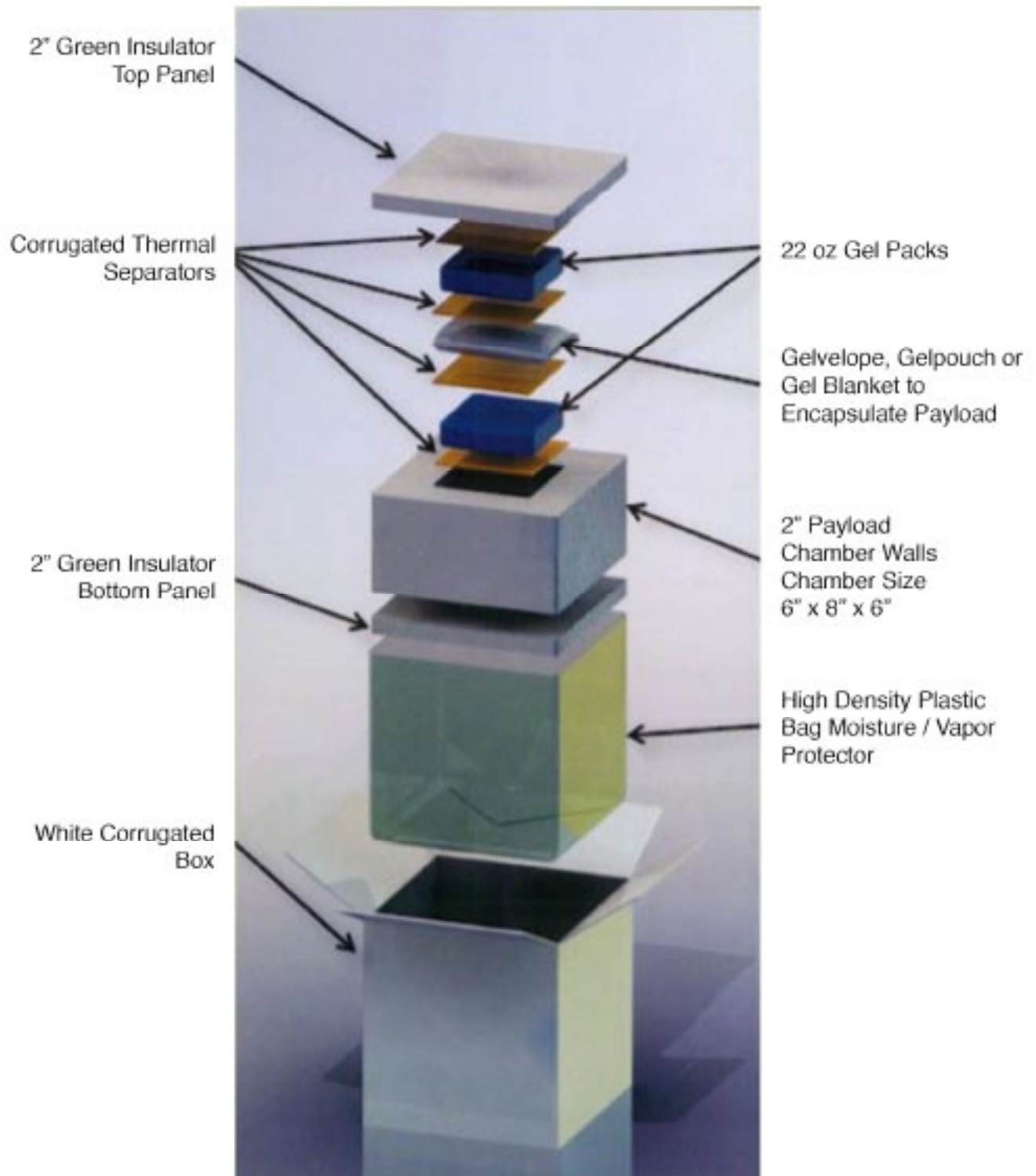




with

# "GREEN" Insulation 2°C - 8°C Packout Small - Medium Payloads



# **“GREEN” INSULATED PACKAGING SYSTEMS**

**Nortech Labs Inc. is pleased to introduce a 2°- 8°C pre-qualified GREEN insulation shipping system.**

**We believe this is the best, most cost efficient “GREEN SYSTEM” in the cold chain shipping industry.**

**Call Nortech Labs to see how our “GREEN SYSTEM” can be engineered for your Temperature-Sensitive Payloads and help you reduce your carbon footprint and keep ahead of the curve.**

**Toll Free: 888-COLD-PAK (265-3725)**

**Office: 631-501-1452**

**Fax: 631-501-1453**

**[www.nortechlabs.com](http://www.nortechlabs.com)**

# **ADVANTAGES OF GREEN INSULATION SHIPPING SYSTEM**

- 1.) Densified Fibrous Insulation made from recycled materials.
- 2.) Provides excellent cushioning for valuable temp-sensitive products.
- 3.) Superior Crush Resistance and rebound.
- 4.) Recycled Material/Recyclable/Landfill Acceptable.
- 5.) Non Toxic.
- 6.) Non Hazardous.
- 7.) Easily engineered to your specs without costly EPS molds/DIE.
- 8.) Cost-effective.
- 9.) Custom modification available to meet your specific thermal requirements.

