

## 1. Introduction

LoadProof (<https://loadproof.com/features>) is a Centralized Cloud based Enterprise Photo Documentation System for Supply Chain. LoadProof is built on the premise that photos and videos are vital documentation that serve as compelling proof of important operations that are performed in the supply chain within and across organizations when fulfilling customer orders, while meeting contractual obligations that organizations have committed to operate by as they transfer merchandise across different parties that partake in Supply Chain functions and operations. These photo and video data should not be stored in someone's smartphone or inbox or in their computer, instead should be stored in a Centralized Enterprise system, where the data can be pushed into super-fast, stored securely, accessible to all stake holders in an org as well as facilitates super-fast retrieval and sharing with utmost ease. LP is also an Enterprise System of record for photo/video documentation and is as important as an ERP (Enterprise Resource Planning) which is an enterprise system of record for critical documents such as Purchase Orders, Sales Orders, Contracts between parties etc. that have tremendous legal ramifications, also as important as a WMS (Warehouse Management) that hold indispensable information such as shipment/fulfillment data of orders. Like how Instagram, Facebook, Snapchat etc have evolved into social media platforms/systems that enable individuals to showcase how pretty they are/how pretty their clothes are/how pretty the cosmetic they wear is, LoadProof is a similar Enterprise system that holds similar photos, but for a different reason, not so much for show off, but to serve as proof even in the court of law when there is a dispute between organizations while they perform many facets of the functions and operations, as well as for visibility within the Supply Chain.

Recently Mannington Mills implemented LoadProof in their three facilities. This document describes the benefits that were accrued and the associated dollar savings.

## 2. Mannington Mills – Company Background

One of the world leading organizations in fine flooring materials, Mannington Mills is a manufacturer of commercial sheet, luxury vinyl, laminate, and hardwood floors, as well as commercial carpet and rubber under the Mannington Residential, Mannington Commercial, Amtico and Burke brands. Mannington Mills was founded, and is still headquartered, in Salem, New Jersey, with business started by John Boston Campbell in 1915. They account for 882 employees, and it is in its 4th generation of family ownership as it enters its Centennial year. In a move to a global reach, Mannington acquired Amtico International, a manufacturer of high-quality luxury vinyl flooring products in March 2012. Amtico, based in Coventry, England, also has facilities in Atlanta, GA. In 2022 Mannington Mills acquired announce the acquisition of Georgia Carpet Finishers, Inc., one of the premier suppliers of carpet backing in industry

Mannington Product Line is divided in 3 areas: Commercial, Residential and what they call Mannington on Main, which is a collection of fine flooring types with bacteria protection.

## Commercial Line

1. Carpet: modular, broadloom and entryway systems
2. Hard Surface: LVT, Resilient Sheet, Non-vinyl Resilient, Rubber Sheet & Tile
3. Accessories: Wall base, stair systems, moldings & finishing's, and weld rods
4. Design: to meet customer specific environment, Mannington Mills helps designers and architects to develop every type of space segmenting their solutions by segment: healthcare, retail, education, and hospitality
5. In addition to the different types of flooring materials, the Commercial Line also focus its products on vertical markets, such as: Education, Healthcare, Hospitality, Retail and Workplace, offering a range of solutions from a single organization.

## Residential Line

1. Hardwood
2. Luxury vinyl sheet
3. Laminate
4. Luxury Plank resilient floor
5. Luxury planks waterproof

## 3. Mannington Mills Supply Chain Macro Picture

Mannington Mills, Inc. has operations and offices in six cities across the United States. They are either warehouse or manufacturing plants. Due to its global presence, Mannington Mills ships their merchandise all over United States and globally, with high demand of successful and quality shipping procedures for customer satisfaction.

## Locations

1. New Jersey: Headquarters and it also includes Mannington's manufacturing and warehousing facility
2. Atlanta: Mannington commercial carpet manufacturing and warehousing facility – Running LoadProof
3. North Carolina: hardwood and laminate operations, also includes a large warehouse and distribution center – Running LoadProof
4. Western Alabama: hardwood operations
5. San Jose: Headquarters and manufacturing facility
6. South Florida: manufacturing facility and warehouse – Running LoadProof



## 4. Mannington Mills Supply Chain - Micro Picture

The objectives to accomplish as part of this project are listed below,

1. Mannington received freight claims and damage claims, even though the warehouse personnel shipped the product perfectly. The warehouse team needed a tool to prove to the other Supply Chain partners, that they are perfectly picking the product, packing the product, palletizing the product, loading the product, and shipping the product
2. Consolidated multiple facilities they had into a few Distribution Centers. Had many OS& D issues – Overage, Shortage and Damage issues, so needed a tool to prove that the warehouse team is doing their job right, hence there were no Overages or Shortages or Damages when they shipped the product.
3. The warehouse team was getting blame that they were not shipping the product accurately and thoroughly packaged.

