

What you need to know about

***CONVERTING  
FROM STEEL  
TO POLYESTER  
STRAPPING***



## **IN THE PAST, STEEL STRAPPING WAS THE ONLY OPTION AVAILABLE ON THE MARKET, SO THAT WAS WHAT EVERYONE USED.**

Today, there's a much different story being told. Some plants still use steel strapping, but many others have made the switch to polyester. If you are currently using steel strapping, you might be wondering if there's a better alternative.

Polyester strapping could be the solution. Before you make the switch, you should carefully consider the pros and cons of changing from steel to polyester.

This guide will review the key considerations involved and help you answer many of the questions you have. With this information in hand, you'll be able to make a better choice about converting from one strapping material to another.

# WHEN CAN POLYESTER REPLACE STEEL STRAPPING?

**THE ANSWER IS THAT POLYESTER STRAPPING IS APPROPRIATE TO USE WITH ALMOST ANY LOAD. ONLY THE HEAVIEST, MOST NON-COMPRESSIBLE LOADS SHOULD USE STEEL.**



Many operations remain with steel because they feel it's the "right" choice for their packaging needs.

There are some cases when steel strapping is the right choice. Steel has the highest strength of any strapping material, including high-strength polyester. If you're strapping very heavy loads, then steel might be the best material to work with.

Steel also works well if the load is very non-compressible. If it's something like lumber, though, which experiences both [settling and shrinking](#), steel might not be the best choice you could make.

The reason for this is simple. Steel, while strong, doesn't have the elasticity of other materials. If a bundle shrinks, steel doesn't take up the slack. Instead, it may loosen, causing items in the bundle to escape from the strapping.

Polyester, on the other hand, is a much more versatile material. It will stretch around loads and take up slack, meaning everything stays tightly packed and firmly in place. This is true even when loads expand or shrink.



## THE ADVANTAGES OF POLYESTER STRAPPING

- **ELASTICITY**
- **IMPROVED WORKER SAFETY**
- **LESS LIKELY TO DAMAGE PRODUCT**
- **NO RUST**

Aside from its elongation recovery and elasticity, polyester has quite a few other advantages as a strapping material.

Some people worry that polyester isn't strong enough to handle the kinds of loads they need to strap. While not as strong as steel, polyester has moderate break strength. High-strength formulations are even less likely to break.

Polyester also reduces the likelihood of both damage to your product and injury to workers. Since it's less likely to snap, it's less likely to fly off and hurt people. The cuts common with steel strapping are less likely to occur when you use polyester. Injuries are so common with steel strapping that workers [need additional protective gear](#).

Steel [can also rust](#), especially in the wrong storage or weather conditions. This could damage your product. Since steel has low elasticity, it's also more likely to break under pressure, which can cause damage to the product.



# CALCULATING CONVERSIONS

- 1. TENSION**
- 2. ELONGATION**
- 3. RECOVERY**
- 4. WORKING RANGE**
- 5. IMPACT RESISTANCE**

You'll need to pay attention to five measurements when you want to switch from steel to polyester strapping.

Elongation occurs when tension is applied. Recovery is a measure of how well the strap returns to its original shape after tension is reduced. When a strap is elongated but can recover, it's within its working range.

Steel and polyester have different working ranges, which means you need to pay attention to the amount of tension a load will put on the strap. How much will this cause the strap to elongate? At what point will the strap break?

Steel doesn't have much in the way of elongation or recovery. As a result, when steel is put under the proper tension to the working range, a sudden jar or impact is more likely to simply break the strap. Steel cannot stretch to absorb the energy of the impact. The impact resistance of polyester is much greater than that of steel. Polyester can elongate, absorbing the energy of a sudden jar or impact, and then recover to the original working range tension without breaking. This feature of polyester is what makes it a suitable and, quite often, a better alternative to steel.

## COST ADVANTAGES OF POLYESTER STRAPPING

This is a huge factor when you're considering the advantages of converting from steel strapping to polyester. Steel is pricey, and when the price of the metal increases, so too does the cost of packing up your pallets and products.

If you're using a pallet of steel strapping per month or more, you could see significant cost reductions by making a switch. Polyester is much more affordable than steel. Some companies report seeing anywhere from 25 to 40 percent cost reductions.

Another advantage is that polyester strapping is versatile, which reduces the need for additional materials and their associated costs. Polyester tends not to need edgeboard, although some applications still require this protection.

Further, converting to polyester can reduce forklift tire replacements and their associated costs. Steel strapping cuts the tires of forklifts when run over, while PET strapping does not.

## IMPROVING SAFETY AND PRODUCTIVITY

There are other ways converting to polyester strapping can improve your bottom line too, such as improved safety. With fewer risks, your workers are safer from harm. They're less likely to lose time on the floor treating minor cuts, and more serious incidents can be avoided.

This can improve productivity, as can the fact that using polyester reduces worker fatigue. Since [polyester rolls](#) are three to four times longer than steel strapping rolls, you also don't need to changeover as frequently. Reducing the number of times you need to stop and start can give productivity a boost. What's more, polyester rolls are lighter. Steel strapping is usually a two-person lift because of coil weight, while PET rolls are much lighter, reducing the potential for lift-related injuries.

As mentioned, the use of polyester strapping can also help minimize product damage. In turn, this reduces the number of loads you need to replace or discount. Fewer damages and returns can do wonders for your bottom line.