# BRC LABORATORY

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62 Spirketing Street

Jamestown, RI 02835

Phone (401) 423-1825 Fax (401) 423-3006

E-Mail BRCLAB11@aol.com

## Certificate of Analysis

**Date:** May 6, 2009

**Item:** TPS Green Box Shipping Validation 2-8 C (33-46.4 F) Summer Cycle

**Method:** The Test material was prepared and analyzed as outlined in USP 25, The AOAC, ASTM Guidelines, AATCC Guidelines and according to the Standard Operating Procedures of BRC Laboratory.

**Results:** The shipping container submitted was a TPS green box packed in accordance with TPS Validation Protocol prepared by BRC Laboratory Inc. The Sample was submitted to the laboratory at ambient temperature. Sample was logged into the laboratory Data Base and were subjected to the following analysis: 40 hour shipping validation at 2- 8 degrees Celsius . After completion of the above mentioned validation the following results were concluded. Please see enclosed data reports. All validation test parameters are listed and all passed and were within the acceptable limits.

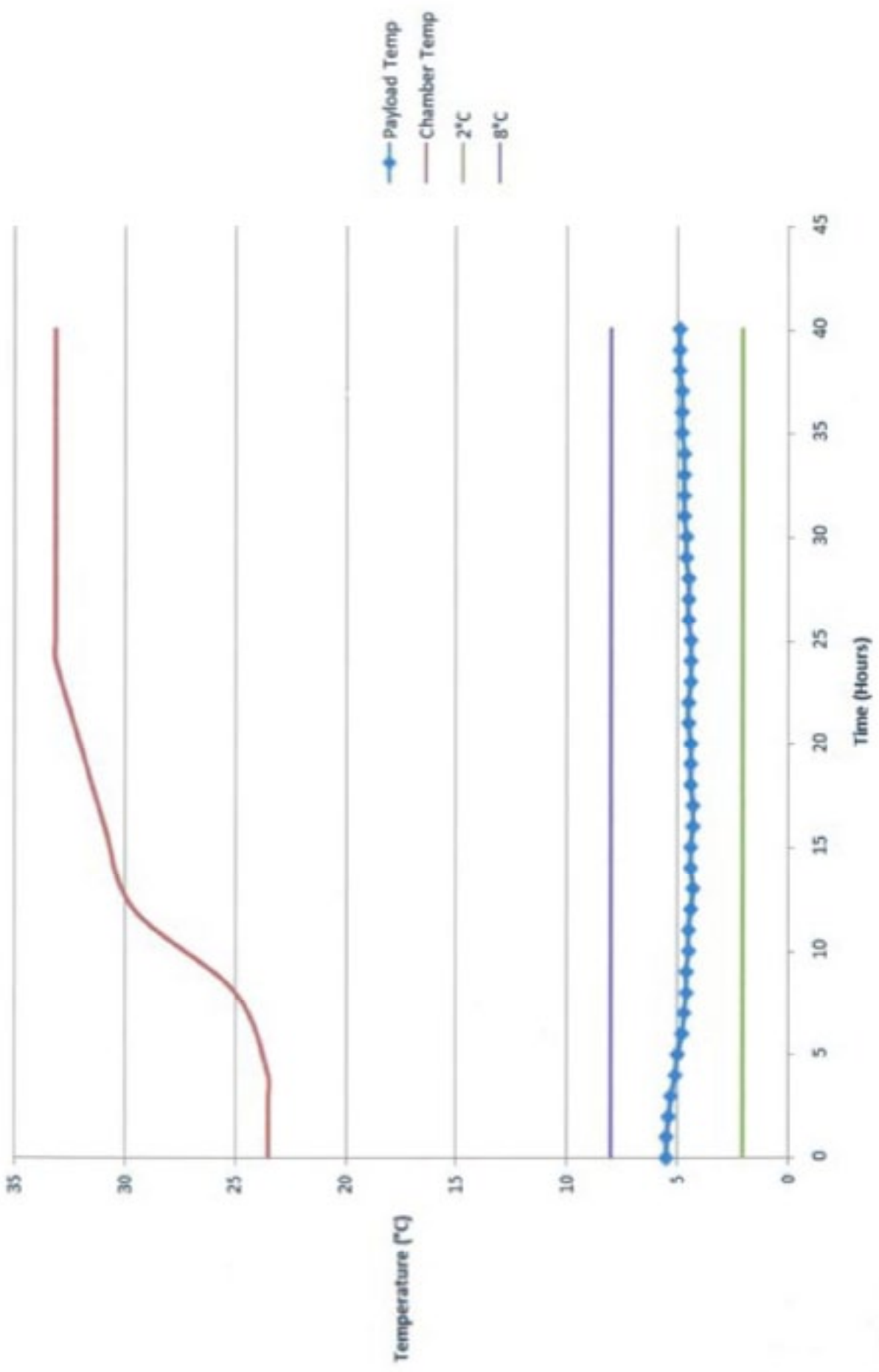
Respectfully Submitted,

Robert A.J. Manni

President/CEO

BRC Laboratory Inc.

# Green Packout 2°C-8°C Summer Cycle Validation



### **Conditioning Parameters:**

Gel Packs (2)- 22 oz packs-Conditioned at 5 F(-15 C) for 24-48 hours

Gel-Blankets (2)-Conditioned at 41.0-42.8 F (5 to 6 C) for 24-48 hours

Pay-Load- #1-10 cc of 5% Saline Conditioned at 5-6 C for 24 hours

Pay-Load- #2-100 cc of 5% Saline Conditioned at 5-6 C for 24 hours

### **Chamber Conditions:**

Chamber Temperature- 74.3 F (23.5 C)

Relative Humidity- 90%

Chamber Temperature- 77.0 F (25.0 C)

Relative Humidity- 93%

Chamber Temperature- 85.3 F (29.61 C)

Relative Humidity-95 %

Chamber Temperature- 87.7 F (30.94 C)

Relative Humidity- 97%

Chamber Temperature- 89.7 F (32.06 C)

Relative Humidity- 98%

Chamber Temperature- 91.7 F (33.17 C)

