



Element Materials Technology  
662 Cromwell Avenue  
St Paul, MN  
55114-1720 USA

P 651 645 3601  
F 651 659 7348  
T 888 786 7555  
info.stpaul@element.com  
element.com

---

## INTERFACE PRESSURE MAPPING

Direct Supply Manufacturing Company, Inc.  
Sarah Zeller  
6635 N Industrial Rd  
Milwaukee, WI 53223

**Tested By:**  
Shane M. Lewis  
**Certified by:**  
Brent L. Larson

It is our policy to retain components and sample remnants for 2 business days from the report date, after which time they may be discarded. NOTE: all full scale flammability samples are discarded upon completion of the testing. The data herein represents only the item(s) tested. This certificate shall not be reproduced, except in full, without the written approval of the laboratory. Unless otherwise specified, measurement uncertainty was not taken into account when making statements of conformity to a specification.

EAR Controlled Data: This document contains technical data whose export and re-export/retransfer is subject to control by the U.S. Department of Commerce under the Export Administration Act and the Export Administration Regulations. The Department of Commerce's prior written approval is required for the export or re-export/retransfer of such technical data to any foreign person, foreign entity or foreign organization whether in the United States or abroad.

This project shall be governed exclusively by the General Terms and Conditions of Sale and Performance of Testing Services by Element Materials Technology. In no event shall Element Materials Technology be liable for any consequential, special or indirect loss or any damages above the cost of the work.

Sample ID: Panacea Convertible 9 Cell Mattress

Size: ~80" x 35"

## INTERFACE PRESSURE MAPPING

### TEST RESULTS SUMMARY: Interface Pressures, mmHg

	Subject	(1)	(2)	(3)	ALL
Shoulder Region (back)	Max	33	30	24	33
	Avg	19.1	20.5	21.7	20.4
	St.Dev.	4.1	2.9	0.8	3.1
Tail Bone Region (back)	Max	23	37	26	37
	Avg	21.7	31.1	24.9	25.9
	St.Dev.	1.0	3.0	0.8	4.3
Heel (back)	Max	50	58	40	58
	Avg	23.8	23.3	16.8	20.8
	St.Dev.	15.0	16.1	11.2	14.1
Hip Region (side)	Max	44	43	51	51
	Avg	35.1	34.9	40.3	36.8
	St.Dev.	4.8	5.7	6.9	6.3

Subject	Sex	Height	Weight (lbs)
1	F	5' 0"	135 lbs
2	M	5' 7"	160 lbs
3	M	6' 0"	210 lbs

Testing was conducted June 28 / July 1, 2024.

---

**TEST PROCEDURE:**

An Xsensor pressure mapping system was employed for conducting this evaluation. The sample was placed onto a sturdy laboratory surface. Three subjects were used for the analysis and selected according to specific weight and height ranges. The subjects were dressed in an appropriate size cotton sweat suit with no shoes to ensure optimum contact with the full surface sensor matrix. Two positions were employed: back lying and ninety degree side lying. A 5 minute acclimation period was employed prior to obtaining the measurement. Color pressure maps are included at the end of this report.

A 4" by 5" area representing 63 individual sensors was used to isolate and average the pressure points. The maximum values were obtained from each individual pressure point. As a result, out of a possible 63 pressure readings the maximum values were determined by the highest pressure reading per body location.

It is the policy of Element Materials Technology to use recognized test procedures whenever possible, such as ASTM, ANSI, ISO etc. To Element's knowledge, no standard procedure exists for interface pressure testing at the present time. The test method employed for this analysis is based on sound laboratory practice. The equipment used for the evaluation was calibrated and used in accordance with the manufacturer's specifications.

**REMARKS:**

The tested sample will be retained for 2 business days from the date of this report and then discarded unless we received written authorization requesting otherwise. Return shipping, if requested, will be paid by the customer.

The test results contained in this report pertain only to the samples submitted for testing and not necessarily to all similar products.

