

Who Performs High-Performance Roundsling Inspections & How Often?

One of the most basic but crucial aspects of using a high performance roundsling is properly inspecting it prior to each use. Taking the time to perform a brief visual inspection will confirm that the roundsling meets the specific job and lifting requirements and will also help to ensure the safety of the user, help extend the life of the equipment, and help to reduce unnecessary equipment repair costs and costly down time.

Before each use, a high performance roundsling needs to be inspected in accordance with OSHA 1910.184 and ASME B30.9 standards, prior to being put into service.



Initial Inspection (Prior to Initial Use):

Best practice is to inspect the roundsling upon receiving it from the manufacturer. Double-check the sling tag to make sure it's what you ordered and that the rated capacity meets all of your project specifications and lifting requirements.

Frequent (Daily or Prior to Use):

Designate a Competent Person to perform a daily visual inspection of slings and all fastenings and attachments for damage, defects, or deformities. The inspector should also make sure that roundsling that was selected meets the specific job requirements it's being used for.

However, users can't rely on a once-a-day inspection if the sling is used multiple times throughout the day. Shock loads, severe angles, edges, and excessive heat can quickly cause damage to a lifting sling, so best practice is to perform a visual inspection before any shift change or changes in lifting application.

Periodic Inspection:

A documented periodic inspection is performed by either a professional service provider, or by a Qualified person every 12 months (at a minimum) and monthly to quarterly in more severe service conditions. The following are all determining factors in scheduling the frequency of a periodic inspection:

- Frequency of use
- Severity of service conditions
- Nature of the lifts being performed
- Experience gained on the service life of wire rope slings used in similar applications

ASME provides these additional periodic inspection guidelines based on the service of the high performance roundsling:

- Normal Service – Yearly
- Severe Service – Monthly to Quarterly
- Special Service – As recommended by a Qualified person

Depending on the severity of the operating environment and frequency of use, your business may decide that a more thorough inspection should occur more often than the minimum yearly requirement.

Periodic inspections are required to be documented per ASME B30.9 and records retained.

The employer is required to maintain a record of the most recent thorough sling inspection—however, individual records for each sling that was inspected are not required. Failure to maintain and retain inspection records is one of the most common issues we see that can prevent a company from reaching full OSHA compliance.

High-Performance Roundsling Identification Tag Requirements

Per ASME B30.9 ...

A high performance roundsling shall be marked to include:

- Name or trademark of manufacturer, or if repaired, the entity performing repairs
- Manufacturer's code or stock number
- Rated load for at least one hitch type and the angle upon which it is based
- Core yarn – fiber type(s) or blend
- Cover material, if different from core material
- Number of legs, if more than one



If the tag is missing or illegible ...

The inspector should remove the sling from service and send it to an authorized repair facility for current or updated certification, tagging, and testing.

Basic High-Performance Roundsling Inspection Criteria

A key factor when inspecting high performance roundslings is being able to identify a potential issue and taking action on it before the sling is connected to any rigging hardware. A small cut, burn, tear or hole in a high performance roundsling can compromise the strength and lifting capabilities of the sling when under load, and therefore the sling must be removed from service immediately. If there is any doubt as to the condition of the roundsling prior to use, it needs to be removed from service and replaced.



The following ASME B30.9 high performance roundsling inspection standards require immediate removal from service for any sling with any of the following visible occurrences:

Missing or illegible sling identification

Acid or caustic burns

Evidence of heat damage

Holes, tears, cuts, abrasive wear or snags that expose the core yarns

Broken or damaged core yarns

Weld splatter that exposes core yarns

Knots in the roundsling, except for core yarn knots inside the cover installed by the manufacturer during the fabrication process

Fittings that are pitted, corroded, cracked, bent, twisted, gouged, or broken

Discoloration and brittle or stiff areas on any part of the slings, which may indicate chemical or other damage