Relative Humidity- 98%

### **Validation Cycle:**

Time: 40 hours

Temperature: 2-8 C (33-46.4 F)

**\*\*The Validation Cycle Temperature was started at 74.3 F (23.5 C) and was gradually stressed throughout the complete cycle to a final temperature of 91.7 F (33.17 C).\*\***

<b>Item</b>	<b>Time</b>	<b>Temp. (C)</b>	<b>Temp. (F)</b>
<b>GREEN SUMMER CYCLE</b>	<b>0</b>	<b>5.5</b>	<b>42.1</b>
	<b>1 hour</b>	<b>5.5</b>	<b>42.1</b>
	<b>2 hour</b>	<b>5.4</b>	<b>41.7</b>
	<b>3 hour</b>	<b>5.3</b>	<b>41.5</b>
	<b>4 hour</b>	<b>5.1</b>	<b>41.2</b>
	<b>5 hour</b>	<b>5.0</b>	<b>41.0</b>
	<b>6 hour</b>	<b>4.8</b>	<b>40.6</b>
	<b>7 hour</b>	<b>4.7</b>	<b>40.5</b>
	<b>8 hour</b>	<b>4.6</b>	<b>40.3</b>
	<b>9 hour</b>	<b>4.6</b>	<b>40.3</b>
	<b>10 hour</b>	<b>4.5</b>	<b>40.1</b>
	<b>11 hour</b>	<b>4.5</b>	<b>40.1</b>
	<b>12 hour</b>	<b>4.4</b>	<b>39.9</b>
	<b>13 hour</b>	<b>4.3</b>	<b>39.7</b>
	<b>14 hour</b>	<b>4.4</b>	<b>39.9</b>
	<b>15 hour</b>	<b>4.4</b>	<b>39.9</b>
	<b>16 hour</b>	<b>4.3</b>	<b>39.7</b>
	<b>17 hour</b>	<b>4.3</b>	<b>39.7</b>
	<b>18 hour</b>	<b>4.4</b>	<b>39.9</b>
	<b>19 hour</b>	<b>4.4</b>	<b>39.9</b>
	<b>20 hour</b>	<b>4.4</b>	<b>39.9</b>
	<b>21 hour</b>	<b>4.5</b>	<b>40.1</b>
	<b>22 hour</b>	<b>4.5</b>	<b>40.1</b>
	<b>23 hour</b>	<b>4.4</b>	<b>39.9</b>
	<b>24 hour</b>	<b>4.4</b>	<b>39.9</b>
	<b>25 hour</b>	<b>4.4</b>	<b>39.9</b>
	<b>26 hour</b>	<b>4.5</b>	<b>40.1</b>
	<b>27 hour</b>	<b>4.5</b>	<b>40.1</b>
	<b>28 hour</b>	<b>4.5</b>	<b>40.1</b>
	<b>29 hour</b>	<b>4.6</b>	<b>40.3</b>
	<b>30 hour</b>	<b>4.6</b>	<b>40.3</b>
	<b>31 hour</b>	<b>4.7</b>	<b>40.5</b>
	<b>32 hour</b>	<b>4.7</b>	<b>40.5</b>
	<b>33 hour</b>	<b>4.7</b>	<b>40.5</b>
	<b>34 hour</b>	<b>4.7</b>	<b>40.5</b>
	<b>35 hour</b>	<b>4.8</b>	<b>40.6</b>
	<b>36 hour</b>	<b>4.8</b>	<b>40.6</b>
	<b>37 hour</b>	<b>4.8</b>	<b>40.6</b>
	<b>38 hour</b>	<b>4.9</b>	<b>40.8</b>
	<b>39 hour</b>	<b>4.9</b>	<b>40.8</b>
	<b>40 hour</b>	<b>4.9</b>	<b>40.8</b>