## THINKING ABOUT TOOLS WHEN CONVERTING STRAPPING TYPES



You might be eager to make the switch from steel to polyester as soon as possible after reading all the advantages. There are some things to consider when making the switch, which you'll also need to take into account.

The first is tooling costs. The tools you'll need to use polyester strapping can be expensive, especially if it means replacing most of your equipment. If you've been using steel strapping for decades, the tools are already paid for. Switching represents moving away from those sunk costs.

***THAT SAID, THE TOOLS USED FOR POLYESTER STRAPPING OFTEN **PAY FOR THEMSELVES** BY THE TIME YOU'VE CONVERTED YOUR SIXTH SKID OF STEEL STRAPPING.***

If you're using six or more skids of steel in a year or less, then your new equipment may be paying you dividends by the end of the first year.

With polyester strap, there are many alternatives for tooling; therefore, it is important to consider the best options for the application.



## EMPLOYEE RESISTANCE

***EMPHASIZE HOW  
MUCH SAFER IT IS  
AND HOW MUCH  
EASIER IT IS TO USE.***

Another key challenge is getting your employees on board with the switch. Some workers are resistant to change. They may try to avoid using polyester strapping, or they may continue to use steel even after you introduce polyester.

Some concerns will be legitimate, but having the right information can help your employees feel more confident [about making the switch](#). Be sure to provide training and other supports for using the new tools.

You should also supply information about how using polyester can reduce product damages and worker injuries. Chances are your workers will prefer using polyester strapping once they've had a chance to adjust.

Helping them get used to polyester strapping by providing the right support will help you overcome employee resistance.



## **THE 5-STEP PROCESS FOR DETERMINING WHETHER CONVERSION MAKES SENSE**

Once you've weighed the pros and cons of converting from steel strapping to polyester, it's time to design the implementation process. Adopting any new procedure or equipment in your plant should follow a carefully designed process, and switching strapping materials is no exception.

Packaging experts recommend a five-step process for converting from steel strapping to polyester. Following the process will help you easily implement polyester strapping in your plant.

## **STEP 1: Determine Whether Polyester Is Right for the Application**

The first step should always be to ask whether polyester is right for the application. Polyester is versatile, so there are only a handful of cases where it won't be appropriate. It's suitable for most applications, so the answer to this question will usually be "yes." That said, it is important to ask the question before you make the switch.

## **STEP 2: Determine the Costs and Savings**

Next, evaluate [the costs and potential savings](#) involved in making the switch. You'll likely get the help of your accounting department to determine whether converting makes sense for your budget. While many plant managers find cost savings by making the switch, you may find the costs are too high for your current budget.

Take a look at the long-term implications of making the conversion. Switching to polyester may seem more expensive up front, but it can save you more in the long run. If converting isn't feasible right now, it might be something you want to build into your budget in the future.

## **STEP 3: Get Product Recommendations**

Once you've determined your application is suitable for polyester and how much you can save, it's time to get product recommendations from the experts.

This step usually involves inviting packaging experts to your plant. During the site visit, they'll evaluate your current operations. With a better understanding of your needs and how your processes work, they can make [product](#), [tooling](#), and [equipment recommendations](#).

The five-step process is just a guideline. You can add steps as needed.

The key is to make sure you're evaluating and adjusting at each stage. This way, you'll be sure the solution you implement truly meets your plant's needs.

#### **STEP 4: Test Products**

This step will see you follow up on those recommendations. After carefully considering your options, you can ask for a trial run of [a product solution](#).

It's best to use limited trials to test how well the solution works. This way, if it isn't working, problems will be confined to a small segment of your plant operations. It also makes it easy to compare costs, productivity, and more between the old way of strapping and the new way.

Trials happen on a small scale, which makes it easier to pinpoint issues and resolve them. This is a much better solution than implementing the new polyester strapping tools and processes plant-wide and then trying to solve problems on a much larger scale.

During the trial phase, you'll tweak the solution. Once problems are resolved, you're likely ready to begin rolling out the solution on a plant-wide basis.

#### **STEP 5: Roll out the Product**

The rollout is the final step of the five-step implementation process most experts recommend. You may want to proceed with a staggered rollout, introducing the new procedures and machines to a few teams or departments at a time.

This allows you to continue providing the right support to each team, giving them time to adjust, before you move on to the next team. You can also continue refining the process as necessary. Each individual job in your plant no doubt has its own needs, so new issues may crop up as you roll out the solution.

## GET MORE ADVICE FROM THE EXPERTS

**EMAIL:**  
***sales@  
frommpackaging.ca***

**TEL: 905-428-3444**

If you're ready to make the switch from steel strapping to affordable, safe, and versatile polyester, [get in touch](#) with FROMM Packaging Systems. We can answer additional questions you have.

Polyester strapping is often the right choice. With the right advice, you can convert your processes.

### ***ABOUT FROMM PACKAGING SYSTEMS***

*Established in 1947, FROMM is a market-leading manufacturer of automated packaging solutions, wrapping machines, strapping machines, the patented Airpad pillow system, as well as all necessary consumables. We design, develop, and produce a wide variety of systems for unitizing and palletizing goods for transport.*

*We work closely with customers to develop custom packaging solutions that meet their requirements and enable them to reduce waste, cut costs, and increase operational efficiency.*

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