



VACCINE TRANSPORT SYSTEM



July 2021



CAPABILITY STATEMENT

Company Overview

In business >122 years, The Gilman Brothers Company had its origins in New York City in 1897 when Nathan Gilman established himself in the bedding business. It relocated to Connecticut and became one of the oldest manufacturing sites in New London County, the first large-scale manufacturing in 1914. By the 1940's, experimentation led to new ways to use cotton batting, and high speed multiple stitching machines were installed to produce comforters. By the end of WW II, the plant had produced nearly three-quarters of a million comforters for the U.S. Army.

In 1982 rigid sheet divisions were introduced and expanded polystyrene foam continues to be the product today. As one of the originators and innovators in foamboard manufacturing, we continue to improve upon quality and provide for the market needs for this versatile product. We manufacture a full line of foam core boards for graphic arts, merchandizing, signage, photo mounting, screen printing, displays, props, and exhibits.

Core Services

- Manufacture a variety of foam boards - paper and styrene surfaces - in >150,000 SF of production and warehousing in CT
- Heat and pressure-sensitive adhesives applied to foam boards
- Coordinate and sub-contract multiple services for large scale government and public programs

Other Services Provided

- Consulting with screen/digital printers, fabricators, ad agencies and retailers for product selection and new product development
- Custom sizes, colors and products to meet customer needs
- Prototype design/creation using Zund digital cutter in our R&D lab

Differentiators

- >100 year old branding strategy
- Distribution infrastructure in >15 countries
- >500 Distribution locations in USA
- 24/7 Freight tracking
- 4 Patent pending materials
- 16 Registered trademarks
- 24/7 manufacturing
- Capable of manufacturing several million square feet of material per week
- In-line extrusion, adhesive and paper or styrene lamination and cutting
- Prototype design with in-house laminating, cutting and printing capability
- High density foam is 2.5x the density compared to competing foam boards
- Quality—inline calibration to ensure consistency

References

Strong references available upon request such as **FedEx, Hobby Lobby, AT&T** and the largest printers and distributors in North America

Company Data

DUNS Number: 001158203

CAGE Code: 20041

EIN / FID: 060362320

NAICS Codes:

- 326100
- 361300

SAM Registration: Active

Accepting Credit Cards: Yes

Business Size: Small

Socio-Economic Designation

Small Business

Contact Information

Bill VanHorn, Director of Sales

The Gilman Brothers Company

38 Gilman Road, Gilman CT 06336

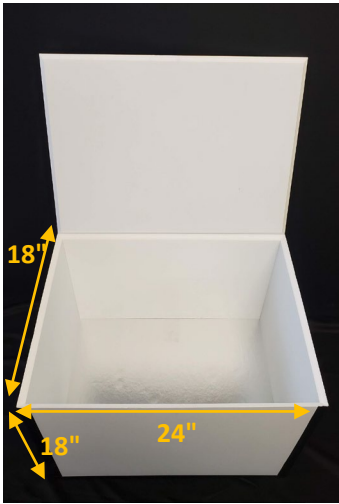
Phone: 860-889-8444

Mobile: 860-884-2077

Email: bill.vanhorn@gilmanbrothers.com



SYSTEM COMPONENT ASSEMBLY



INFINITY® outer box with EPS lower panel.



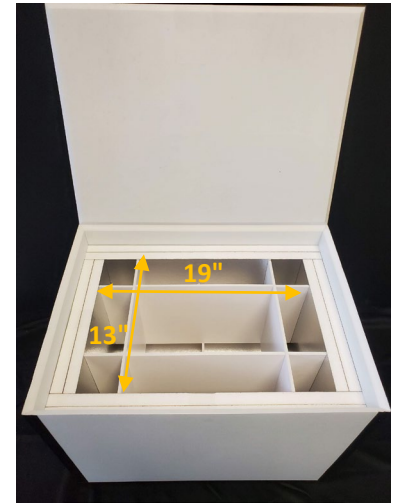
Insertion of EPS side panels.