# BRC LABORATORY

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62 Spirketing Street

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Phone (401) 423-1825 Fax (401) 423-3006

E-Mail BRCLAB11@aol.com

## Certificate of Analysis

Date: May 18, 2009

Item: TPS Green Box Shipping Validation 2-8 C (33-46.4 F) Winter Cycle

Method: The Test material was prepared and analyzed as outlined in USP 25, The AOAC, ASTM Guidelines, AATCC Guidelines and according to the Standard Operating Procedures of BRC Laboratory.

Results: The shipping container submitted was a Green TPS Box packed in accordance with TPS Validation Protocol prepared by BRC Laboratory Inc. The Sample was submitted to the laboratory at ambient temperature. Sample was logged into the laboratory Data Base and was subjected to the following analysis: 40 hour shipping validation Winter Cycle. After completion of the above mentioned validation the following results were concluded. Please see enclosed data reports. All validation test parameters are listed and all passed and were within the acceptable limits.

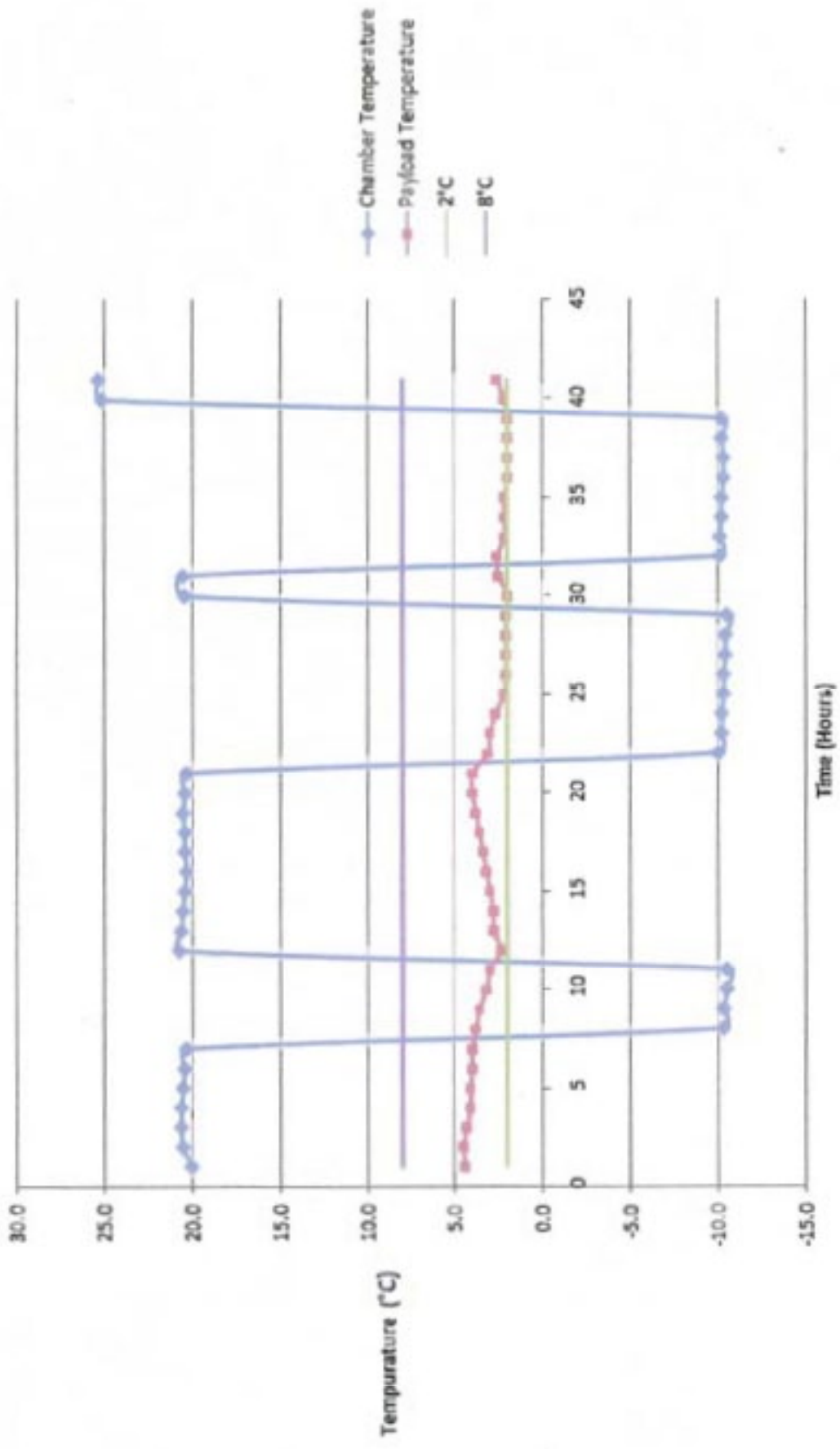
Respectfully Submitted,

Robert A.J. Manni

President/CEO

BRC Laboratory Inc.

# Green Box Shipping Validation 2°C-8°C Winter Cycle



### **Conditioning Parameters:**

Gel Packs (4)- 22 oz packs-Conditioned at 10 F(-12.2C) for 24-48 hours

Gel-Blankets (4)-Conditioned at 6-7 C for 24-48 hours

Pay-Load- #1-10 cc of 5% Saline Conditioned at 5-6 C for 24 hours

Pay-Load- #2-100 cc of 5% Saline Conditioned at 5-6 C for 24 hours

### **Chamber Conditions:**

Chamber Temperature- 68.0 F (20.0 C) Exposure Time: 6 hours

Relative Humidity- 90%

Chamber Temperature- 14.0 F (-10.0 C) Exposure Time: 4 hours

Relative Humidity- 90%

Chamber Temperature- 68.0 F (20.0 C) Exposure Time: 10 hours

Relative Humidity: 94%

Chamber Temperature- 14.0 F (-10.0 C) Exposure Time: 8 hours

Relative Humidity: 90%

Chamber Temperature- 68.0 F (20.0 C) Exposure Time: 2 hours

Relative Humidity: 95%

Chamber Temperature- 14.0 F (-10.0 C) Exposure Time: 8 hours

Relative Humidity: 92%

Chamber Temperature- 77.0 F (25.0 C) Exposure Time: 2 hours

Relative Humidity: 96%

### **Validation Cycle:**

Time: 40 hours

Temperature: Winter Cycle (20 C for 6 hours, -10 C for 4 hours, 20 C for 10 hours, -10 C for 8 hours, 20 C for 2 hours, -10 C for 8 hours and 25 C for 2 hours)