**Tested by:**

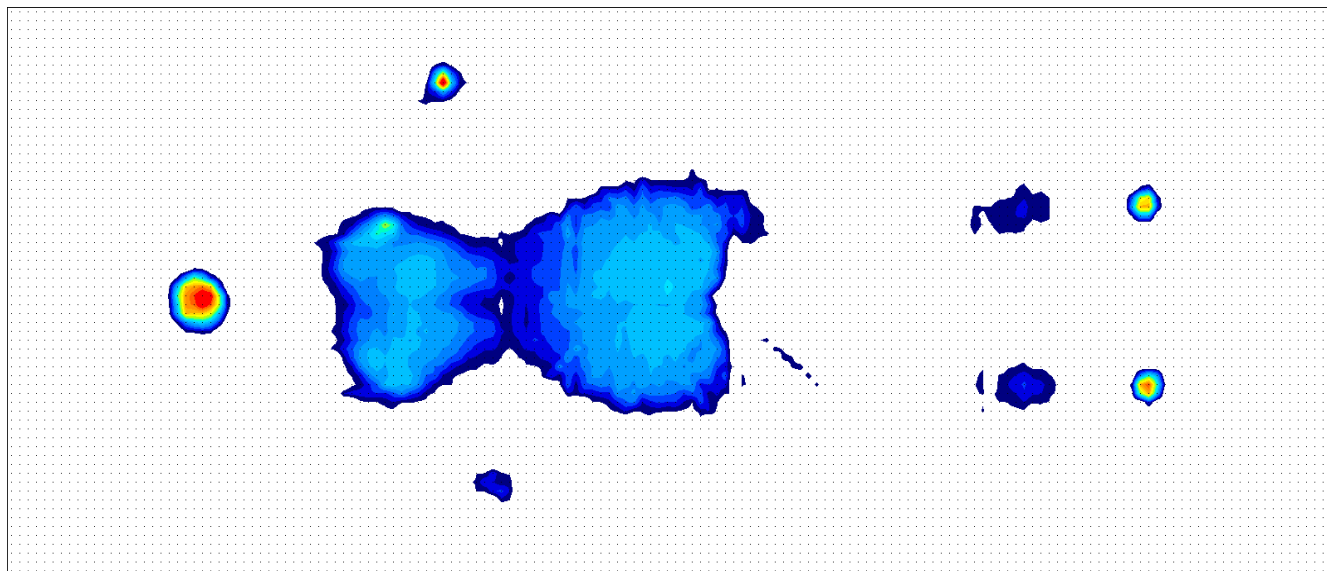
**Shane M. Lewis**  
**Engineering Technician**  
**Sleep System Evaluation**

**Certified by:**

**Brent L. Larson**  
**Manager**  
**Sleep System Evaluation**  
**Phone: (651) 659 – 7218**

Sample ID: Panacea Convertible 9 Cell Mattress

Size: ~80" x 35"