For hooks, removal criteria as stated in ASME B30.10

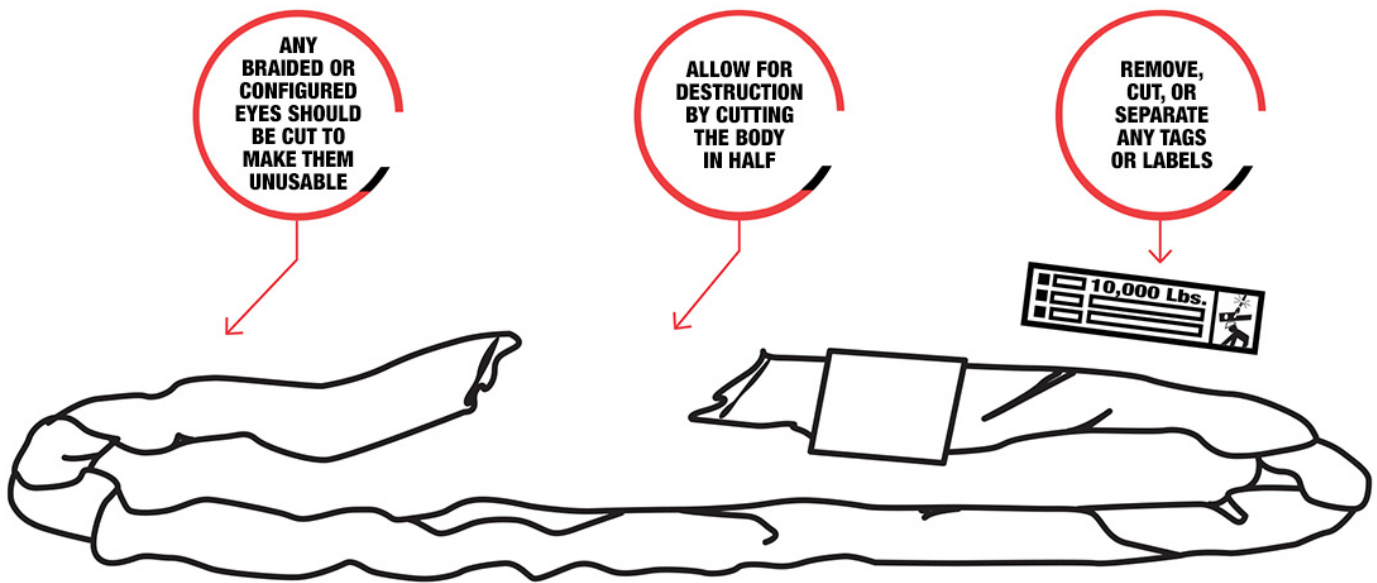
For rigging hardware, removal criteria as stated in ASME B30.26

Other conditions, including visible damage, that cause doubt to the continued use of the sling

Disposal of Damaged / Failed Roundslings

A high performance roundsling is strong, flexible, and pliable—allowing it to adjust to and tighten around loads better than some other types of slings. Roundslings are an economical option that are versatile and can be used in a variety of hitches including vertical, choker, or basket—so they can be used in many different types of applications. Another benefit is that they have a jacket that provides an added level of protection to the inner load-bearing fibers.

When performing a roundsling inspection, you'll want to identify a potential issue and take action on it before the sling is connected to any rigging hardware. A small cut, burn, tear, or hole in a synthetic roundsling can compromise the strength and lifting capabilities of the sling when under load and therefore the sling must be removed from service immediately.



If it is determined that a roundsling meets the removal from service criteria, then the following actions need to be taken to discard and render the sling unusable:

- The standard endless configuration of a roundsling typically allows for destruction by cutting the body in half
- If the sling has been braided or configured to form an eye on each end, then the eyes should be cut to make them unusable
- Best practice is to remove, cut, or separate any tags and labels from the sling
- Place scrap into your facility's recycling bins

Best Practices for Maintaining Roundslings

The best way to help extend the life of a high performance roundsling, and help to ensure that it stays in service, is to properly maintain it during and in-between each use. Inspections are easier to perform—and probably more thorough—when slings are easily accessible and organized, kept off of the ground, and stored in a cool and dry environment.