<b>Item</b>	<b>Time</b>	<b>Chamber (C)</b>	<b>Chamber (F)</b>	<b>Payload (C)</b>	<b>Payload (F)</b>
<b>TPS Green</b>	<b>0</b>	<b>20.0</b>	<b>68.0</b>	<b>4.4</b>	<b>39.9</b>
<b>Winter Cycle</b>	<b>1 hour</b>	<b>20.5</b>	<b>68.9</b>	<b>4.5</b>	<b>40.1</b>
<b>20 C for 6 hours</b>	<b>2 hour</b>	<b>20.6</b>	<b>69.1</b>	<b>4.3</b>	<b>39.7</b>
	<b>3 hour</b>	<b>20.6</b>	<b>69.1</b>	<b>4.1</b>	<b>39.4</b>
	<b>4 hour</b>	<b>20.5</b>	<b>68.9</b>	<b>4.1</b>	<b>39.4</b>
	<b>5 hour</b>	<b>20.4</b>	<b>68.7</b>	<b>4.0</b>	<b>39.2</b>
	<b>6 hour</b>	<b>20.3</b>	<b>68.5</b>	<b>4.0</b>	<b>39.2</b>
<b>-10 C for 4 hours</b>	<b>7 hour</b>	<b>-10.3</b>	<b>13.46</b>	<b>3.8</b>	<b>38.8</b>
	<b>8 hour</b>	<b>-10.3</b>	<b>13.46</b>	<b>3.6</b>	<b>38.5</b>
	<b>9 hour</b>	<b>-10.5</b>	<b>13.10</b>	<b>3.2</b>	<b>37.8</b>
	<b>10 hour</b>	<b>-10.5</b>	<b>13.10</b>	<b>3.0</b>	<b>37.4</b>
<b>20 C for 10 hours</b>	<b>11 hour</b>	<b>20.7</b>	<b>69.3</b>	<b>2.4</b>	<b>36.6</b>
	<b>12 hour</b>	<b>20.6</b>	<b>69.1</b>	<b>2.8</b>	<b>37.0</b>
	<b>13 hour</b>	<b>20.5</b>	<b>68.9</b>	<b>2.8</b>	<b>37.0</b>
	<b>14 hour</b>	<b>20.4</b>	<b>68.7</b>	<b>3.0</b>	<b>37.4</b>
	<b>15 hour</b>	<b>20.3</b>	<b>68.5</b>	<b>3.2</b>	<b>37.8</b>
	<b>16 hour</b>	<b>20.4</b>	<b>68.7</b>	<b>3.4</b>	<b>38.1</b>
	<b>17 hour</b>	<b>20.4</b>	<b>68.7</b>	<b>3.6</b>	<b>38.5</b>
	<b>18 hour</b>	<b>20.5</b>	<b>68.9</b>	<b>3.8</b>	<b>38.8</b>
	<b>19 hour</b>	<b>20.4</b>	<b>68.7</b>	<b>4.0</b>	<b>39.2</b>
	<b>20 hour</b>	<b>20.3</b>	<b>68.5</b>	<b>4.0</b>	<b>39.2</b>
<b>-10 C for 8 hours</b>	<b>21 hour</b>	<b>-10.0</b>	<b>14.0</b>	<b>3.1</b>	<b>37.6</b>
	<b>22 hour</b>	<b>-10.2</b>	<b>13.6</b>	<b>3.0</b>	<b>37.4</b>
	<b>23 hour</b>	<b>-10.2</b>	<b>13.6</b>	<b>2.7</b>	<b>36.8</b>
	<b>24 hour</b>	<b>-10.3</b>	<b>13.5</b>	<b>2.2</b>	<b>35.9</b>
	<b>25 hour</b>	<b>-10.3</b>	<b>13.5</b>	<b>2.1</b>	<b>35.7</b>
	<b>26 hour</b>	<b>-10.4</b>	<b>13.3</b>	<b>2.1</b>	<b>35.7</b>
