

Nylon Lifting Slings 101

Nylon lifting slings are used in the lifting and rigging industry to transport everything from drums to building materials. Made from heavy-duty industrial-grade webbing, our slings can hold up in even the most rigorous applications.

Many of our slings are made in the USA and come with a tag that includes the working load limits for various hitches for ease of use.

Nylon slings are popular because they are versatile and can be used in almost any type of lift.

Types of Nylon Lifting Straps

There are multiple variations when it comes to nylon lifting straps design, making it easy for you to choose the one best-suited to your application.

Once you've identified the most compatible style (explored further below), then you will need to find the right combination of width, length, and plies. For example, a 3- or 4-ply nylon lifting strap offers greater strength at smaller widths but is less flexible than a 1- or 2-ply option.

Some slings are even available with built-in wear pads for abrasion-resistance.

Type 1 – Triangle Choker Sling

[Nylon triangle choker lifting slings](#) have a steel triangle on each eye – one of which includes a slot. The smaller triangle can pass through this slot to create the necessary setup for a choker hitch.

The metal end fittings help to extend the working lifespan of the sling by reducing wear and tear on the eyes.

Hitch types: Choker, vertical, basket

Type 2 – Triangle Sling

The [type 2 triangle slings](#) are incredibly similar to the type 1 sling, except that they cannot be used in choker hitches. Unlike the type 1 nylon lifting sling, neither of the triangle end fittings includes a slot.

Hitch types: Vertical, basket

Type 3 – Flat Eye & Eye

[Flat eye and eye slings](#) have eyes with no end fittings. The eye design makes them easier to remove from beneath a load than those with end fittings or a twisted eye. They are very versatile and are one of our most popular slings.

Hitch types: Choker, vertical, basket

Type 4 – Flat Eye & Eye Twist

The construction of the [twisted eye and eye sling](#) is almost identical to the type 3 sling, except for the eyes. The loops are twisted, which allows for superior performance in basket and choker hitches.

Hitch types: Choker, vertical, basket

Type 5 – Endless Sling

[Endless slings](#) are a loop – the ends of the nylon lifting strap are joined together using a load-bearing splice. The main benefit of this style is that you can adjust the contact points with each lift, reducing the wear and tear on the fabric.

Hitch types: Choker, vertical, basket

Type 6 – Reverse Eye Sling

The [type 6 slings](#) are known as a reverse eye sling. Equal to one half the body width of the sling, these eyes stand at 90 degrees to the sling body, a setup that prevents twisting during lifts with a basket or choker hitch. The eyes can also be reversed, doubling the service life.

This style works better than flat eye slings in a choker hitch and is covered with Cordura® wear pads, a thick, durable fabric that resists abrasion.

Hitch types: Choker, vertical, basket

Type 7 – Flat Eye Sling

Flat eye type 7 slings are the same as the type 6 sling, but with flat eyes.

Hitch types: Choker, vertical, basket

Type 8 – Continuous Eye Wide

[Continuous eye slings](#) are ideal for heavy loads. The wide body provides extra stability, and the eye design provides extra strength. They are a continuous part of the sling, rather than an attachment.

These nylon lifting straps can be up to 24" - this added width can even protect fragile cargo during a lift.

Hitch types: Basket

Type 9 – Attached Eye Wide

Similar to type 8 slings, [type 9 attached eye slings](#) have a wide body for additional stability. Because the eyes are attached, however; these are not as strong.

Their eyes are narrow to accommodate smaller hooks.

Hitch types: Basket

Bridle Slings

[Bridle slings](#) come with a master link on one end and a variety of end fittings (including a standard eye) on the other.

They can have up to four legs, making them the ideal choice for lifts with more than one pickup point, and provide a lighter alternative to chain or wire rope slings.

[Learn more about our nylon bridle slings.](#)

Drum Slings

Our [drum slings](#) are specifically designed to be used with 55-gallon drums. They attach using either a harness or hooks, and are commonly used in warehouses or manufacturing facilities.

Learn more about the different kinds of nylon slings in our [sling video](#).

Why Choose a Nylon Sling for Lifting?

Nylon is the most widely used sling fabric. It has many benefits – it's relatively inexpensive and is flexible, which prevents it from locking up on a load.

