

PRESSURE MAPPING OF VARIOUS BEDDING CONFIGURATIONS UTILIZING A STANDARD HOSPITAL MATTRESS

Pressure Mapping of Various Bedding Configurations

1.0 INTRODUCTION

Bodycote Materials Testing Canada Inc. was retained to conduct pressure mapping scans of various bedding configurations utilizing a standard hospital mattress.

Upon receipt, the bedding configurations were assigned the following Bodycote Sample Numbers:

#1 ("1" /	Single Layer Treat-Eezi	06-M-1
#2 ("1" + "2" /	Double Layer Treat-Eezi	06-M-2
#3 ("1" + "2" + "3")	Triple Layer Treat-Eezi	06-M-3

Note: Pictures of each bedding specimen that was submitted for the requested pressure mapping configurations can be located in Appendix B.

2.0 PROCEDURE

A Tekscan I-Scan system with a 5400N (22.7" x 34.8" sensing area) was utilized to record the applied pressure patterns. The pressure patterns were digitally captured and recorded for each requested bedding configuration as they were applied to a standard hospital mattress.

The Tekscan I-Scan systems records pressure patterns in colour image formats. On the colour images produced, red, orange, and yellow indicate increased applied pressure areas and dark colours, teal, light blue and navy blue indicate areas of less applied pressure. A colour scale is provided beside each image as a reference.

The test patient was positioned on their back and remained motionless during the scan. Due to the size limitations of the 5400N sensing area, two scans were conducted for each bedding configuration to encompass the upper and lower portions of the body. Upon scanning the upper and lower portions of the test patient, the images captured were analyzed and merged together to form the entire body. During the pressure mapping scans of the bedding configurations, the position and orientation of the test patient was noted and remained constant.

Test Patient Body Characteristics:

Sex: Male Height: 5'-4½" 1m 65cm
Weight: 169.5 lbs/12st 10lbs/77 kilos

3.0 RESULTS

The results data is presented below in Tables 1-6. The “pressure mapping” isometric images are located in the Appendix A.

Table 1 – Summarized Pressure Distribution Results Bodycote Sample No.: 06-M-1 Single Layer Treat-Eezi			
Units	Upper Body	Lower Body	Total
Load Distribution (in2)	420.2	232.0	652.2
Total Applied Force (lbs.)	104	43	147