## 5. What is the Problem?

Mannington Mills being a flooring products manufacturer had all the challenges a typical construction products manufacturer would have in their Supply Chain. Mannington Mills manufactures and ships Flooring products on time and to the customer's site in perfect condition so the installation of flooring products can be done smoothly as part of construction or starting up new facilities that is already going on. If you really think about it, these are products that are purchased out of somebody's capital projects and budgets. So, somebody is investing big time constructing large buildings that need these Flooring products. So, it is very important for Mannington Mills Warehouse Manager to do his part of the job thoroughly and deliver them on time.

Usually when a customer buys Mannington Mills flooring products, it is for another large building that is being constructed. There are several other projects that are going on in parallel to get the construction of the building completed as per the plan. So, it is very important for Mannington Mills to absolutely get the flooring products at the construction site on time otherwise the construction of the building could be delayed. This not only increases the timeline, but also increases the cost of the overall construction because all the other vendors that have dependency on the completion of the flooring products installation part of the project needs to wait, which directly contributes to the increase in the overall cost of the construction project. Sometimes there are also penalty clauses if the product does not arrive on time at the right place.

Mannington Mills personnel did everything right to make sure the Flooring products are packed perfectly, with all the stretch wrapping, dunnage and any other tight packing required. However, the large Flooring products would arrive at the construction site with scratches, damages, sometimes even missing parts. So Mannington Mills warehouse personnel started taking Photos in order to prove that they did their job right as Photos are worth thousand words, so later in the case of damage or anything else that happened to the shipment, Mannington Mills can go back to the customer and or carrier and show them the Photos they took, so they can prove that they did their job right and anything happened after the product left their facility it was not their fault.

As being one of the company's missions to guarantee their quality and fine finishing to the customers, the quality of the material starts with packaging and making sure the materials arrive their destination entirely, avoiding damages and freight claims, which was one of the largest problems to the company. They did not have a tool efficient enough to take pictures and make sure their shipping process was being done correctly. It caused a lot of freight claims, making the company to spend thousands of dollars with those claims. Although their staff was following all guidelines, they still happen to receive chargebacks and freight claims. In addition, even though capturing photos, they used digital cameras and ended up with evidence that was not helpful to prove they did their job right. They wanted an efficient photo documentation system to record all the shipment processes.

## 6. What is the Solution?

The Mannington Mills Warehouse Manager Virgil Curry had found about Loadproof through Google. So, Virgil reached out to LoadProof by submitting a contact form. The LoadProof team performed a demo, and the Mannington Mills was convinced that LoadProof is a good solution that not only solved all the current problems the Mannington Mills team was facing, but also provided additional capabilities that made everything related to capturing, retrieving, and sharing of the Photos so easy.

With that, Virgil Curry designed Craig Lyn Mullins, the logistics coordinator as the LoadProof champion. Mannington Mills turned on LoadProof for the first facility, which was Calhoun GA. Mannington Mills personnel at the Calhoun GA facility started taking Photos of the Flooring products that left the facility daily. These Photos were uploaded to the LoadProof cloud and are available for Mannington Mills personnel whenever they need them. In the event they need them, all they do is log on to LoadProof and type in the Bill of Lading Number to retrieve the specific Photos, so they can demonstrate the condition of the flooring products that left their facility. Later realizing all the benefits, Mannington Mills turned on LoadProof in two other facilities as well, that are Riverbend NC and Umatilla FL.

## 7. What are the capabilities that Mannington Mills obtained with Loadproof?

LoadProof is a Centralized Enterprise Class Photo Documentation System for the entire Mannington Mills Supply Chain Network.

