

A COST MANAGEMENT STUDY BY A MAJOR CABLE MANUFACTURER

In 2016 a study was conducted by a major US cable manufacturer. This company was bidding on a large program, and was searching for every competitive advantage they could find. The application required long distance shipping of high voltage cable. Cost of packaging was considered as one of the elements contributing to cost management when bidding for this large contract. The company compared 2x4 wood lagging to Exportguard provided by L-S Industries in Knoxville, TN. Export guard is a heavy duty heat scored polypropylene material used to protect high value product on reels, often in export situations.



WHAT IS EXPORTGUARD?

- 1/6" thick corrugated plastic
- Available with 1/4" foam
- Completely recyclable
- Protects from UV rays
- Foam overlap to fill in side gaps

A variety of factors were considered in this study:

1. MATERIAL AND LABOR COST SAVINGS

As shown in the attached graphic, material cost could be reduced by over \$127,000 annually by using heavy duty plastic wrap. Labor cost would also be reduced, yielding an annual savings of over \$7,000. Annual total savings was estimated at over \$134,000.

This level of cost containment was deemed to be a significant factor bidding for this contract.

COST SAVINGS

Lagging Material Cost		Total YTD Lagging Time (hr)	783
Total YTD Cost	\$190,676		
Average Monthly Cost	\$21,186		
Exportguard Material Cost		Total YTD Exportguard Time (hr)	423
Total YTD Cost	\$63,339		
Average Monthly Cost	\$7,038		
Total YTD Material Savings	\$127,337	Total Time Savings	360
Average Monthly Savings	\$14,148	Labor Cost/Hr	\$20
		Total YTD Labor Savings	\$7,200
		Average Monthly Savings	\$800

2. SAFETY BENEFITS

Safety of employees is always a critical factor in the manufacturing environment. Several safety advantages were identified when using Exportguard. These safety factors were realized at the manufacturing facility, but equally important was safety at their customer's field locations.

- Applying 2x4 wood lagging in this situation required lumber to be cut to size on site using power saws, introducing obvious safety risks. In contrast, Export guard arrives on site already cut to the desired width ready to apply.
- Fixing the 2x4 lagging to the reel flanges required the use of pneumatic nail guns. Constant use of these guns was deemed to be a significant safety factor. The Exportguard option required only tape or nylon strapping to hold it in place for over the road shipping.
- At the receiving end of the shipment, the 2x4 lagging needs to be removed using pry bars and hammers. The use of pry bars and resulting lumber with nails extending introduced a significant handling hazard for the crews unpacking the reels.

SAFETY ASPECTS	
Lagging	Exportguard
Strenuous to apply	Easy to apply
Uses injury prone tool (nailer)	Only need tape to apply
Difficult removal by customer – possible damaged material	Easy removal by customer
Weathers and splinters when exposed to the elements	Weather-resistant – arrives in same condition as it was shipped

3. ERGONOMICS

Applying wood lagging was recognized as a difficult and tedious job in the shipping department. Handling lumber and power nail guns introduced a high level of worker fatigue. Concerns about injuries from repetitive motions applying 2x4 lagging were considered a meaningful factor.

Similar concerns were recognized at the receiving locations regarding the repetitive and tedious removal of thousands of pieces of lumber.

In contrast, applying and removing the Exportguard option was recognized as a much easier operation that would be preferred by the crews applying and removing the material.

4. WEATHER RESISTANCE

Wood provided little protection from weather conditions, either in outdoor storage of reels or during over the road shipments. Spacing between the individual pieces of lumber allowed for water, dirt and road grease to easily penetrate to the finished cable. The plastic Exportguard provided a much higher level of weather resistance, with arrival conditions of the cable expected to be much cleaner. During winter months for shipments to northern states, the risk of freezing of water within the reel was expected to be mitigated with use of Exportguard.

In addition to protection of the cable, the wood lagging when weathered over longer periods of time tended to warp and splinter more readily. In contrast, the plastic Exportguard with UV protective additives would survive long periods of exposure to harsh weather conditions with no degradation of its physical properties.

5. RECYCLABILITY

When wood lagging is removed, each 2x4 piece of lumber will have at least two nails, and commonly 4 – 6 nails, remaining in the board. Handling of the scrap lumber is difficult and hazardous, but it is also not a desirable scrap material. This lagging typically ends up in landfills.

Polypropylene Exportguard is 100% recyclable. Many recycling centers are available throughout the country that are easily accessible. When exporting reels, many countries consider recyclability of packaging materials to be a major consideration, and polypropylene is readily accepted worldwide.

CONCLUSION

After evaluating cost, safety, ergonomics, product quality and protecting the environment, a strong recommendation was made to use L-S Industries Exportguard as the best option for protecting the high value cable to be shipped. The final outcome has yet to be determined, but the expectation is that if awarded the contract, Exportguard will be used for all shipments.

CONCLUSION

- Exportguard is one-third of the cost of lagging materials.
- Exportguard almost reduces the total application time in half.
- Exportguard eliminates the need to cut down wood products on site.