

## THE TUFLEX DIFFERENCE

All Lift-All slings meet or exceed OSHA and ASME B30.9 standards and regulations.

### What is a Tuflex Roundsliding?

It is an endless synthetic sling made from a skein (continuous loop or hank) of polyester yarn covered by a double wall tubular jacket. The roundsliding body can also be compared to sling webbing with the tubular jacket face yarns woven without binder yarns; this allows the core yarns to move independently within the jacket.

### Tufhide Jacket

Made from bulked nylon fibers, the double wall Tufhide jacket offers better abrasion resistance for our larger capacity Tuflex (EN360 and larger). In addition, Tufhide reduces the heat buildup that can damage other high capacity roundslings when used in a choker hitch.

### Tuflex Roundslings Features, Advantages and Benefits

#### Promotes Safety

- Light weight reduces fatigue and strain on riggers
- Synthetic materials won't cut hands
- Consistent matched lengths for better multiple sling load control
- No loss of strength from abrasion to cover
- *Tuff-Tag* provides serial numbered identification for traceability
- Low stretch (about 3% at rated capacity) - reduces sling and load abrasion - good for low headroom lifts

- Conforms to shape of load to grip securely
- Load bearing yarns protected from UV degradation
- Red striped white core yarns provide added visual warning of sling damage
- Color coding provides positive sling capacity information
- Saves Money
- Double wall cover for greater sling life
- Soft cover won't scratch load surface
- Conforms to shape of load for reduced load damage
- Seamless - no sewn edges to rupture prematurely, requiring removal from service
- EN360 and larger Tuflex feature Tufhide wear resistant nylon jacket for extra sling life
- *Tuff-Tag* provides required OSHA information for the life of the sling, not just the life of the tag

#### Saves Time

- Color coded capacities for quick identification
- Light weight and pliable for easy rigging and storage
- Independent core yarns choke tightly, but release easily after use
- Easy to carry - high strength to weight ratio for easy transportation

### ⚠ WARNING

Follow temperature and chemical information found on page 34.

Always protect synthetic slings from being cut by corners and edges.



See page 14

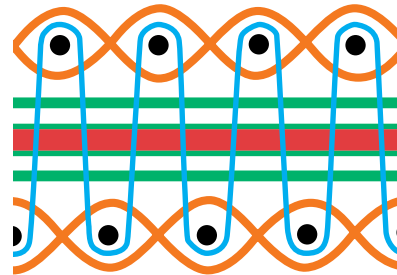
## Construction Comparisons - Sling Webbing vs Tuflex

### Sling Webbing

- Transverse pick yarns inter-relate with binder yarns
- Woven surface yarns cover each side and carry a portion of the load
- Strip of longitudinal core yarns bears majority of load
- Binder yarns secure the surface yarns to web core yarns
- Red core warning yarns

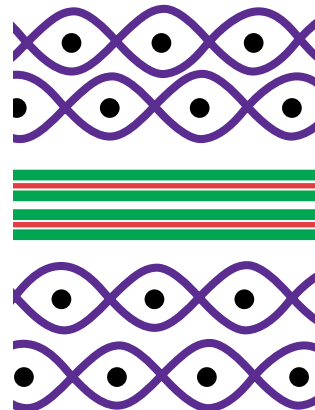
### Tuflex

- Transverse pick yarns position surface yarns and protect core yarns
- Woven surface yarns also protect core yarns, carry no load
- Longitudinal core yarns carry 100% of load
- Red core warning yarns



Sling Webbing (Side View)

Sling webbing, as graphically demonstrated, has its surface yarns connected from side to side, to not only protect the core yarns, but to position all surface and tensile yarns to work together to support the load. Wear or damage to Sling Webbing face yarns cause an immediate strength loss. This is why Sling Webbing has red core yarns to visually reveal damage and act as a basis for sling rejection.



Tuflex (Side View)

Roundsling construction, as shown above, protects all load carrying core yarns from abrasion with an independent, woven jacket. Replacement is not necessary until the red striped white core yarns can be seen through holes in the jacket. When core yarns are visible, sling must be removed from service. Tuflex roundslings provide double wall protection for extended sling life.

Tuflex

## HOW TO ORDER

### Ordering Tuflex Polyester Roundslings

1. Specify sling Part No. found in the charts throughout the Tuflex section
2. Specify sling length in feet (bearing point to bearing point). Refer to footnotes under Tuflex tables for specific sling lengths and tolerances.

Prior to sling selection and use, review and understand the "Help" section pages 3 through 12.

Endless and Eye & Eye styles of Tuflex are made to a tolerance of  $\pm (1" + 1\%$  of the specified length) and can stretch 3% at rated capacity.

Braided Tuflex length tolerance is  $\pm (2" + 5\%$  of the ordered length) (sling at rest). At its rated capacity, braided Tuflex will stretch approximately 9%.

Note: Matched lengths of slings must be specified at time of order.