### 7.1 Super-Fast Photo Capture

After downloading the LoadProof app from the app store, Mannington Mills users can take Photos using their mobile devices in a few seconds and then upload those Photos to the cloud tagging the Photos with appropriate contextual data elements. While uploading Photos Mannington Mills personnel can add notes, are also able to tag the Photos with the following

1. User that captured the photos
2. Date when the photos are captured
3. Time when the photos are captured
4. GPS coordinates of the location where the photos are captured
5. Device that was used to capture the photos
6. Android OS version that was running in the device that was used to capture photos

The Photos are captured in multiple resolutions based on the plan, the different resolutions that are available are Low Resolution, Medium Resolution and High Resolution. Mannington Mills uses high resolution Photos for to capture Photos of documents such as Packing Slip, Bill of Lading and Load Verification sheet.

### 7.2 Super-Fast Photo Retrieval

So now the photos are uploaded to the LoadProof cloud, users can easily log on to the LoadProof cloud through the browser and look up photos from wherever they need to. Users logon to the cloud the browser by providing their credentials, which includes a user id and password. Then users are able to input one or more of the contextual data that had tagged the Photos with and then perform a super-fast search. Now users can retrieve the Photos they need, drill down further and look at the Photos individually, zoom in, zoom out, save them locally if they need to (not recommended often) and also examine any notes that was entered and also look at the date stamp, time stamp, GPS coordinates etc. if there is a need to validate any of these data set for each Photo.

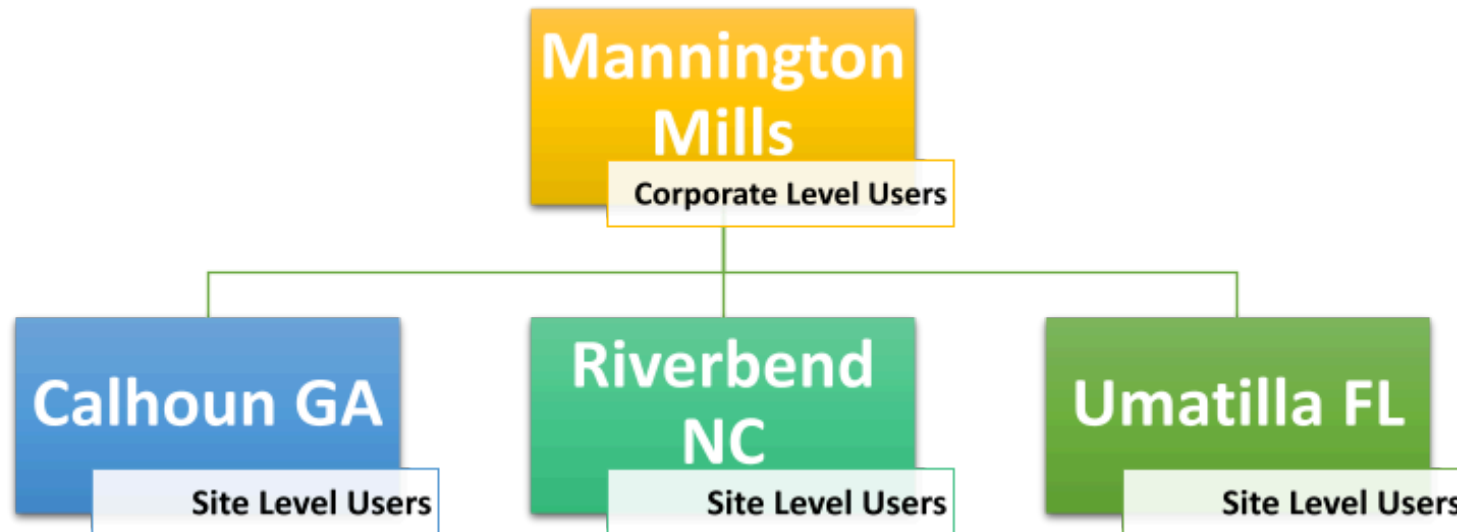
## 7.3 Super-Fast Photo Sharing

After retrieving Photos users can share the Photos with anybody else, usually customers, vendors, partners, carriers, cross dock facilities, insurance companies, claims processors, Retailers, consolidation facilities etc. in multiple ways as listed below,

1. By generating one PDF document for the entire load
2. By sending the entire load to a customer by inputting an email address
3. By setting up a customer as a user within LoadProof
4. By generating a LoadProof URL for each Photo and then sharing that URL in an email
5. By generating multiple LoadProof URLs for all Photos and then sharing those URLs in an email



