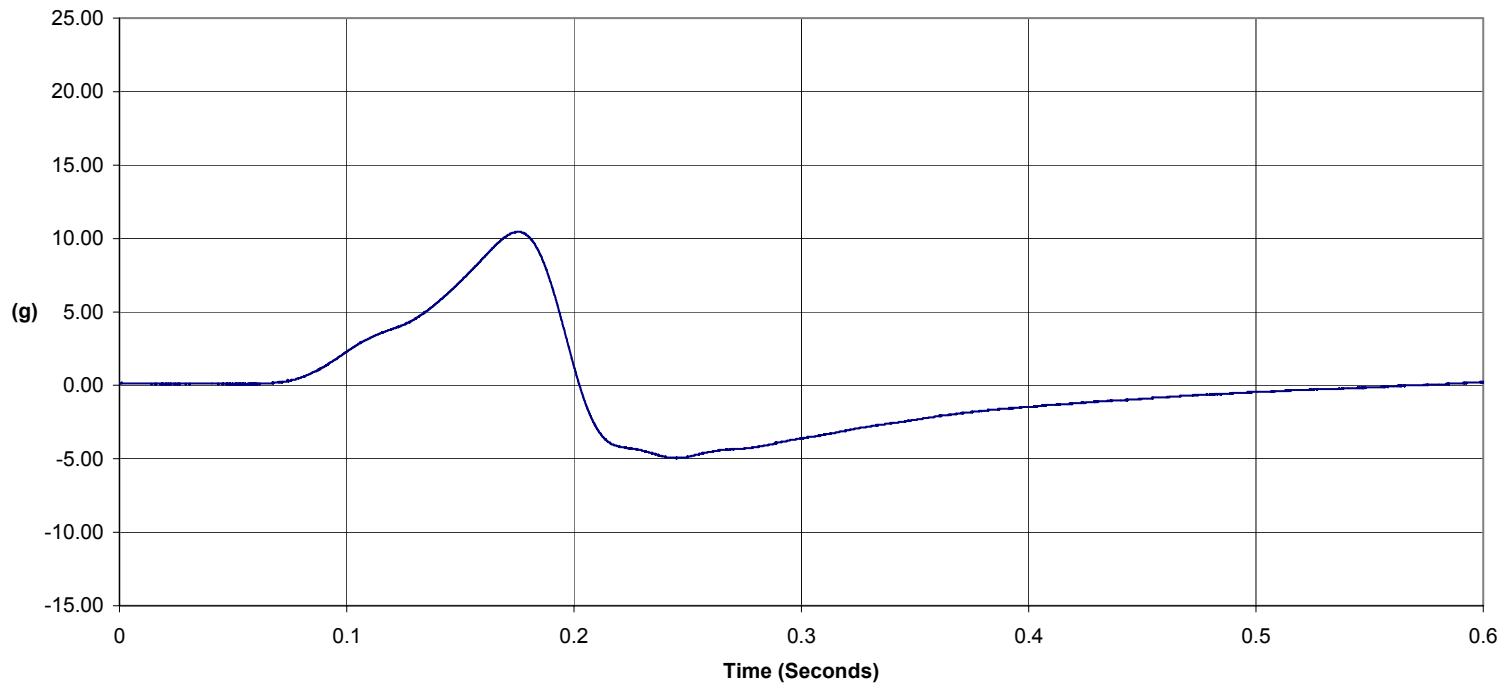
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**Test No.12**  
**NEL Test Mark: MSCV-03**  
**Forest Safety Ltd. - Soft Landing System**  
**Bag Type: ALTPACK**  
**Peak Vertical = 10.45 g (11.45 G)**



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