This flexibility also makes it a good option for fragile or irregularly-shaped loads. Nylon will conform to the shape of the object, creating a stable lifting setup.

It's unaffected by oil and grease and is resistant to aldehydes, ethers, and strong alkalis. It shouldn't be used, however, with bleaching agents or acids.

Some other important factors to keep in mind is that nylon stretches approximately 8-10% at rated capacity and should only be used in temperatures under 194 degrees Fahrenheit (90 degrees Celsius).

Benefits of Nylon as a Lifting Sling Material

[Comparing nylon](#) to a couple of the more popular alternatives can help you choose which one will work for you.

[Polyester vs Nylon](#)

Polyester is very similar to nylon but only stretches 3-5% at rated capacity, making it a better choice for low headroom applications. It also differs in the types of chemicals it can be exposed to: polyester is impervious to bleaching agents and acids but cannot handle sulfuric acids or alkaline.

It has the same upper temperature limit as nylon.

[Wire Rope vs Nylon](#)

Wire rope is not as flexible or as easy-to-use as nylon, but it provides superior strength and resilience to high temperatures. If you want a tougher sling than nylon without spending as much as you would on chain, wire rope is a good option.

[Chain vs Nylon](#)

Chain is expensive but durable – resistant to cutting and abrasions, it's a great choice for situations where nylon slings would fail. It can also handle temperatures up to 400 degrees Fahrenheit (204 degrees Celsius).

Chain is much heavier than a nylon sling, which can affect transport and storage considerations.

[Learn more about the different factors to consider when choosing a sling.](#)

Nylon Sling Lifting Techniques

There are three primary hitches when using nylon slings: vertical, choker, and basket.



A vertical hitch is where the load is attached to the bottom of the sling, either to the eye or to end hardware.



In a choker hitch, the sling wraps around the load and one eye/end fitting is passed through the other eye to create a choke point above the load.



Basket hitches have both eyes attached overhead, cradling the load.

Due to the differences in how these are set up, each has a different working load limit.

Nylon Sling Capacity Chart

	Percent of WLL	Example
Vertical	100%	1,500 lbs.
Choker	75-80%	1,200 lbs.
Basket	200%	3,000 lbs.

Note these are the standard values and can vary based on the sling you purchase. Check the hitch working load limits provided before purchasing. The above chart is contingent on the sling being at a 90 degree angle.

How to Measure a Nylon Lifting Strap

To determine the length of your sling, you will need to measure from the load-bearing point of one eye or fitting to the load-bearing point of the other eye or fitting.

This applies even to endless lifting slings – to find the length, stretch the sling from end to end and measure from tip to tip. Do not measure the circumference.



Nylon Webbing Sling Protection

"Slings in contact with edges, corners, protrusions, or abrasive surfaces shall be protected with a material of sufficient strength, thickness, and construction to prevent damage." - ASME B30.9 (2021) 9-5.10.4(d)

Sling protection is essential for your rigging and lifting application. Not only can it protect your sling from lift-related damage (extending the life of the sling), but it also makes your jobsite safer.

While it's important to use sling protection for all lifts, nylon lifting slings are more likely to incur damage than slings made from most other materials – they can be cut, torn, or abraded by the load. This can have dangerous consequences: [the number one cause of sling accidents is the cutting of synthetic slings.](#)

Where is Sling Protection Needed?

Sling protection for nylon lifting straps should be present at any point the sling is making or could make contact with the load or hardware. This includes lift points, the top connection point, and even load edges that are above the hookup points!

[Learn more about sling protection available at US Cargo Control.](#)

Nylon Lifting Sling Inspection

Your nylon lifting sling should be inspected by a designated person to look for any damage or other signs that the sling should be removed from service.

Removal criteria include illegible sling identification, excessive dirt in the rope structure, discoloration that can indicate chemical or heat damage, and more.

Make sure you are up-to-date on the ASME B30.9-4.9 inspection, removal, and repair guidelines when using a nylon sling.

Questions?

If you have any questions about choosing the best nylon lifting sling for you, please call 866-444-9990 or email customerservice@uscargocontrol.com. We'll be happy to help you get what you want, when you need it.