## 7.5 Enterprise Supply Chain Network Architecture



1. Mannington Mills has corporate level users set up that have visibility to look at Photos across all the sites
  - a. These users could be Photo taker users or Photo viewer users or both
  - b. These users could also be Admin users or Non admin users
2. Mannington Mills also has Network level users that have visibility to look at the Photos at the Supply Chain Network level
  - a. These users could be Photo taker users or Photo viewer users or both
  - b. These users could also be Admin users or Non admin users
3. Mannington Mills has site level users that have visibility to look at the Photos at the site level
  - a. These users could be Photo taker users or Photo viewer users or both
  - b. These users could also be Admin users or Non admin users

## 7.6 Integrations with other Systems

1. LoadProof supports integration with other systems.
2. LoadProof is already integrated with Mercury Gate, My Ez Claims System. My Ez Claims is a Freight Claims Processing system that helps shippers process their Freight claims with multiple carriers faster and easier.

3. Loadproof can be integrated by setting up a field to look up from any other system using a hyperlink so that LoadProof data can be pulled into a browser directly by clicking a link in the external system.

## 8 What are the Benefits?

The results were fantastic, and Craig Lyn Mullins mentions in his testimonial, that she is super happy. Not only the system was super easy to turn on, now they are push back on the claims and are saving a lot of dollars, where in the claims were unjustified. Life is so much better.

### 8.1 Measurable Hard Benefits

1. Now there is one centralized place to get the Photos from, retrieval of Photos is super easy, Mannington Mills personnel retrieve the Photos in seconds instead of spending hours and hours looking for those Photos. All the time related to this activity is saved now.
2. With the centralized sharing of Photos is super easy, all Mannington Mills personnel have to do is put in the email address and push a button, the person on the other end gets the Photo within minutes and there are no more back and forth conversations wasting time. All the time related to this activity is saved now.
3. Our operators are doing a much better job, when everyone knows the quality of the work we are doing is documented. This directly results in improved customer satisfaction rating, in our customer satisfaction surveys we can see the improved customer satisfaction ratings and hence the relationship with the customer has improved significantly.
4. We are setting up our both internal and external customers as users within LoadProof, basically it is a self-service model, which helps tremendously because now, instead of they calling me, they can look and download the Photos whenever they need, life is so much better, everything related to the Photos is super easy. All the time related to this activity is saved now.
5. Before customers will call us and say, hey there was a damage to the product they received, we wouldn't have anything to show that we did our job right, so all we can tell is hey you know what, we will replace that part for free. But now with LoadProof, we can show the Photos and say, hey we did everything perfectly and look at the condition of the product when it left our facility, so it is not our fault, it is not fair for us to replace this free. All the free replacements we have been doing have reduced now
6. With Freight Claims now by providing Photos we get our freight claims processed faster and also less number of freight claims are rejected.
7. Also now less loads are rejected, before when a load gets rejected, our only option is to pull the load back, which means our transportation cost doubled, fix the issues and we have to ship the product once again. Now with Photos we are able to prove that we did our job right, it is much easier to have that conversation in a rejected load scenario and also we can push back on the customer as we have proof.

### 8.2 Intangible Soft Benefits

1. Everybody in the distribution center feels good about the centralized Photo documentation system, there is no more uneasy feeling in the stomach when a customer reports a damage and submits a damage claim. Nobody is losing sleep over damage claims and rejected loads
2. The visibility to the steps we do to ensure the product is shipped in excellent condition to all parties, customers, carriers, internal stake holders such as the Salespeople, Customer Support people, Support Technicians etc. makes us feel much better, if there is any complaint, we can immediately pull the Photos and show them. The visibility has enhanced transparency, so the trust with our partners have improved significantly, our reputation in the industry has improved as well.

- Ability to set up multiple facilities and multiple personnel at the facility level and at the corporate level is very helpful also. It has eliminated unnecessary calls quite a bit, nobody has to wait for the other person to respond

## 9 What are the Cost Savings?

The savings are summarized below under different sections as appropriate.