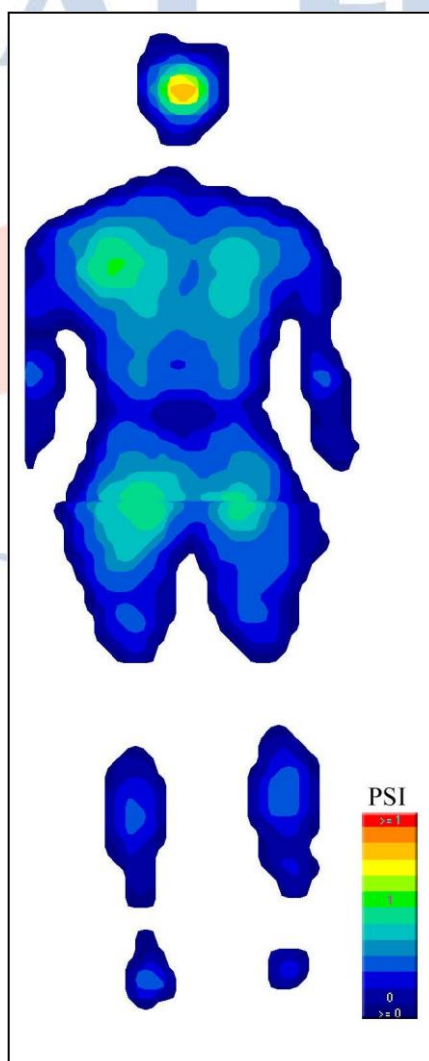


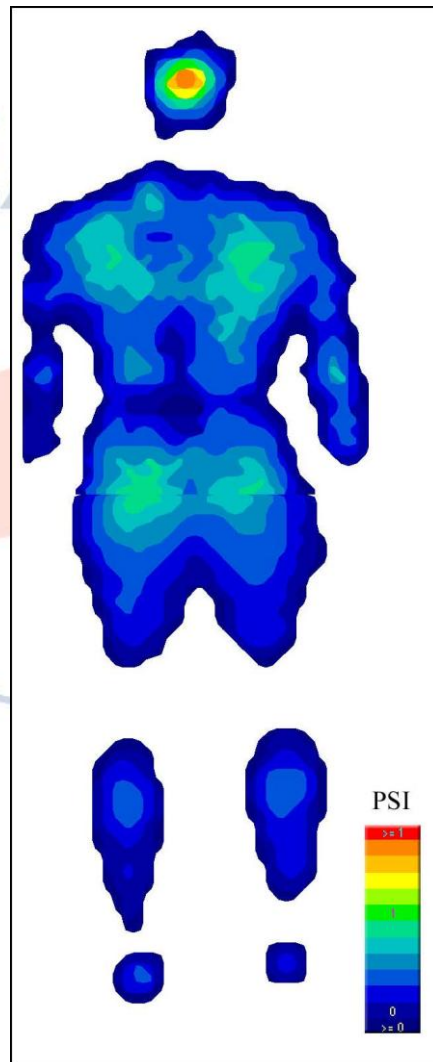
Figure 1 – Bodycote Sample No.: 1 Top View

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Table 2 – Summarized Pressure Distribution Results Bodycote Sample No.: 06-M-2 Treat-Eezi Double Layer

Units	Upper Body	Lower Body	Total
Load Distribution (in2)	431.8	246.8	678.7
Total Applied Force (lbs.)	101	43	144

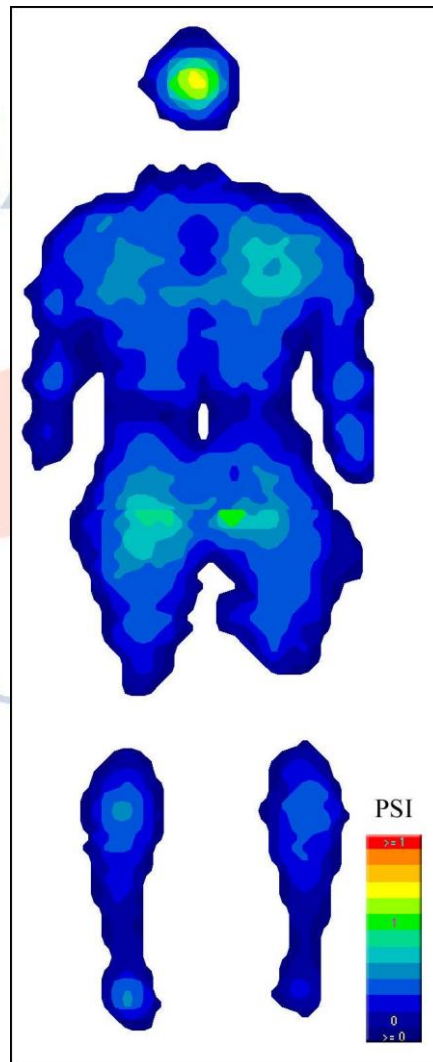


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Table 3 – Summarized Pressure Distribution Results Bodycote Sample No.: 06-M-3 Treat Eezi Triple layer

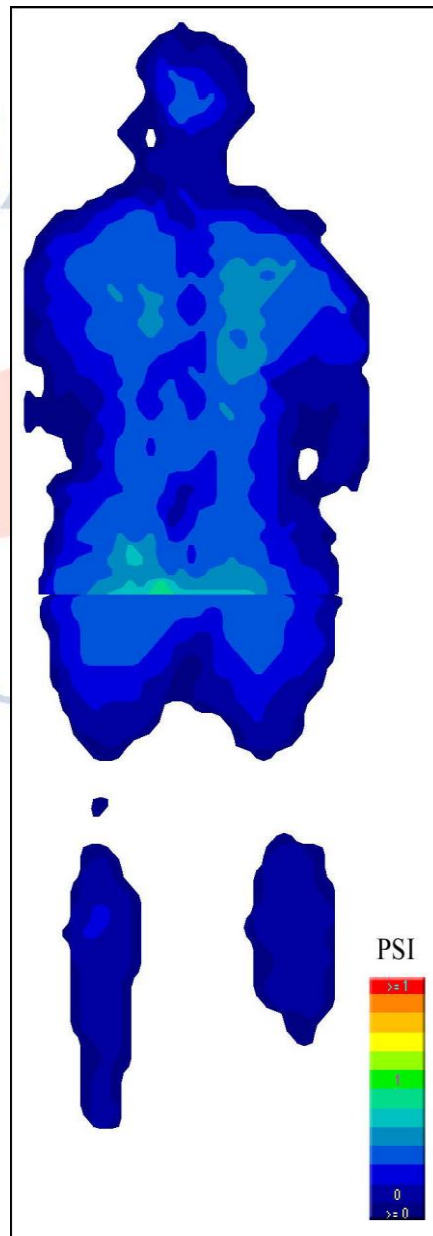
Units	Upper Body	Lower Body	Total
Load Distribution (in2)	461.9	278.6	740.5
Total Applied Force (lbs.)	101	52	153