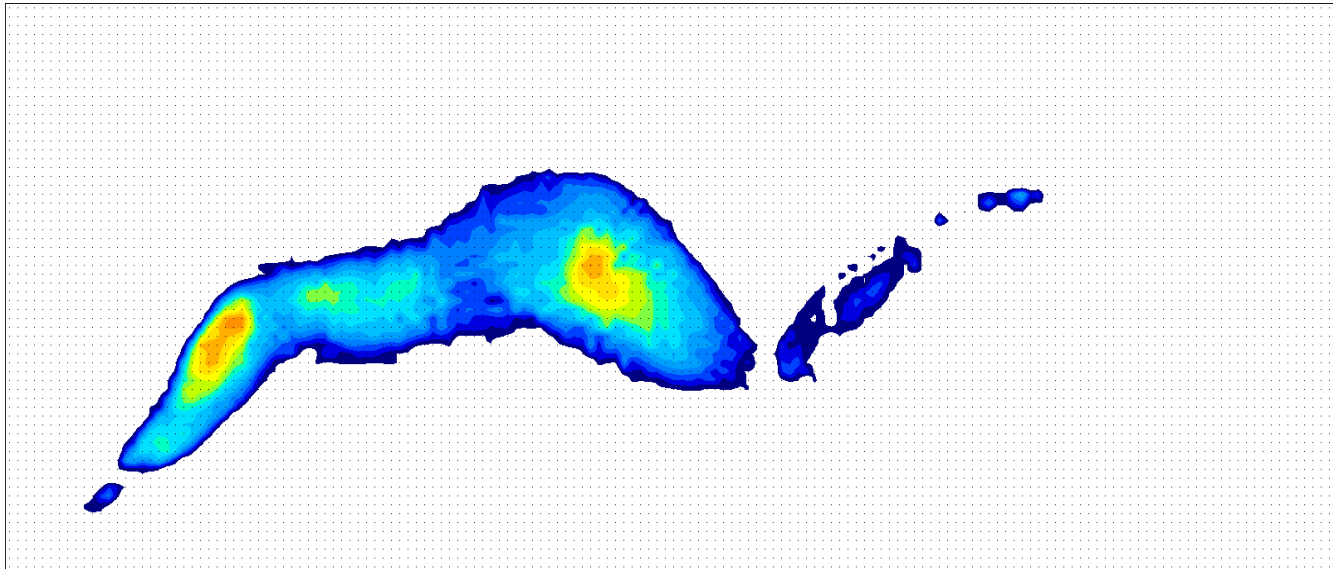


Comments	Pressure Legend (mmHg)	
DIRECT SUPPLY MANUFACTURING INC	50	6
PANACEA CONVERTIBLE 9 CELL MATTRESS	47	3
ESP042484P	44	3
JUNE 2024	41	7
SUBJECT:	38	3
FEMALE	35	2
5'0"	32	4
135 LBS	29	2
Statistics	26	5
Average Pressure: 15.8	23	7
Peak Pressure: 66.3	20	209
Area (in²): 297.50	17	249
General Information	14	151
Date: 6/28/2024	11	152
Time: 10:07:12 540 AM	8	170
Image #: 300 of 300	6	217
	0	9050

**Subject 1 – Back Lying**

Sample ID: Panacea Convertible 9 Cell Mattress

Size: ~80" x 35"

