CYC BOAT HOIST LIFTING SLING GUIDE

Nylon and Polyester Slings Feature:

- Load Protection... Will not mar, deface or scratch the most highly polished metal surface and are equally gentle with non-metallic loads.
- Strength... Tensile strength is outstanding-will handle loads as great as 300,000 lbs. or more.
- Convenience... Lightweight and extremely flexible; they are easily and quickly handled and adjusted to load.
- Safety... Adjusts to load contour and holds it with a tight, non-slip grip. Load bearing inner fibers are completely covered and protected from abrasion by a tough, strong outer woven cover. Non-sparking.
- Long Life... Unaffected by mildew, rot or bacteria, and have excellent abrasion resistance. All LIFTEX slings in Nylon and Polyester are treated to seal out moisture and dirt, and to reduce the effects of abrasion.
- Economy... Low initial cost plus long service life.
- Shock Absorbent... Synthetic webbing slings have elongation characteristics that minimize the effects of shock loading. All loads are cushioned with minimum jarring.
- Indicator Core... All slings in this catalog (except the Reversed Eye Type) have RED indicator core yarns to assist in determining slingwear or damage. If the core yarns are visible the sling should be replaced. *(**WARNING:** In some applications slings become very dirty making it difficult to see the red yarns. All slings should be carefully inspected before using).*

Sling Performance Characteristics and Factors Effecting Performance

Nylon and Polyester Performance Characteristics

Nylon and Polyester are the most popular and best general-purpose synthetic webbing slings.

Nylon

- Unaffected by grease or oil.
- Good Chemical resistance. *
- Not to be used in acids or bleaching agents.
- Not suitable for use at temperatures exceeding 194 degrees Fahrenheit
- Elongation approx. 10% at rated capacity.

Polyester

- Unaffected by grease or oil.
- Good Chemical resistance. *
- Not to be used in concentrated sulfuric acid.
- Not suitable for use at temperatures exceeding 194 degrees Fahrenheit
- Elongation approx. 10% at rated capacity.

Factors Effecting Performance of Web Slings

Sharp Edges

All Synthetic webbing slings are subject to cutting when lifting items with sharp edges in contact with the sling should be padded with material of sufficient strength to prevent damage to the sling. Wear pads give extra protection to the sling where the most wear occurs. Please refer to page 16 for description of types of wear pads supplied by Liftex Corp.

Ultra-Violet Light Exposure

Environments in which synthetic webbing slings are continuously exposed to ultra-violet light can affect the strength of synthetic webbing slings in varying degrees from slight to total degradation.

- Suggested procedures to minimize the effects of ultra-violet light - sunlight or arc welding flash.

A. Store slings in a cool, dry and dark place when not being used for prolonged periods of time.
B. Inspect slings weekly or more frequently depending on sling use.

- Visual indications of ultra-violet degradation are:

A. Bleaching out of sling color.
B. Increased stiffness of sling material.
C. Surface abrasion in areas not normally in contact with the load.

- Proof-Testing

Slings used in environments where they are subject to continuous exposure to ultra- violet light should be proof tested to two times rated capacity annually or more frequently depending on severity of exposure.

* Chemically Active Environments

Chemically active environments can effect the strength of webbing slings in varying degrees, ranging from none to total degradation. Before ordering slings that are to be used in chemically active environments, give us a call. We shall be pleased to recommend the right sling for the right usage.

Acids

- Nylon is subject to degradation in acids ranging from none to total degradation.
- Polyester is resistant to many acids, but is subject to degradation ranging from none to moderate in some alkalis.

Alkalis

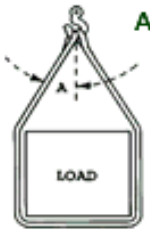
- Nylon is resistant to many alkalis, but is subject to degradation ranging from none to moderate in some alkalis.
- Polyester is subject to degradation in alkalis, ranging from none to total degradation.