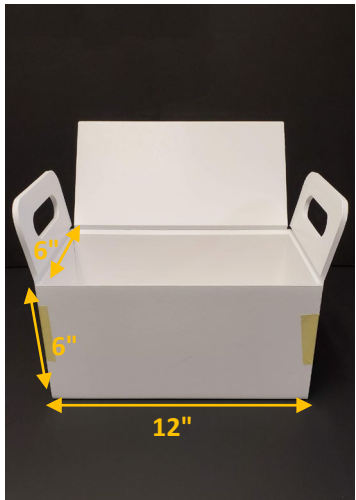
Ryno Board® bottom silo grid inserted.



Insertion of Ryno Board® top silo grid.



Ryno Board® top silo grid in place.



Ryno Board® payload box. Handles for ease in lifting.



Insertion of payload box.



Payload box in place.



Upper EPS panel in place.

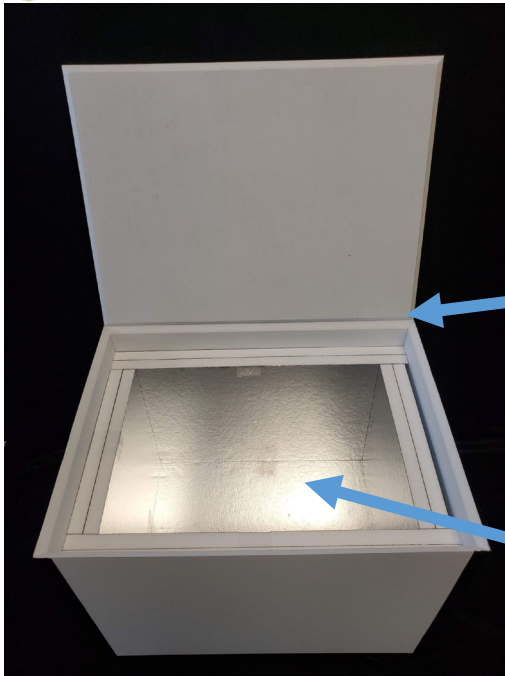


Packed in corrugate box. Side handles for ease of lifting.

**Dimensions customizable per individual requirements.*

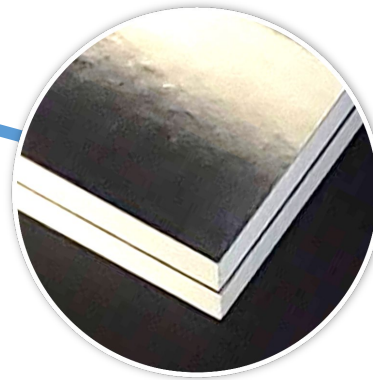


MATERIAL SPECIFICATIONS



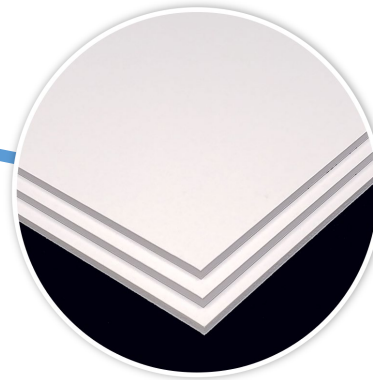
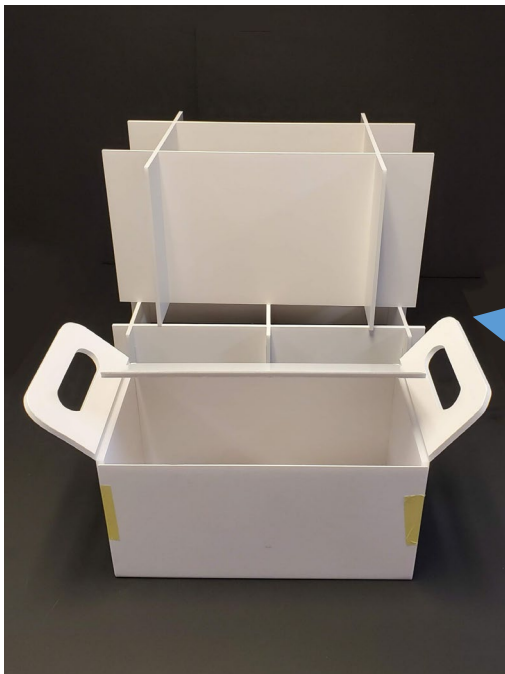
INFINITY®