Hang your slings or keep them in a designated locker or rigging box where they are off of the ground and will not be subjected to mechanical damage, corrosive action, moisture, or extreme temperatures.



Temperature

Some synthetic yarns do not retain their published breaking strength above 140°F (60°C). The high performance roundsling manufacturer should be consulted for the temperature range of the roundsling selected for use.



Chemically Active Environments

The strength of high performance roundslings, and their fittings, may be degraded by chemically active environments. This includes exposure to chemicals in the form of solids, liquids, gases, vapors, or fumes. The sling manufacturer or Qualified Person should be consulted before slings are used in chemically active environments.

Polyester and nylon webbing materials have different chemical resistance properties. Please refer to the chart below for guidelines on polyester or nylon roundslings in specific chemically-active environments.

	Nylon	Polyester
Acids	No	*
Alcohols	Yes	Yes
Aldehydes	Yes	No
Strong Alkalis	Yes	**
Bleach Agents	No	Yes
Dry Cleaning Solvents	Yes	Yes
Ethers	Yes	No
Halogenated Hydrocarbons	Yes	Yes
Hydrocarbons	Yes	Yes
Ketones	Yes	Yes
Oils (Crude)	Yes	Yes
Oils (Lubricating)	Yes	Yes
Soaps & Detergents	Yes	Yes
Water & Sea Water	Yes	Yes
Weak Alkalis	Yes	Yes

* Disintegrated by concentrated sulfuric acid

** Degraded by strong alkalis at elevated temperatures



Sunlight and Ultraviolet Light

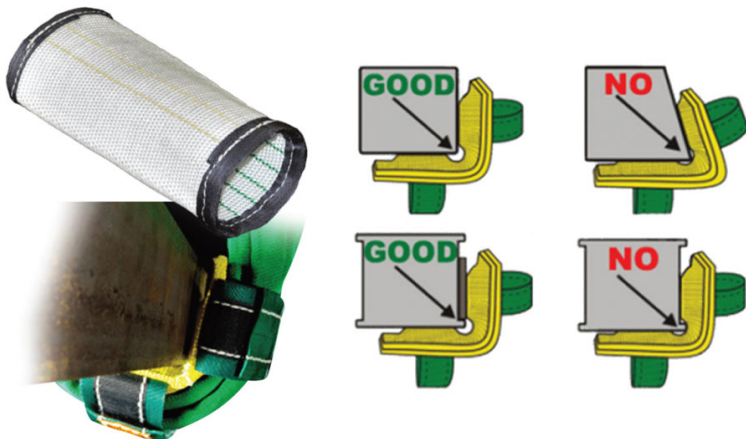
The strength of high performance roundslings is degraded by exposure to sunlight and ultraviolet light. The sling manufacturer or a Qualified Person should be consulted for additional retirement or inspection requirements.



Edge and Cut Protection

Synthetic lifting slings are most susceptible to cuts, rips, abrasion, and tears. Corner protectors, wear pads, or edge guards should be used to protect roundslings against abrasion and cuts when lifting materials with edges. Edge protection and cut protection should be used on all edges and corners—even the ones that aren't load-bearing surfaces.

Additional material, stitching, finishing, wear pads, or coatings can also be added to high performance roundslings during the manufacturing process to help improve the durability of the sling.





Keep Your Slings Clean

Continual exposure to dust, dirt, and moisture can degrade the materials over time and shorten the life expectancy of the product. Wipe grease or oil off of your slings and try to keep them clean of dirt, or other particulates which can break down the sling material over time.

Please note that synthetic slings should never be cleaned in a solvent tank used to degrease other equipment or machined parts. The chemicals used in a solvent solution can degrade the nylon or polyester fibers over time, which will affect the integrity of that lifting sling.