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Table 4 – Summarized Pressure Distribution Results Bodycote Sample No.: 06-M-4 (Treat-Eezi & foam)			
Units	Upper Body	Lower Body	Total
Load Distribution (in2)	523.2	257.1	780.4
Total Applied Force (lbs.)	103	36	139



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This report refers only to the particular samples, units, material, instrument, or other subject used and referred to in it, and is limited by the tests and/or analyses performed. Similar articles may not be of like quality, and other testing and/or analysis programs might be desirable and might give different results.

ACCREDITATION

Canadian General Standards Board #76002, Standards Council of Canada #1.

REGISTRATION

ISO 9001:2000 registered by QMI, Registration #001109

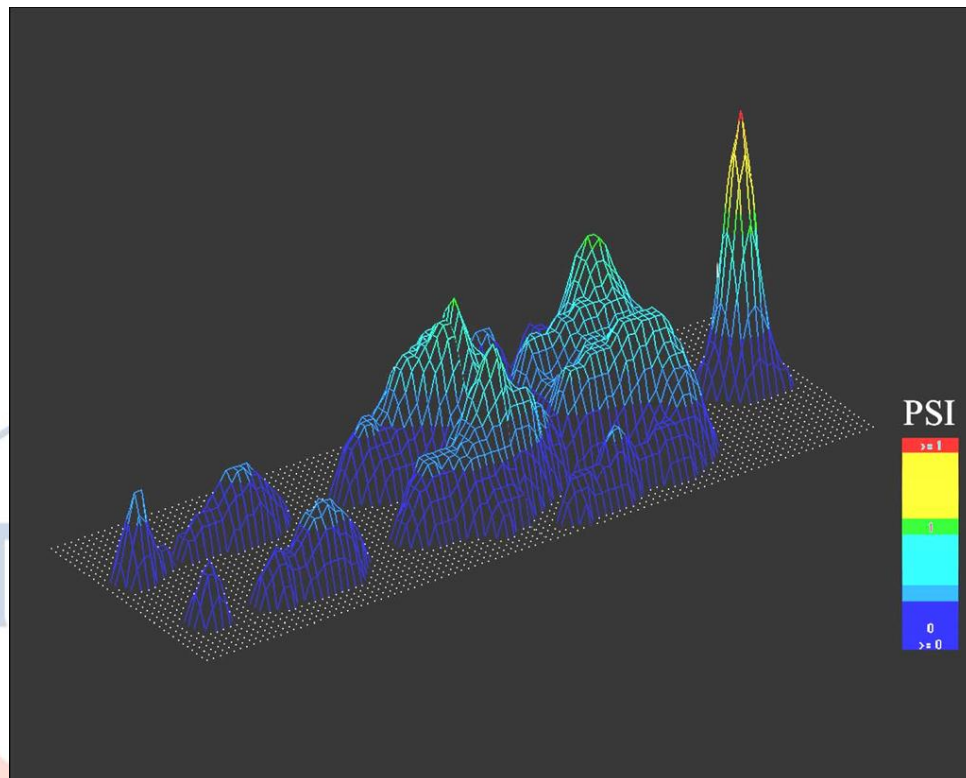


Figure A-1 – Treat-Eezi 1 06-M80-1 Isometric View

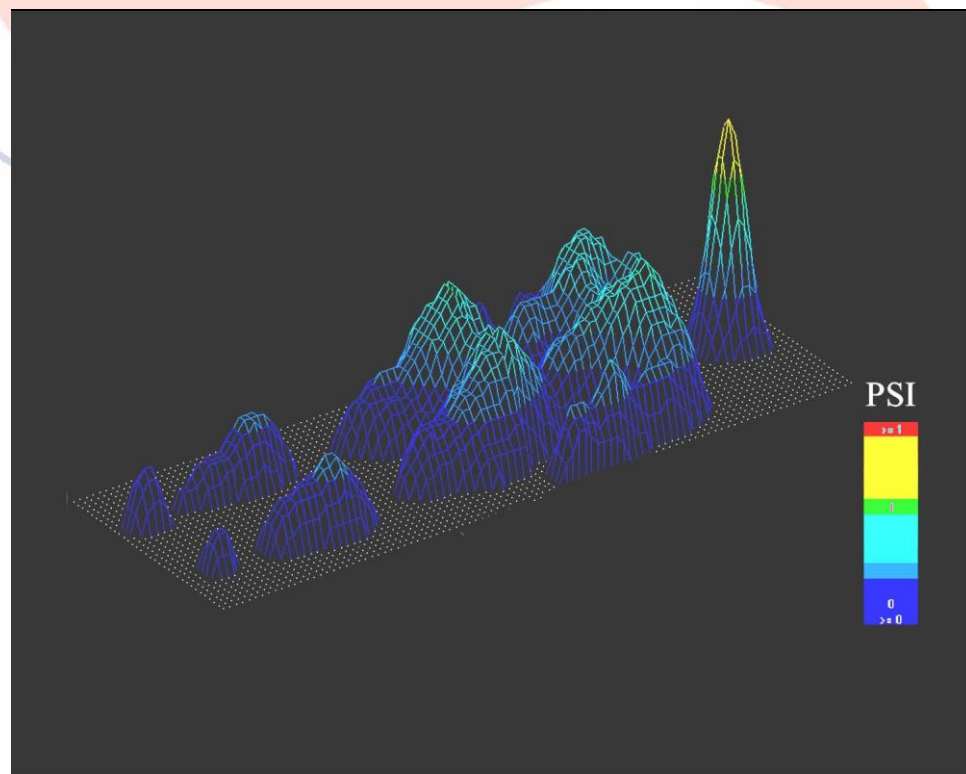


Figure A-2 – Treat-Eezi 2 06-M80-2 Isometric View

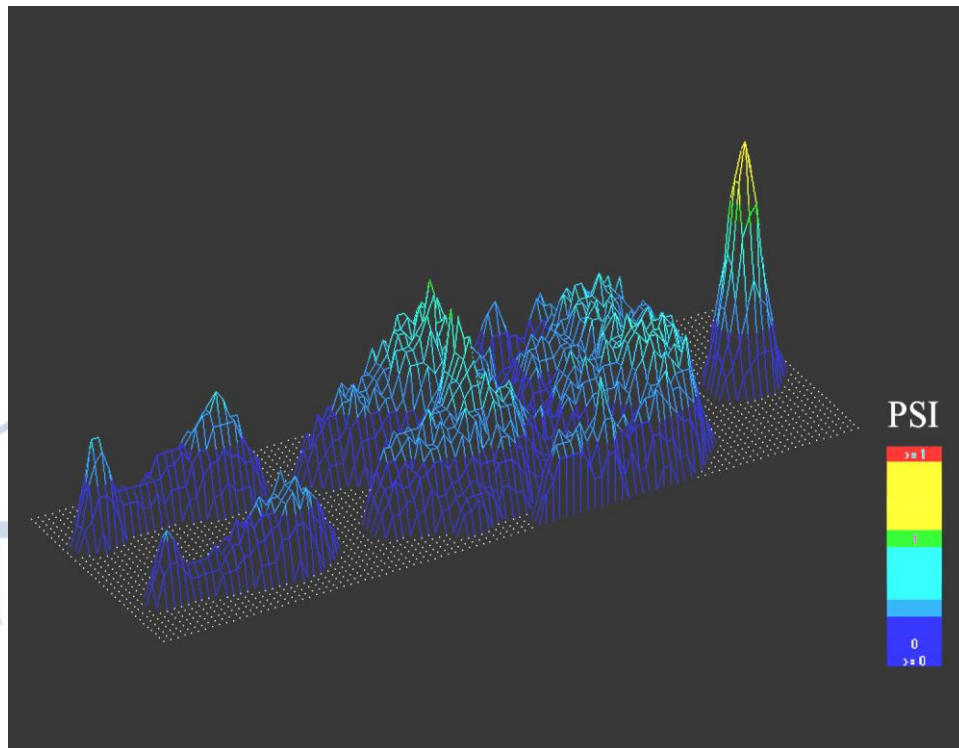


Figure A-3 – Treat-Eezi 3 06-M80-3 Isometric View



Figure B-1 – Treat-Eezi
Single Layer



Figure B-2 – Treat-Eezi
Two Layer



Figure B-3 – Treat-Eezi
Three Layer