UV Resistant Styrene-Faced Foamboard
Gauge: .5"
Foam: HD Closed Cell Polystyrene
2 Side Liner: 12 mil. Digital Grade Styrene



EPS Foil Insulation

Expandable Polystyrene Insulation Board
Gauge: 1"
Foam: Expandable Polystyrene
Liner: 42 lb. Kraft Foil Faced



Ryno Board®

High-Density Clay-Coated Foamboard
Gauge: .25"
Foam: HD Closed Cell Polystyrene
2 Side Liner: Tango 18 pt. Coated C1S



SYSTEM PERFORMANCE OVERVIEW

- The system allows for the subdivision of vaccine to remote areas.
- System dimensions customizable per individual requirements.
- System provides easy and safe retrieval of vaccine payload.
- System ensures precise placement of vaccine payload into the dry ice surround silos.
- System maintains temperature at -76°C for over 84 hours without replenishing dry ice.
- System holds 66 lbs. of pelletized dry ice, sufficient to maintain -76°C.
- System weight without dry ice: 11 lbs.
- Outer box, made from INFINITY®, is durable, moisture resistant, and sanitizable.
- All components are lightweight, can be shipped flat and assembled in the field.
- No tools needed for assembly.
- Corrugate outer packaging available with handles for both mobile or static options.

CLICK HERE

[Vaccine Transport System Overview Video](#)

CLICK HERE



TEMPERATURE TESTING & EVALUATION



DEPARTMENT OF THE ARMY
JOINT FORCE HEADQUARTERS, CONNECTICUT NATIONAL GUARD
HARTFORD ARMORY
360 BROAD STREET
HARTFORD, CONNECTICUT 06105-3795

NGCT-JFS

15 October 2020

MEMORANDUM FOR RECORD

SUBJECT: Testing and Evaluation of Gilman Dry Ice Storage and Transport Container

1. During initial vaccine distribution planning the CT DPH and the CT NG Medical Planning Cell determined the need to subdivide the vaccine into storage and transport containers capable of keeping the vaccine at the temperature of dry ice.
2. The traditional vaccine storage and transport containers were not available due to demand and a constrained supply system.
3. The CT NG Medical Planning Cell approached The Gilman Brothers Company to develop an affordable and durable solution based on their foamboard product capable of maintaining 500 doses of vaccine at -70°C for at least 24 hours.
4. The CT NG Medical Planning Cell provided an initial sketch and estimated dimensions of 12" x 6" x 6" for the vaccine container.
5. The storage container can maintain a temperature of -70°C for over 72 hours with a single charge of dry ice.

- 2 Enclosures
1. Data and Graph
2. Product sheet

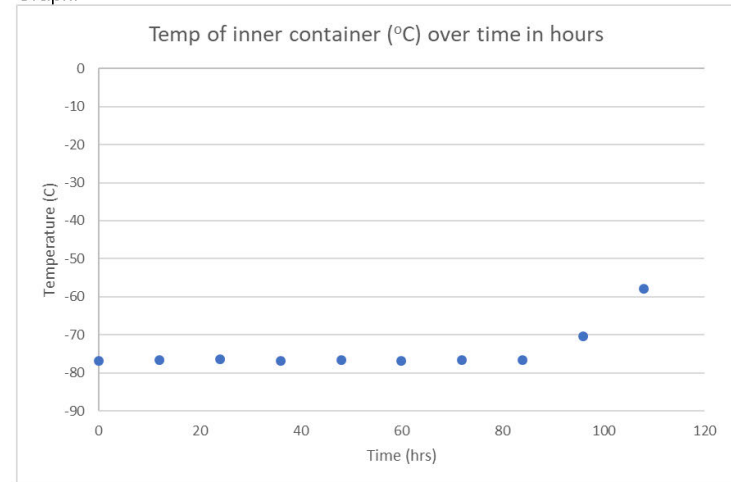
Enclosure 1.