	<b>27 hour</b>	<b>-10.4</b>	<b>13.3</b>	<b>2.1</b>	<b>35.7</b>
	<b>28 hour</b>	<b>-10.5</b>	<b>13.1</b>	<b>2.1</b>	<b>35.7</b>
<b>20 C for 2 hours</b>	<b>29 hour</b>	<b>20.4</b>	<b>68.7</b>	<b>2.0</b>	<b>35.6</b>
	<b>30 hour</b>	<b>20.5</b>	<b>68.9</b>	<b>2.5</b>	<b>36.5</b>
<b>-10 C for 8 hours</b>	<b>31 hour</b>	<b>-10.1</b>	<b>13.8</b>	<b>2.6</b>	<b>36.6</b>
	<b>32 hour</b>	<b>-10.1</b>	<b>13.8</b>	<b>2.2</b>	<b>35.9</b>
	<b>33 hour</b>	<b>-10.2</b>	<b>13.6</b>	<b>2.2</b>	<b>35.9</b>
	<b>34 hour</b>	<b>-10.2</b>	<b>13.6</b>	<b>2.2</b>	<b>35.9</b>
	<b>35 hour</b>	<b>-10.3</b>	<b>13.4</b>	<b>2.0</b>	<b>35.6</b>
	<b>36 hour</b>	<b>-10.3</b>	<b>13.4</b>	<b>2.0</b>	<b>35.6</b>
	<b>37 hour</b>	<b>-10.2</b>	<b>13.6</b>	<b>2.0</b>	<b>35.6</b>
	<b>38 hour</b>	<b>-10.2</b>	<b>13.6</b>	<b>2.0</b>	<b>35.6</b>
<b>25 C for 2 hours</b>	<b>39 hour</b>	<b>25.1</b>	<b>77.2</b>	<b>2.2</b>	<b>35.9</b>
	<b>40 hour</b>	<b>25.3</b>	<b>77.5</b>	<b>2.6</b>	<b>36.6</b>

## BRC LABORATORY

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Phone (401) 423-1825 Fax (401) 423-3006  
E-Mail BRCLAB11@aol.com

### Certificate of Analysis

Test Date: September 30, 2008 Test ID: 080930-1-080930-4

Item: 1" Densified Fiber Insulation for R Value

Method: The Test material was prepared and analyzed as outlined in ASTM Methods C-236 and C-518, current edition of the USP and according to the Standard Operating Procedures of BRC Laboratory.

Results: The Densified Fiber Insulation sample was analyzed in accordance with the ASTM Methods noted above for the determination of the R Value at ambient temperature. The samples were tested in duplicate and the R Value was calculated. The results were as follows:

<u>Sample ID</u>	<u>R-Value</u>
080930-1	4.7
080930-2	4.6
080930-3	4.5
080930-4	4.5

**CONFIDENTIAL**

Respectfully Submitted,

  
Robert A.J. Mann

President/CEO

BRC Laboratory Inc.