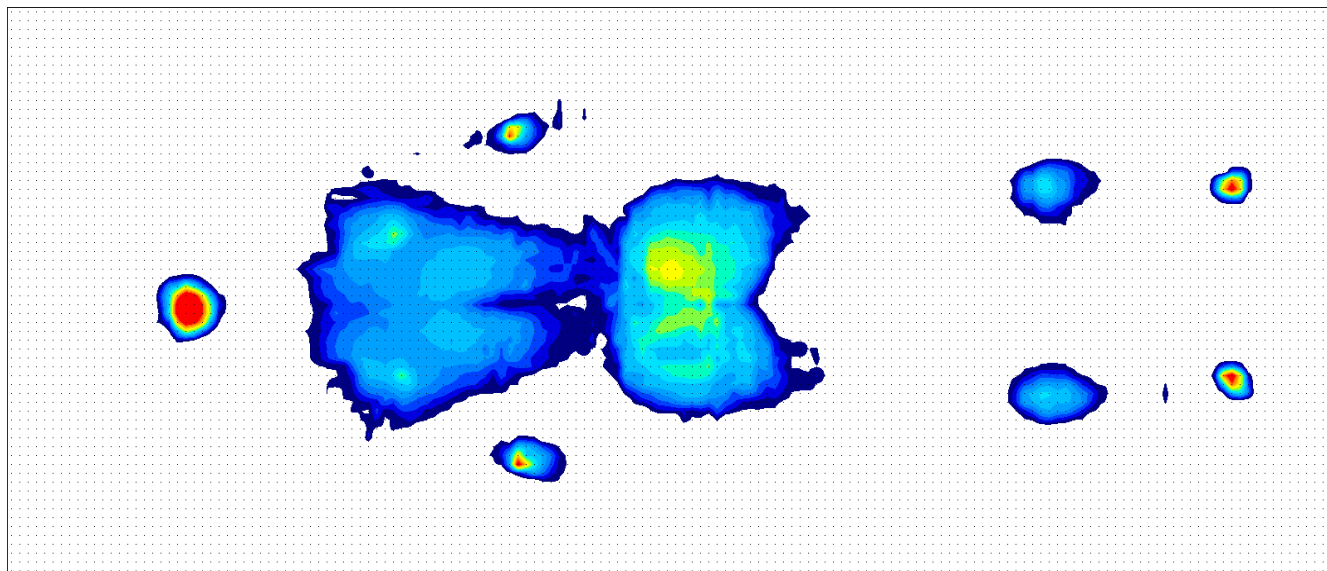


Comments	Pressure Legend (mmHg)	
DIRECT SUPPLY MANUFACTURING INC	50	0
PANACEA CONVERTIBLE 9 CELL MATTRESS	47	0
ESP042484P	44	6
JUNE 2024	41	15
SUBJECT:	38	25
FEMALE	35	27
5'0"	32	40
135 LBS	29	37
Statistics	26	75
Average Pressure: 19.2	23	108
Peak Pressure: 45.3	20	167
Area (in²): 300.00	17	143
General Information	14	125
Date: 6/28/2024	11	133
Time: 10:18:07 374 AM	8	130
Image #: 300 of 300	6	169
	0	9040

**Subject 1 – Side Lying**

Sample ID: Panacea Convertible 9 Cell Mattress

Size: ~80" x 35"



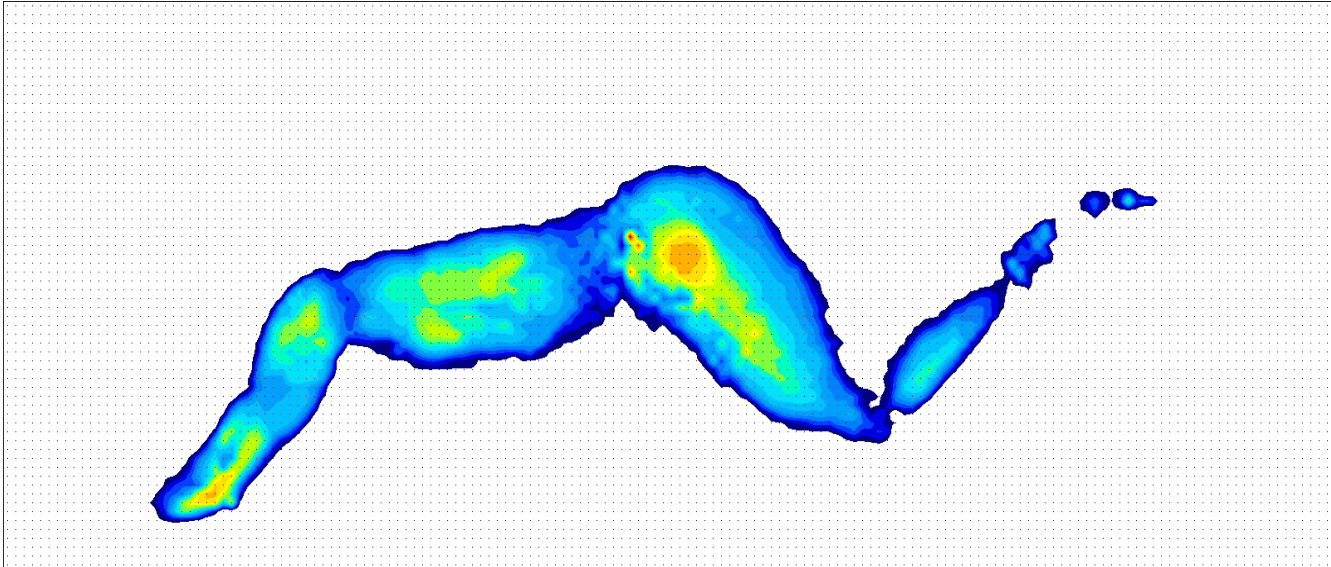
Comments	
DIRECT SUPPLY MANUFACTURING INC	
PANACEA CONVERTIBLE 9 CELL MATTRESS	
ESP042484P	
JUNE 2024	
SUBJECT:	
MALE	
5' 7"	
160 LBS	
Statistics	
Average Pressure: 17.4	
Peak Pressure: 76.0	
Area (in²): 386.50	
General Information	
Date: 6/28/2024	
Time: 3:38:49.212 PM	
Image #: 300 of 300	