The outer container was charged with approximately 60 lbs. of ¾" pelletized dry ice from Continental Carbonic. The inner container temperature was monitored with a copper probe and a Fluke 51II thermometer for the duration of the experiment. The ambient temperature at the time of the experiment was 21°C. See table and graph for results.

Table:

Time (hrs)	Temp (°C)
0	-76.8
12	-76.6
24	-76.5
36	-76.8
48	-76.7
60	-76.8
72	-76.7
84	-76.7
96	-76.4
108	-57.8

Graph:





DROP & VIBRATION TEST



TEST REPORT FORM

Procedure used: 1A 1B

VERSION DATE: 14-16

> ISTA CERTIFIED LABORATORY

Laboratory: UNICORR PACKAGING GROUP

ISTA Member ID: ST-10443

Address: 100 CANAL STREET

Technician Performing Test: TYSON WINCHELL

City: PUTNAM State/Prov: CT

Email: TWINCHELL@UNICORR.COM

Zip/Postal Code: 06260 Country: USA

Lab reference number for test (if applicable): 1065

> PRODUCT MANUFACTURER / SHIPPER

Test Requested By: Bill VanHorn

Phone: 860-889-8444

Company: THE GILMAN BROTHERS COMPANY

Email: bill.vanhorn@gilmanbrothers.com

Address: 38 Gilman Road

ISTA Member? Yes No

City: Gilman State/Prov.: CT

ISTA Member ID (if applicable):

Zip/Postal Code: 06336 Country: USA

Manufacturer's License Number (if applicable):

> TEST DETAILS ALL FIELDS IN THIS SECTION MUST BE COMPLETED

Date Tested: 12/22/20

Package Degradation Allowance (PDA): MUST REMAIN SEALED

Number of samples tested: 1

W/O PUNCTURES

Number of replicate tests performed: 0

PDT/PDA Determined By/Date: 12/22/20

Gross Weight: 81.6

Method used to determine Pass/Fail: CUSTOMER INSPECTION

External Container Size (LxWxH): 24-5/8 X 19 X 19-1/2

Person determining Pass/Fail result: Bill VanHorn

Product Damage Tolerance (PDT): NONE

> PRODUCT AND PACKAGE DESCRIPTIONS ALL FIELDS IN THIS SECTION MUST BE COMPLETED It is strongly recommended that photographs, detailed drawings, and/or complete specifications of product and exterior and interior packaging accompany this report. If there is insufficient information supplied by the product manufacturer, please indicate the reason in the TEST RESULTS section, at the end of this report form.

Specific PRODUCT TESTED: Include, as applicable, product name, brand, model number, serial number and similar information that will help to identify the specific product tested.

PACKAGE Condition before testing: List any damage or irregularities seen prior to testing. **NO DAMAGE**

PRODUCT Description: Describe product in detail. Include type of product, accessories and other identifying information, including specifics on bottles, containers and liquid or solid contents. **UNKNOWN**

PACKAGE Description: Describe entire shipping unit. Description must be detailed and specific and should include type, style and material of packaging; corrugated board composition; cushion details including performance; film gauge and composition; application or package forming details; mold numbers; any pallet or skid; unitization method for unit loads; methods of closure, etc. **SEALED RSC.**

Did the lab OPEN the packaged-product before testing to determine product condition? YES NO

If YES to above, list PRODUCT Condition before testing: List any damage or irregularities seen prior to testing.