BRC LABORATORY  
62 SPIRKETING ST.  
JAMESTOWN RI 02835



March 3, 2009

### STATEMENT OF RECYCLED MATERIALS

Thermal Packaging Systems recognizes the importance of utilizing environmentally friendly elements in the design of our thermal insulating systems. Thermal insulation materials used to protect temperature sensitive materials incorporate the use of recycled fibers. These fibers are 100% polyester, however other fiber types can also be utilized.

The polyester fibers are generally a blend of virgin and recycled or regenerated fibers. The recycled or regenerated fibers are provided from various channels.

Fibers are made from the recycling of plastics. Plastics that are not acceptable for their intended use or used plastics are recovered by melting the plastic into a pellet form. These pellets are introduced into the process for manufacturing fiber. This is a major application for recycling plastic materials, as the resulting fiber is quite similar to "virgin" or newly made fiber.

The recycling of textile materials also generates reusable fibers. Textile waste or off-quality products are reprocessed by technology that "disentangles" the structure resulting in fiber close to its original state. The fiber is quite suitable to be reintroduced into a variety of textile manufacturing processes.

Additionally, waste that is generated during the manufacturing of the insulation material is recycled back into the process. This provides for both environmental and economic benefits.

To complete the cycle, the insulation material itself can be reclaimed or recycled. From process to application, Thermal Packaging Systems offers highly functional products while providing a "green" solution, as our responsibility to the environment.

All T.P.S. fiber insulation products conform to the above, unless otherwise indicated or specified.

  
\_\_\_\_\_  
Dan Lajoie  
Nonwovens Materials Engineer Consulting



Thermal Transit Envelopes  
Gelvelopes  
Gel pouches  
Cold Chain Systems

### ACCEPTABILITY OF POLYESTER IN LANDFILLS

Thermal Packaging Systems encourages the recycling and/or reuse of the mediums used in their thermal insulation packaging. However, when this is not possible, polyester fiber based insulation materials can be safely disposed in landfills.

Since the nature of polyester fiber is plastic, they will degrade slowly over time. How long this process takes is dependent upon the environmental conditions of the landfill. Exposure to UV waves, moisture, heat and other reactive agents within landfills influence the speed of degradation.

Polyester is an inert substance. As such, it is non-toxic or harmful to the environment. Even as polyester fiber degrades, it does not leach or release substances or create conditions that are ecologically hazardous.

From process to application, Thermal Packaging Systems offers highly functional products while providing a "green" solution, as our responsibility to the environment. TPS is committed to finding new ways of recycling materials used in thermal insulation packaging.

  
\_\_\_\_\_  
Dan Lajoie  
Nonwovens Materials Engineer Consulting

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Nortech Labs Inc 125 Sherwoos Ave Farmingdale, NY 11735

Phone: 888-COLD-PAK (265-3725) Phon: 631-501-1452 Fax: 631-501-1453

Website: [www.nortechlabs.com](http://www.nortechlabs.com)

E-mail: [info@nortechlabs.com](mailto:info@nortechlabs.com)

## Material Safety Data Sheet

**POLYESTER: Staple fiber, tow, filament yarn, threadwaste, polymer**

**1. PRODUCT IDENTIFICATION:**

Polyester is a family of fiber products having similar hazard and physical property characteristics. These products are made from polyethylene terephthalate polymer and one or more surface finishes.

**2. HEALTH HAZARD DATE:**

Non toxic. This product is not listed by OSHA, NTP, or IARC as a carcinogen.

**3. REACTIVITY DATE:**

There are no known physical or health hazards associated with this product, as defined in the code of Federal Regulations, Title 29, and Part 1910, 1200. The polymer immobilizes the constituents of the polymer system (delusterants, catalyst residues, etc) which, therefore, presents no likelihood of exposure under normal conditions of processing and handling. However, exposure to chemical substances may occur as a result of processing these fibers. Processing may release and aerosolize the residual moisture and surface finishes. Heating the fibers may volatilize the finishes or produce a chemical change. William Barnet & Son recommends maintaining finish mist below the OSHA standard of 5 mg/m<sup>3</sup>.

**4. PHYSICAL CHEMICAL DATA:**

Polyethylene terephthalate is chemically stable and resistant to attack by oils, solvents, weak acids and weak alkalis.

**TEMPERATURE SENSITIVE PAYLOAD SPECIALISTS**

**5. FIRE AND EXPLOSION:**

Polyester will burn if exposed to flame. Decomposition products generated from molten polymer may be subject to auto ignition. Combustion products will be comprised of carbon, hydrogen, and oxygen. The exact composition will depend on the conditions of combustion. Firefighters should protect themselves from decomposition and combustion products that may include carbon monoxide and other toxic gases.