Each application must be evaluated, taking into consideration the following:
a. Type of acid, alkali or other chemical
b. Exposure conditions
c. Concentration
d. Temperature

Sling Stresses at Different Angles

When selecting a sling to carry a given load, it is important to consider the angle at which the sling will be used, as in the basket hitch in the diagram. As the angle A increases, the load to which the sling is subjected increases substantially.

Refer to Sling Load factor chart below for determining actual sling stress, or call for the phone number of your nearest Liftex Corp., representatives for assistance.



ACTUAL SLING STRESS = LOAD X FACTOR

Angle Degrees	Factor	Angle Degrees	Factor
0	1.000	40	1.305
5	1.003	45	1.414
10	1.015	50	1.555
15	1.035	55	1.743
20	1.064	60	2.000
25	1.103	65	2.366
30	1.154	70	2.924
35	1.220	75	3.863

Roundup Roundslings

The Liftex Corp. Roundup Roundsling represents a major advancement in material handling. Roundslings offer the user the ultimate in lifting security and rigging ease. The Roundup Roundsling is constructed from a continuous loop of 100% polyester fiber, with the actual number of winds determining the capacity of the sling. Each Roundup Roundsling is covered with a double polyester woven jacket to protect the load-bearing windings from damage. Because the load-bearing windings never come in contact with the load, they are protected from cuts, abrasions and ultraviolet degradation provided the jacket remains intact. Each sling has a tough, resilient tag for quick and easy identification.

Roundup the Liftex Advantages

Lightweight

- Reduce cost with less total rigging weight
- Easy handling and storage
- Reduce risk of back and hand injuries

Safety

- Cover abrasion will not reduce capacity
- Provides a strong grip on loads
- Provides a tighter choke with an easier release
- Low stretch = approximately 3% at rated capacity
- Red Core Warning Fibers alert user to damage

Sling Angle and Rated Capacity

When selecting a sling to carry a given load, it is important to consider the angle at which the sling is to be used. As an example, one sling in a basket hitch or two slings attached to one crane hook are different applications involving different sling angles. The degree of the angle will determine how much capacity will be reduced. To determine if a particular sling will have the capacity required, take the angle between the sling leg and the horizontal, then multiply the sling's rating by the factor provided in the accompanying table.

The capacity of a sling will be reduced as the angle from horizontal is reduced. In the example below, you will see how the 1,000-pound capacity of a sling used in a vertical basket hitch is reduced:

Environmental Data		
Substance	*Nylon*	*Polyester*
Acids	NO	*
Alcohols	YES	YES
Aldehydes	YES	NO
Strong Alkalis	YES	**
Bleaching 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
Soap and Detergents	YES	YES
Water and Seawater	YES	YES
Weak Alkalis	YES	YES

*This is a general guideline only. *Disintegrated by concentrated Sulfuric Acid. **Degraded by strong Alkalis at elevated temperatures.*

Angle in Degrees	*Factor*
90	*1.000*
85	*0.996*
80	*0.985*
75	*0.966*
70	*0.940*
65	*0.906*
60	*0.866*
55	*0.819*
50	*0.766*
45	*0.707*
40	*0.643*
35	*0.574*
30	*0.500*

Recommended Operating Practices

The Roundup Roundsling is a specialized tool and it should be treated like any other specialized tool. Proper use and care of your sling can ensure a most effective life for you, your load and your sling.

1. Know the weight of the load.
2. Use a sling with characteristics meant for the type of load, hitch and environment with which you are working.
3. Never load a sling in excess of its rated capacity.
4. Never tie or knot a sling, or use a sling with a knot in it.
5. Protect the sling from being cut by sharp corners, edges and abrasive surfaces by using wear pads or sleeves.
6. Make sure the sling is securely attached to the load.
7. Do not stand near or under a suspended load and keep it clear of other obstructions.
8. Do no drag a sling across the floor, over abrasive surfaces, or from under a load.
9. Don't shock (jerk) load when lifting.
10. Take damaged slings out of service immediately.