### 9.1 Savings due to implementing a Centralized Enterprise Class Documentation System for Photos & Videos

# of Hours saver per facility per week	25
# of Facilities	3
Hourly rate of employees that manage these Photos	\$20
Total Savings in a year per facility	$25 \times \$20 \times 54 = \$27,000$
Total Savings across 3 facilities per Year	$\$27,000 \times 3 = \$81,000$
<b>Total Savings per Year within the entire Supply Chain Network</b>	<b>\$81,000</b>

### 9.2 Savings due to Reduced Retailer Chargebacks also called as Vendor Chargebacks submitted by customers

Average # of Shipments in a month	600
# of Facilities in supply chain network	3
Average value of a shipment	\$20,00
Average value of all shipments in one facility in one year	$\$20,000 \times 600 \times 12 = \$144,000,000$
Average \$ lost (0.5% damages) due to retailer chargebacks also known as Vendor Chargebacks	\$720,000
Average value of all shipments in one year within the Supply Chain Network across 3 sites	$\$144,000,000 \times 3 = \$432,000,000$
Average \$ lost due to rejected and damages claims submitted by customers (0.5% of Total)	\$2,160,000
<b>With LoadProof that dollars lost is reduced to 20%, hence the savings are 80%</b>	<b>\$1,728,000</b>

The dollars lost due to retailer chargebacks also known as Vendor Chargebacks claims submitted by customer's results in \$2,160,000

With Enterprise Photo Documentation System, that is reduced by 80%. Hence the savings are 80%, which is \$1,728,000

**Industry Numbers:** The damage claims vary around 2% as per Industry standards. For conservative estimates 0.5% is considered.

### 9.3 Savings due to less Rejected Loads and Reduced Damage claim submitted by customers

Average # of Shipments in a month	600
# of Facilities in supply chain network	3
Average value of a shipment	\$10,000
Average value of all shipments in one facility in one year	$\$10,000 \times 600 \times 12 = \$72,000,000$
Average \$ lost (0.5% damages) due to rejected and damages claims submitted by customers in one year in one site	\$360,000



Average value of all shipments in one year within the Supply Chain Network across 7 sites	\$72,000,000 x 3 = \$216,000,000
Average \$ lost due to rejected and damages claims submitted by customers (0.5% of Total)	\$1,080,000
<b>With LoadProof that dollars lost is reduced to 20%, hence the savings are 80% of \$1,080,000</b>	<b>\$864,000</b>

The dollars lost due to rejected loads and damage claims submitted by customers results in \$1,080,000. With LoadProof, that is reduced by 80%. Hence the savings are 80% of \$1,080,000 which is \$864,000

**Industry Numbers:** The damage claims vary around 2% as per Industry standards. Mannington Mills's is of 0.5% which results in savings of \$864,000

## 9.4 Savings due to Faster Processing of Freight Claims

Average # of shipments in one facility in one year => 600 shipments per month x 12 months	7200
# of Facilities	3
Average # of shipments within the supply chain network in one year across 3 sites – 600 X 12 X 3	600 X 12 X 3 = 21,600
Hourly rate of employees that manage these Photos	\$20
Estimated # of shipments (1% of total shipments) that results in Freight claims within the supply chain network	216
Hours saved with faster processing of freight claims within supply chain network (12 hours saved per freight claim)	216 x 12 = 2592
Total dollars saved = 2592X \$ 20/hour	\$51,840
<b>Total Savings/Year within entire Supply Chain Network due to faster Freight Claims Process</b>	<b>\$51,840</b>

The total savings with faster processing of Freight claims results in \$51,840

**Industry Numbers:** Average number of Freight claims issued for Outbound shipments is approximately 1% of the number of shipments. Mannington Mills is around 1% which results in a savings of \$51,840 with faster processing of Freight claims