**6. CONTROL MEASURES:**

Adequate ventilation is recommended to maintain finish mist levels below 5 mg/m<sup>3</sup>. Customary personal hygiene measures, such as washing hands after working with such fibers, are recommended. Use of safety glasses and gloves, and standing to one side when cutting bale wires is advised.

**7. SPILL, LEAK, AND DISPOSAL:**

These products are not classified as hazardous wastes under the Resource Conservation and Recovery Act and, unless prohibited by state or local regulation, can be disposed of in a municipal landfill or incinerated. These fibers are not classified by the Department of Transportation as a hazardous material.

**8. INFORMATION CONTACT:**

William Barnet & Son, LLC  
P.O. Box 131  
Arcadia, SC 29320

Telephone: (864)-576-7154  
Technical Service Manager

To the best of our knowledge, the information contained herein is accurate. However, neither William Barnet & Son nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

**TEMPERATURE SENSITIVE PAYLOAD SPECIALISTS**

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## Section 1. COMPOSITION

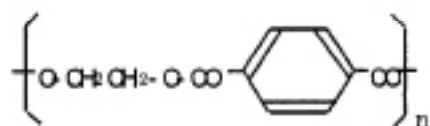
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MATERIAL MUST BE ALL POLYESTER OR POLYESTER MIXTURE OF REGENERATED, RECYCLED OR VIRGIN FIBER.

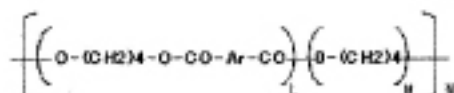
POLYESTER BINDER FIBER DENIER BETWEEN 2 - 18 WITH CORE AND SHEATH AS FOLLOWS

<u>Component</u>	<u>Weight %</u>	
Polyester mixture	>99	
Ratio of mixture		
Core component: Polyethylene Terephthalate	60	
Sheath component: Polyester Copolymer	40	

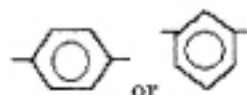
(Core):



(Sheath):



Ar:



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## Section 2. PHYSICAL AND CHEMICAL PROPERTIES

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Physical Form	SOLID WHITE / OFF-WHITE / GREY AND ODORLESS
Density	1.4 - 1.7 POUNDS PER CUBIC FEET
Indentation Load Deflection	At 25% 35 - 60 ILD; AT 50% 45-70 ILD
Other Criteria	2-18 Denier

Evaporation Rate : About 257°C (Core component : Polyethylene Terephthalate)  
: About 154°C (Sheath component : Polyester Copolymer)

<b>Properties</b>	<b>Units</b>	<b>Test Methods</b>	<b>CRITERIA</b>
Core Density	Min. kg/m <sup>3</sup>	ASTM D 3574A	24-30
Tensile Strength *break load /max. load	Min. kpa	ASTM D 3574E 500+/- 10mm/min	55/110
Tensile (D.H.A) *Break Load /max load	Max. Change %	ASTM D 3574k 500+/- 10mm/min	54/114
Elongation	Min. %	ASTM D 3574E 500+/- 10mm/min	62.5
Tear Strength ** ASTM D3574/ ASTM D 624	Min.N/m	ASTM D 3574F 50+/- 5mm/min	1218/1294
Compression Set (50%)**	Max. %	ASTM D 3574D	16.0%
Compression Set (25%)**	Max. %	ASTM D 3574D	12.0%
Fogging (at 85°C) 1hour/ 16hours	Min without oily deposits	GM 9305P	99.1/99.7

\*\* : SEE TESTING CRITERIA IN SECTION 3

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**Section 3. CRITERIA FOR HEIGHT LOSS and INDENTATION LOAD DEFLECTION CHANGE**

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Test condition to check for compression set:

1. Compress to 25% of original height for 4 hours and 8 hours at 95 F and 120 F
2. Compress to 50% of original height for 4 hours and 8 hours at 95 F and 120 F

Height Loss not to exceed as follows:

	Compression of 25% thickness				Compression of 50% thickness			
	95F		120F		95F		120F	
	4h	8h	4h	8h	4h	8h	4h	8h
Height Loss not to exceed	4.0%	5.2%	6.7%	9.4%	9.4%	10.5%	14.1%	18.8%

Test condition to check for fatigue: (Sample height = 4" Dimensions 25 " x 75 " )

1. Subject mattress to 100,000 cycles of the industry standard rollator test

**Height Loss:** Not to exceed 9% relative to equal density PU foam

**ILD Loss:** Not to exceed 20%