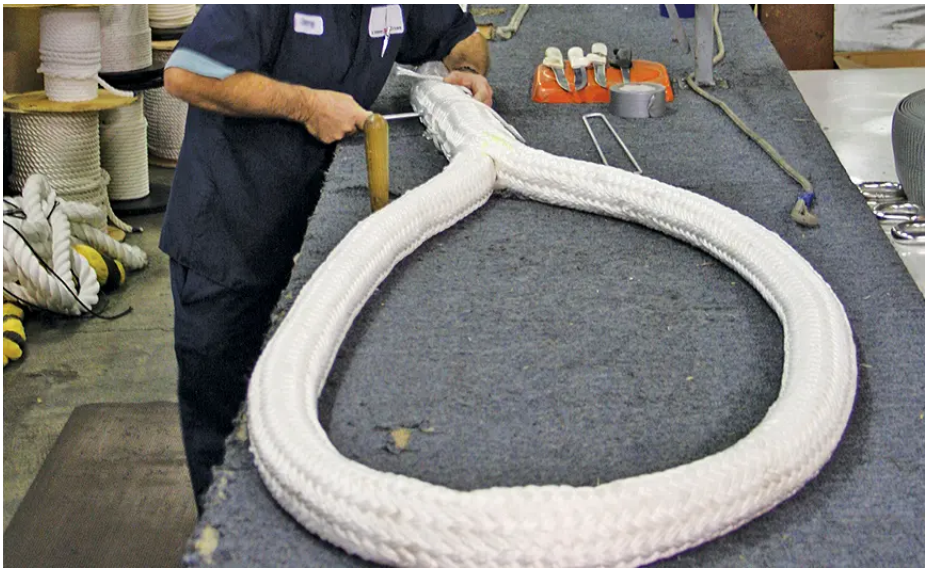
SYNTHETIC ROPE SLING INSPECTION

Synthetic rope slings are preferred in certain lifting applications in the construction, shipyard, and offshore and deepwater industries. However, synthetic rope slings can be more prone to damage from heat, chemicals, and abrasion or cutting when lifting loads with sharp corners or edges. So, regular inspection of synthetic rope slings is key when using them for lifting applications.



Initial Inspection (Prior to Initial Use)

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

Frequent Inspection (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 the synthetic sling 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 the material, so best practice is to perform a visual inspection prior to each use.

Periodic Inspection

A documented periodic inspection is performed by either a professional inspection 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 of synthetic rope slings:

- Frequency of use
- Severity of service conditions
- Nature of the lifts being performed

Experience gained on the service life of synthetic rope slings used in similar applications

ASME provides these additional periodic rope sling inspection guidelines based on the service of the sling:

- 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 thorough synthetic rope sling inspection should occur more often than the minimum yearly requirement.

What's Required for Synthetic Rope Sling Identification?

Per ASME B30.9, each synthetic rope sling shall be marked by the manufacturer to include:

- Name or trademark of the manufacturer, or if repaired, the entity performing the repair
- Manufacturer's code or stock number
- Rated load for at least one hitch type and the angle upon which it is based
- Type of fiber material
- Number of legs, if more than one

ASME B30.9 Inspection Criteria for Synthetic Rope Slings

The goal of a sling inspection is to evaluate remaining strength in a sling which has been used previously to determine if it is suitable for continued use. When inspecting synthetic rope slings, daily visual inspections are intended to detect serious damage or deterioration which would weaken the strength and integrity of the sling.

If during any point of the inspection the following is observed, a synthetic rope sling should be removed from service, according to ASME B30.9 standards:

- Missing or illegible sling identification
- Cuts, gouges, areas of extensive fiber breakage along the length, and abraded areas on the rope
- Damage that is estimated to have reduced the effective diameter of the rope by more than 10%
- Uniform fiber breakage along the major part of the length of the rope in the sling such that the entire rope appears covered with fuzz or whiskers
- Inside the rope, fiber breakage, fused or melted fiber (observed by prying or twisting to open the strands) involving damage estimated at 10% of the fiber in any strand or the rope as a whole
- Discoloration, brittle fibers, and hard or stiff areas that may indicate chemical damage, ultraviolet damage, or heat damage
- Dirt and grit in the interior of the rope structure that is deemed excessive
- Foreign matter that has permeated the rope and makes it difficult to handle and may attract and hold grit
- Kinks or distortion in the rope structure, particularly if caused by forcibly pulling on loops (known as hockles)
- Melted, hard, or charred areas that affect more than 10% of the diameter of the rope or affect several adjacent strands along the length that affect more than 10% of strand diameters
- Poor condition of thimbles or other components manifested by corrosion, cracks, distortion, sharp edges, or localized wear
- 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 as to the continued use of the sling

All inspections are carried out in accordance to ASME standard B30.9

10th Floor - 888 3rd Street SW. Bankers Hall, West Tower. Calgary , AB, T2P 5C5
+1-403-880-6715 sales@jcfalke.com www.jcfalke.com