## 9.5 Total Savings per Year

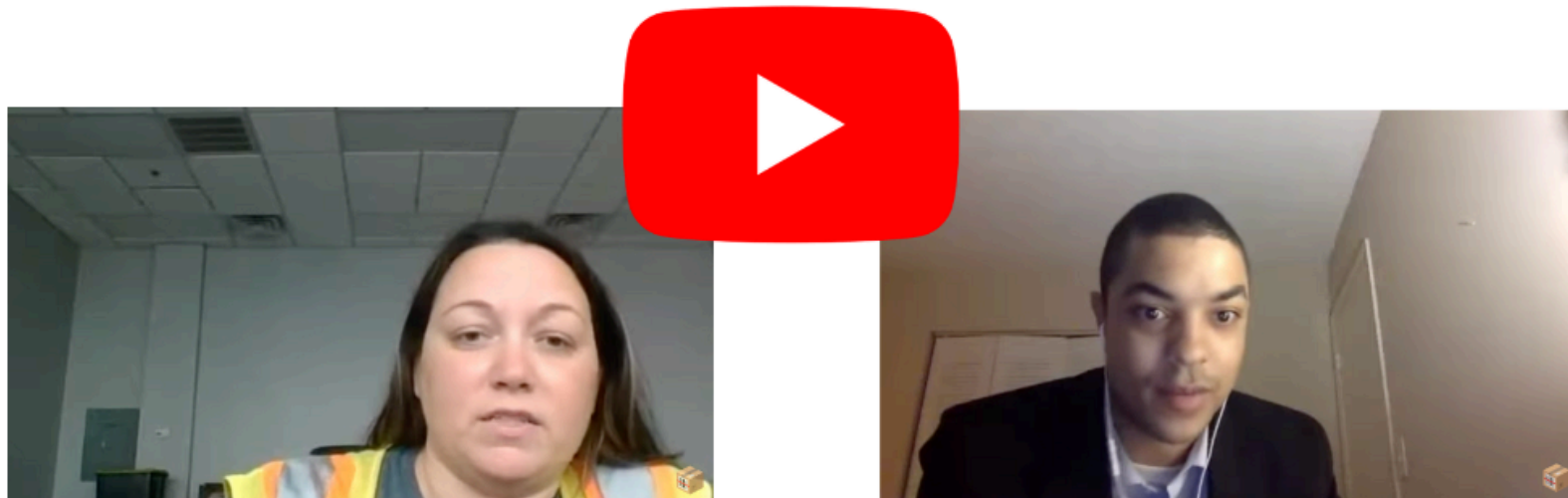
Savings due to Centralized Photo Documentation System	\$81,000
Savings due to Reduced Retail Charegbacks	\$1,728,000
Savings due to reduced rejected and damages claims submitted by customers	\$864,000
Savings per Year due to faster processing of freight claims	\$51,840
<b>Total Savings</b>	<b>\$2,724,840</b>

## 10 User Testimonial Video

[Click this to watch the full Testimonial video.](#)



## LoadProof Testimonial - Craiglyn Mullins, Mannington Mills



## 11. Insights from the Case Study

1. If you are shipping high value products, when the damage occurs, the loss is too much and somebody has to pay for that loss, it is usually the warehouse because the receiver only knows the warehouse that shipped the product, and the receiver does not have any visibility to the other Supply Chain partners that touched the product during transit. So all they can do and do is point fingers at the warehouse and say the warehouse messed this up. So that is where the warehouse personnel need to have photo proof in order to prove that they did their job right. LoadProof helps with proving the point that the warehouse indeed shipped the product in perfect condition. When this proof is made available from the warehouse side, Mannington Mills does not have to incur the cost, also Mannington Mills does not have to replace the items for free.
2. If you are shipping to construction sites, when the product does not get delivered on time, or if the product is delivered with damages, now the supplier is held responsible for the delay. Also in a construction project there are so many other suppliers that are impacted, now because of this delay due to one supplier, all the other suppliers' timeline is changed, hence you incur a penalty for any delay or damages. So now in the same way, the receiver does not have any visibility to the other Supply Chain partners that touched the product during transit. So all they can do and do is point fingers at the warehouse and say the warehouse messed this up. So that is where the warehouse personnel need to have photo proof in order to prove that they did their job right. LoadProof helps with proving the point that the warehouse indeed shipped the product in perfect condition. When this proof is made available from the warehouse side, Mannington Mills does not have to incur the cost, also Mannington Mills does not have to replace the items for free.
3. If you are shipping fragile products when the damage occurs, the damage could be a simple dent or even scratches or a small corner of the product is broken, now the products need to be returned all the way back to the warehouse and now the warehouse team gets the blame as well. So now in the same way, the receiver does not have any visibility to the other Supply Chain partners that touched the product during transit. So all they can do and do is point



## Mannington Mills LoadProof Rollout - Case Study

fingers at the warehouse and say the warehouse messed this up. So that is where the warehouse personnel need to have photo proof in order to prove that they did their job right. LoadProof helps with proving the point that the warehouse indeed shipped the product in perfect condition. When this proof is made available from the warehouse side, Mannington Mills does not have to incur the cost, also Mannington Mills does not have to replace the items for free.