Pressure Legend (mmHg)	
50	16
47	1
44	3
41	4
38	5
35	13
32	21
29	38
26	65
23	83
20	234
17	276
14	155
11	161
8	195
6	276
0	8694

**Subject 2 – Back Lying**

Sample ID: Panacea Convertible 9 Cell Mattress

Size: ~80" x 35"



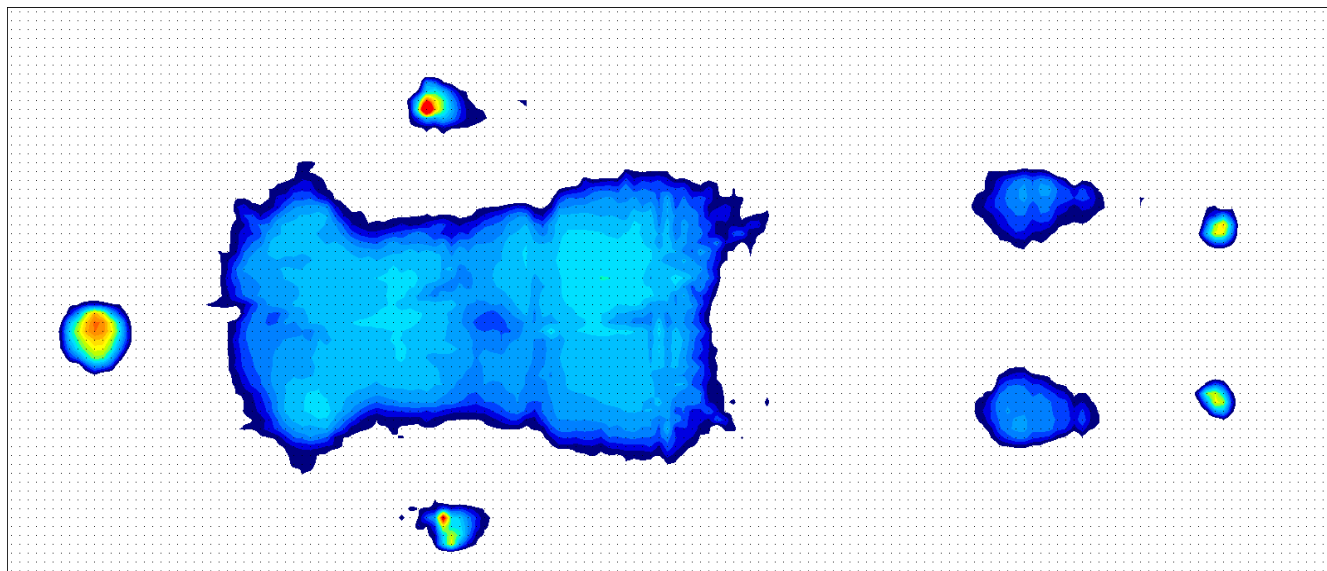
Comments	
DIRECT SUPPLY MANUFACTURING INC	
PANACEA CONVERTIBLE 9 CELL MATTRESS	
ESP042484P	
JUNE 2024	
SUBJECT:	
MALE	
5' 7"	
160 LBS	
Statistics	
Average Pressure: 20.6	
Peak Pressure: 56.5	
Area (in²): 360.25	
General Information	
Date: 6/28/2024	
Time: 3:46:20.221 PM	
Image #: 300 of 300	

Pressure Legend (mmHg)	
50	1
47	1
44	0
41	17
38	17
35	18
32	64
29	111
26	130
23	151
20	232
17	163
14	128
11	139
8	108
6	161
0	8799

**Subject 2 – Side Lying**

Sample ID: Panacea Convertible 9 Cell Mattress

Size: ~80" x 35"



