



**LABORATORY TEST REPORT
LB 20-19**

**THIS TEST REPORT DOES NOT CONSTITUTE APPROVAL OR DISAPPROVAL OF THE
EQUIPMENT, METHOD OR MATERIAL TESTED**

Date: April 9, 2019

Report For: CargoTuff, LLC
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Test Specimens: Level 3 Woven Polypropylene Polyethylene Dunnage Bags

Test Procedure: (Extracted from General Information Bulletin No. 9, *Product Performance Profile for Pneumatic Dunnage*.)

2.4 Performance Measures

2.4.2 Levels 2-5, Pneumatic Dunnage as Lengthwise Void Fillers and/or Load Securement

Part A, Leak Test:

Ten samples shall be inflated to the pressure specified for the desired Test Level in the table below, in a 12" void for Test Levels 2 - 4 and in an 18" void for Test Level 5, and remain thus for 19 days. Record the temperature and barometric pressure at the start and end of the test.

After 19 days pneumatic dunnage must lose no more than 1.0 psig, and the gauge pressure standard deviation of the 10 samples must not be greater than 0.15.

Part B, Burst Test:

Five randomly selected samples tested in Part A shall be further inflated, in appropriate test fixture as outlined in 2.3 Testing Fixtures, in a 12" void for Levels 2 - 4 and in an 18" void for Level 5. Samples are to be inflated to the maximum pressure specified for the desired level in following table.

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Performance Requirements for Levels 2 – 5

| | Inflation Pressure Part A | Maximum Inflation Pressure Part B |
|--------------------|------------------------------|---|
| Level 2 | 5 psig | 17 psig |
| Level 3 | 8 psig | 25 psig |
| Level 4 | 10 psig | 30 psig |
| Level 5 (18" void) | 10 psig | 21 psig |

The bag must maintain the specified pressure for one minute.

The report must include initial and final gauge pressure measurements for the entire 19 day period for *Part A* and also the results of testing for *Part B*. The report must also relate the ambient temperature and relative humidity for the entire testing period.

Table 1 - Level 3

| Inflation | Dates | Temperature (°F) | Relative Humidity | Barometric Pressure (inHg) | |
|------------|------------------|-------------------|-------------------|----------------------------|-------------------|
| Start Date | 03-21-19 | 66.79 | 18.5% | 25.14 | |
| End Date | 04-09-19 | 67.15 | 26.9% | 24.86 | |
| Sample # | Part A Leak Test | Part B Burst Test | Sample # | Part A Leak Test | Part B Burst Test |
| 1 | 7.0 | Passed | 6 | 7.4 | |
| 2 | 7.0 | | 7 | 7.2 | Passed |
| 3 | 7.1 | Passed | 8 | 7.3 | |
| 4 | 7.0 | | 9 | 7.3 | Passed |
| 5 | 7.0 | Passed | 10 | 7.1 | |

Standard Deviation for Part A = 0.133

Conclusion: All ten samples submitted met the requirements set forth in General Information Bulletin No. 9, *Product Performance Profile for Pneumatic Dunnage*.

Miles Benitez
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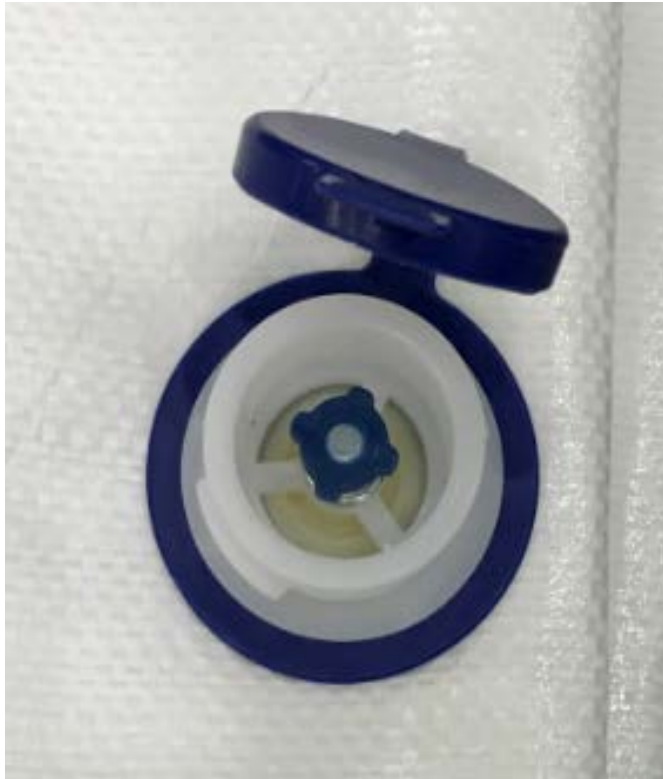


Photo 1: Inflation Valve

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