

Application Shifts

Changing your steel banding application to PAC High Strength Polyester

Prior to the widespread manufacturing of polyester strapping, steel strapping was the only choice for heavy palletizing and bundling applications. In addition, because of the inability of polypropylene strapping to retain tension levels over extended periods, tight non compressible loads such as fine paper or bricks, remained the purview of steel strapping. Polypropylene, no matter how heavy the material would just not hold tension sufficiently to be an effective alternative to steel for these types of applications.

However, over the last several years, advances in polyester manufacturing technology have resulted in producing strapping materials that yield superior tension capabilities, high levels of retained tension, and a host of other benefits that make it the preferred alternative for many applications previously considered “steel strapping only”. In addition, tooling advances have made the application of polyester more consistent, more reliable and less operator dependant. Should you make the shift? There are compelling reasons to consider this change, some performance based and some based purely on economics. The factors are listed below:

Safety

This is perhaps one of the most compelling reasons. With steel strapping coils averaging 100 pounds per coil loading them on a dispenser involves substantial risk of back injuries. While OSHA does not publish specific lifting limits, most experts agree that without some type of mechanical assistance, 50-75 pounds is the normal limit that an individual should be lifting. Steel obviously exceeds this. Polyester coils vary, but the typical polyester coil averages 50 pounds, within the weight limit of normal lifting capabilities.

Steel strapping is also... well steel. As a result, when handled there is a risk of cutting any body part it comes in contact with. While steel strapping edges are normally deburred and smoothed, the risk is completely eliminated with polyester strapping. In addition, when steel is cut under tension, two additional risks come into play. One, the act of cutting the steel creates a sharp edge along the cutting surface. In addition, the strap which is under tension will spring back, risking cut injuries for the face and eyes. So if you determine polyester does not work for your application, it's an excellent idea to review all of your safety procedures, which should include wearing both safety gloves and proper eyewear.

Performance

Ultimately, your package must arrive intact. Obviously that's the purpose of strapping it , and if it doesn't the other factors become moot. When you apply steel to a pallet, you tighten the strap around the load and in essence, create a fixed perimeter of steel around the outside of the package. When, and if that load settles as a result of transportation vibration or just storage, the steel perimeter remains the same. However, the dimensions of the settling load actually become smaller. The result is that your straps are no longer tight around the load and your package is at risk. We often see pallets sitting in warehouses strapped with steel and the straps appear to have come loose. That's a bit of a misconception. The steel straps are the same as when they were applied. The load has just become smaller. With PAC high strength polyester applied properly, you stretch the material when applied. The amount of the stretch, which should ultimately be in the range of 8-10%, serves as a "shock reserve" for your package. Essentially, if your load settles by 8-10% your package will still stay intact.

A "Greener" solution

Like nearly every manufacturer of polyester strapping, PAC High Performance Polyester is made with a certain percentage of recycled polyester. The amount of recycled polyester used is proprietary, and depends on the availability and price of high quality polyester resin with the proper qualities to make strapping.

In addition, clearly one of the keys to environmentally responsible packaging is to reduce the quantity of packaging at the source, Polyester wins versus steel, hands down. On a 48"x40"x48" pallet, using 4 straps of 3/4" x .020' steel, you will need a little over 4 pounds of steel. If you switch your material to 5/8' x .040 polyester, your total strapping weight is about 1.12 lbs of strap, a reduction of well over 300%.

Polyester is also easy to recycle, and can be chopped for recycling using a relatively inexpensive chopper.

Cost Considerations

The advances in polyester strap manufacturing and corresponding tooling opened the door for the replacement of steel. However, what ultimately drove the rapid change to polyester was, not surprising, economics. In the last quarter of 2003, basic commodity prices for steel, for a variety of reasons, began to edge upward. That trend continued well into 2005, when steel strapping prices nearly doubled from their low point in 2003. With savings in the 40-50% range for switching to polyester strapping, companies that had previously dismissed the use of polyester began to look carefully again. As steel strapping prices have fluctuated over the past 4 years, the urgency to switch to the polyester alternative has accelerated and waned, depending on the price of steel.

However, even with current steel prices, which are substantially lower at the beginning of the 3rd quarter than they have been in well over a year, users can still expect minimum savings of 30%-40% over the cost of steel strapping. That, of course, has to be netted against any upfront costs for new tooling.

For high volume applications that are currently using steel in a manual mode, switching to an automated system can have a dramatic impact on cost savings when labor savings and productivity are factored into the equation. Even after spending capital dollars on new equipment, pay backs can be under one year, and return on investment can make conversion a very attractive financial option. PAC Strapping Products has tools available to estimate both material and labor savings. For more information on a self guided analysis of material savings, visit the technical resources section of www.strapsolutions.com.

Conclusion

Ultimately, decisions on how to secure pallets and bundles must be based on what works. No matter what the cost savings are, if your product does not arrive intact, any cost savings are quickly evaporated. However, the advances in polyester strapping, tooling, and application machinery make polyester a better product for many applications. If you are still using steel strapping for your application, even if you have tried this in the past, a second look is warranted. You can trial product in a limited test to determine if polyester is right for your application, before making a significant investment. The cost savings, which can be significant are an added benefit, and part of the equation, but should not be the deciding factor.