Comments	
DIRECT SUPPLY MANUFACTURING INC	
PANACEA CONVERTIBLE 9 CELL MATTRESS	
ESP042484P	
JULY 2024	
SUBJECT:	
MALE	
6' 0"	
210 LBS	
Statistics	
Average Pressure: 17.4	
Peak Pressure: 87.6	
Area (in²): 504.50	
General Information	
Date: 7/1/2024	
Time: 3:12:39 390 PM	
Image #: 300 of 300	

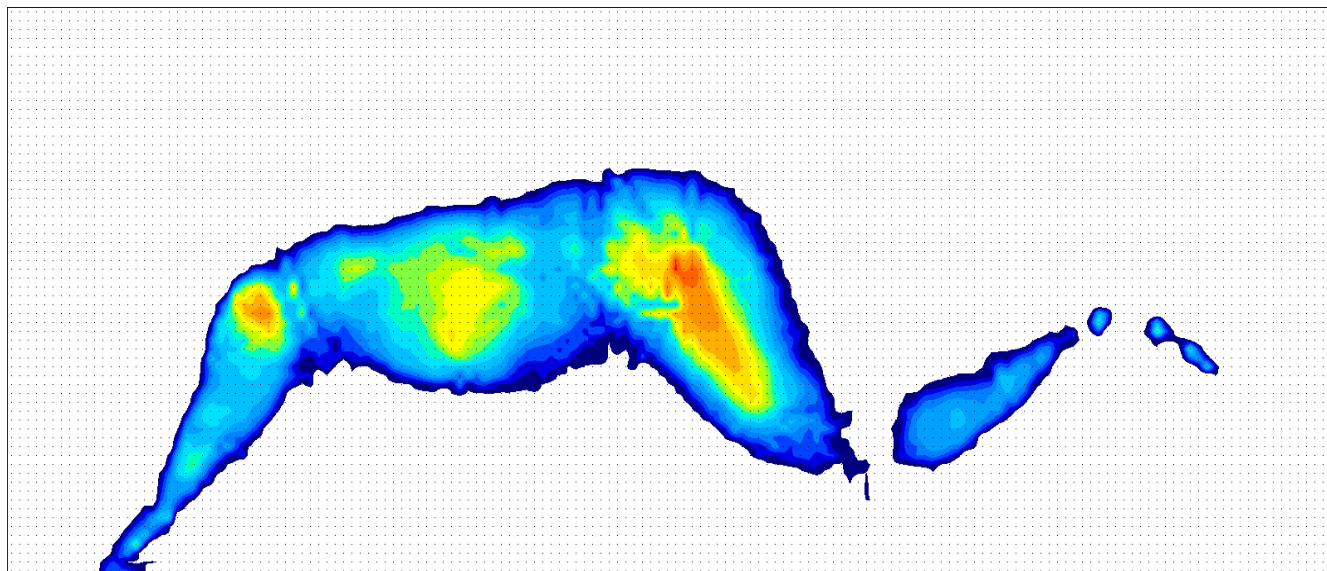
Pressure Legend (mmHg)	
50	3
47	2
44	2
41	4
38	5
35	9
32	8
29	9
26	6
23	161
20	488
17	373
14	300
11	190
8	183
6	275
0	8222

**Subject 3 – Back Lying**

Sample ID: Panacea Convertible 9 Cell Mattress

Size: ~80" x 35"





Comments	
DIRECT SUPPLY MANUFACTURING INC	
PANACEA CONVERTIBLE 9 CELL MATTRESS	
ESP042484P	
JULY 2024	
SUBJECT:	
MALE	
6' 0"	
210 LBS	
Statistics	
Average Pressure: 21.6	
Peak Pressure: 51.2	
Area (in²): 464.75	
General Information	
Date: 7/1/2024	
Time: 3:19:42.080 PM	
Image #: 300 of 300	

Pressure Legend (mmHg)	
50	3
47	4
44	24
41	40
38	43
35	89
32	77
29	125
26	119
23	172
20	270
17	195
14	178
11	151
8	157
6	212
0	8381

**Subject 3 – Side Lying**

Sample ID: Panacea Convertible 9 Cell Mattress

Size: ~80" x 35"