Was the PACKAGING used during testing:

ORIGINAL as arrived in the lab for testing
 NEW re-packaged with new materials before testing

For review and acknowledgement of testing, submit test report and all appropriate additional documents/photos/data to:
ISTA • 1400 Abbot Road, Suite 160 • East Lansing, MI 48823-1900 USA
ista@ista.org • www.ista.org • Ph: +1 517 333 3437
FORM 1AB updated JANUARY 2010



TEST METHODS PROCEDURE 1A | PROCEDURE 1B

> ORIENTATION

What position was the packaged-product in when the faces, edges and corners were identified:

MOST STABLE SHIPPING

Explain position if different than procedure recommendation:

> VIBRATION TEST

Method Used: Rotary Vertical Linear

Describe restraining devices used, if any:

Fixed Displacement Vibration

Face resting on platform: 3

First Part: Minutes: 53 @ Frequency (CPM/Hz): 4.5Hz = Number of Impacts: 14,200

Rotation of 90° Rotation of 180° No rotation

Second Part (if applicable): Minutes: @ Frequency (CPM/Hz): = Number of Impacts:

> SHOCK TEST

Method Used: Free Fall Drop Shock Machine Incline Impact Horizontal Sled

Use the spaces below to record the heights or velocities and orientations of each shock:

Shock Sequence Number	Height / Velocity of Shock (inches / mm OR fps / ips)	Orientation of packaged-product (ex: Face 6; Corner 2-3-5, Edge 3-5)	Was packaged-product CAUGHT to prevent tipping over?
1	12"	CORNER 2-3-5	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
2	12"	EDGE 3-5	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
3	12"	EDGE 2-5	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
4	12"	EDGE 2-3	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
5	12"	FACE 2	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
6	12"	FACE 4	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
7	12"	FACE 5	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
8	12"	FACE 6	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
9	12"	FACE 1	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
10	12"	FACE 3	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Rotational Edge #1 (if performed)		EDGE	
Rotational Edge #2 (if performed)		EDGE	

> TEST RESULTS

PRODUCT Condition after testing (if inspected):

PACKAGE Condition after testing: LIGHT COMPRESSION DAMAGE ON TESTED CORNERS AND EDGES. NO OTHER VISABLE DAMAGE

Pass Fail

Comments or recommendations:

For review and acknowledgement of testing, submit test report and all appropriate additional documents/photos/data to:
ISTA • 1400 Abbot Road, Suite 160 • East Lansing, MI 48823-1900 USA
ista@ista.org • www.ista.org • Ph: +1 517 333 3437
FORM 1AB updated JANUARY 2010



DROP & VIBRATION TEST SPECIFICATIONS

VTS COMPONENTS

Payload:

- Vials: Wheaton 223686 10ml 13mm x 20mm OD Vials, Qty 84
- Packing: Corrugated Cardboard, Gauge: .25"

Payload Box and Silos:

- High-Density Clay-Coated Foamboard, Gauge: .25"
- Foam: HD Closed Cell Polystyrene
- 2 Side Liner: Tango 18 pt. Coated C1S
- Packing: Corrugated Cardboard, Gauge .25"

Dry Ice: 3/4" pelletized, approximately 66 lbs.

Insulation Layer:

- Expandable Polystyrene Insulation Board, Gauge: 1"
- Foam: Expandable Polystyrene
- Liner: 42 lb. Kraft Foil Faced

Outer Box:

- UV Resistant Styrene-Faced Foamboard, Gauge: .5"
- Foam: HD Closed Cell Polystyrene
- 2 Side Liner: 12 mil. Digital Grade Styrene

External Container:

- Corrugated Cardboard, Gauge .25"
- Container Dimensions: 24-5/8" X 19" X 19-1/2"
- Gross Weight: 81.6 lb.

ISTA TESTING

Test Procedure: ISTA 1A

Vibration Test: Vertical Linear

- 53 minutes at 270 CPM

Shock Test: Free Fall Drop

- 10 Drops from 12 Ft.

Test Results - PASSED



Ari Luna

Business Development Manager

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860-889-8444

ari.luna@gilmanbrothers.com

The Gilman Brothers Company

38 Gilman Rd

Gilman, CT 06336

Available for video consultation 24/7

Links:

- [NBC Connecticut VTS News Coverage](#)
- [COVID-19 Solutions](#)
- [CT Nat'l Guard Field Hospital Video](#)
- [The Gilman Brothers Company Video](#)