

# NITECH<sup>®</sup>

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## WHAT IS POWERED PRE-STRETCH?

Pre-stretching film is separate and isolated function from the actual stretch wrapping of the pallet. Where as all films must be somewhat stretched in order to provide film tension they may not need to be stretched before application. Pre-stretching lengthens (yield) and thins (gauge) film prior to it's application to the load. This increases the film by being longer and decreases the load holding force by producing thinner lower gauge film. A pre-stretch film system also helps reduce the necking down (narrowing) of the films width to provide an increased film coverage with each turntable rotation.

## 20" POWERED PRE-STRETCH (PS)

Our Powered-pre-stretch system allows film to be stretched 200% (standard) by using two urethane rollers turning at differential speed. The dancer system utilizes a rocker idler roller, which turns on and off the pre-stretch drive motor in response to the film tension. The PS will pre-stretch your film to the load adding minimal force to light loads and obtaining higher film yield. Most machine grade films are designed to yield about 225% and the PS will offer film savings, tight load containment and simplicity to your operators.

**Note:** Optional gear switches to 250% and 300%

## FILM GAIN

One costing concept describes *both* the amount of film "stretch" received, and the resulting width of the stretched film. It is called "Film Gain," and is expressed as a percentage - as is film "stretch".

If a 20" wide piece of film which is 10" long is stretched until it is 20" long, the film has been "stretched" 100%. If this film sample is now only 10" wide, it has still been "stretched" 100%, *but* its percentage of "Film Gain" is 0%.

The film sample still contains 200 square inches of film (20" x 10").

High "Film Gain" efficiency is much more important to users of stretch wrap equipment than "stretch" levels (which it encompasses) because "Film Gain" efficiency translates directly into lower wrap costs and quicker wrap times for customers. Because the film is wider, fewer vertical spirals of film are required to wrap the load.

A Nitech pre-stretch system will give a "Film Gain" as high or higher than any other comparable prestretch device because it is not only adjustable in stretch level (gear switches), its design keeps the film as wide or wider than any competitive equipment.

## EFFECTIVE FILM GAIN

“Effective Film Gain” is more important than “Film Gain” because it affects the survivability of the wrapped load as well as the cost to wrap the load.

Effective Film Gain” is the “Film Gain” of stretching the film, subtracting the film stretch lost as the film recovers (or shrinks) after it is stretched. There are two ways to hold a load together in transit with film:

1. Wrap the load with enough stretched film that the force of the film after it has recovered will successfully hold the load together in transit.
2. Wrap the load with film under tension. This method uses much less film.

Most powered prestretches today attempt to wrap a load with film under tension. The problem is that most mechanical devices which control the “load-holding”, “load tension”, or “compression” force of the film going to the load are not precise, and you must use more film to get a shippable load.

A Nitech powered prestretch, system, because of its design, will use as much as 25%-50% less film to deliver a shippable load when compared to almost all other stretch-wrappers with powered prestretches stretching the film the same amount

## LOAD-HOLDING FORCE

All Nitech powered pre stretch systems provide for independently adjusting the load-holding force of the film around the load - regardless of the amount of film stretch, load size, shape, position on turntable, or turntable speed selected.

The operator adjusts the Pre-stretch system, by turning a knob, to the proper load-holding (“Load Tension” or “Compression”) force of the film around your product - adjustable from only two (5) pounds of force to as much as the film being used will allow - strong enough to hold the load together, but not so strong as to crush light or soft products or boxes or to topple unstable loads during the wrap process.

The importance of consistent load-holding force cannot be overstated. Besides not allowing your products to ship undamaged, an inconsistent force-to-load, or too low a force can easily double the cost of film used by allowing the stretch in the film to be lost, decreasing the “Effective Film Gain”.

All *electronic* units lower the load-holding force at the beginning of the wrap cycle to allow their prestretch system to begin operation without breaking the film. Doing this applies film which will not help hold the load together in-transit, wasting money.

Our Powered Pre-stretch system automatically and constantly self-adjusts its motors speed to place an equal holding force on the entire load, even during wrap-cycle start-up.