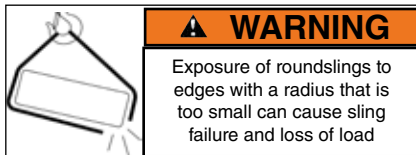
## USING TUFLEX ROUNDSLINGS

### Protect Sling from Damage

ALWAYS protect roundslings from being cut or damaged by corners, edges and protrusions using protection sufficient for each application.

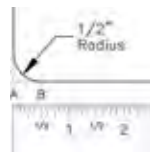
Do not ignore warning signs of misuse. Cut marks detected during any sling inspection serve as a clear signal that sling protection must be added or improved.

### Exposure of slings to edges



Edges do not need to be “sharp” to cause failure of the sling. The following table shows the minimum allowable edge radii suitable for contact with unprotected roundslings. Chamfering or cutting off edges is not an acceptable substitute for fully rounding the edges to the minimum radius. Slings can also be damaged from contact with edges or burrs at the sling connection.

Measure the edge radius. The radius is equal to the distance between points A and B.



Minimum Edge Radii suitable for contact with unprotected polyester roundslings.

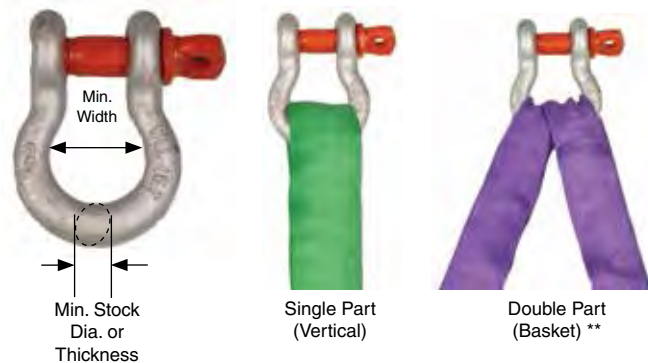
Vertical Rated Capacity (lbs.)	Minimum * Edge Radii (in.)	Sling Width At Load (in.)
EN30	3/16	1
EN60	1/4	1 3/8
EN90	5/16	1 3/4
EN120	5/16	1 7/8
EN150	3/8	2
EN180	7/16	2 1/8
EN240	7/16	2 5/8
EN360	1/2	3 1/4
EN600	11/16	4
EN800	3/4	4 5/8
EN1000	7/8	5 1/4

\* For further information on minimum edge radii, contact Lift-All or see WSTDA RS-1.

### Sling Hardware and Connections

Connection surfaces must be smooth to avoid abrading or cutting roundslings. Roundslings can also be damaged or weakened by excessive compression between the sling and the connection points if the size of the attachment hardware or connection area is not large enough to avoid this damage. Select and use proper connection hardware that conforms to the size requirements listed for choker and vertical hitches, or for basket hitches in the charts below.

(Contact Lift-All, or see WSTDA RS-1 for information about how to calculate whether a smaller connection size is allowable when tension on a roundslings is less than its capacity)



Minimum hardware dimensions suitable for use with roundslings.

Tuflex Size	Single Part		Double Part	
	Min. Stock Dia. (In.)	Min. Width (In.)	Min. Stock Dia. (In.)	Min. Width (In.)
EN30	7/16	1	9/16	1 3/8
EN60	5/8	1 3/8	7/8	1 7/8
EN90	3/4	1 3/4	1 1/16	2 3/8
EN120	7/8	1 7/8	1 1/4	2 1/2
EN150	1	2	1 3/8	2 7/8
EN180	1 1/8	2 1/8	1 5/8	3
EN240	1 3/16	2 5/8	1 5/8	3 3/4
EN360	1 1/2	3 1/4	2	4 1/2
EN600	2	4	2 3/4	5 5/8
EN800	2 1/8	4 5/8	3	6 1/2
EN1000	2 1/2	5 1/4	3 1/2	7 3/8

\*\* For hardware connected to the body of Eye & Eye Tuflex, use the Double Part columns.

## TUFLEX ENDLESS ROUNDSLINGS

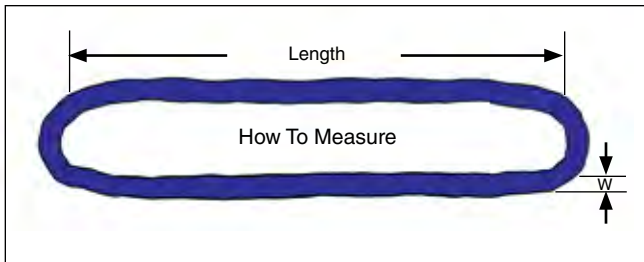
**Tuflex Endless (EN)**  
The Most Versatile *Tuflex* Roundsliding

### Features, Advantages and Benefits

Maintains all the basic *Tuflex* features plus...

#### Promotes Safety

- Load stability and balance can be achieved by spreading sling legs.
- **Saves Money**
- Wear points can be shifted to extend sling life
- The most flexible style of sling



Tuflex

Part No.	Color	Rated Capacity (lbs.)*				Minimum Length (ft.)	Approximate Measurements			
		Vertical	Choker	Basket @ 90°	Basket @ 45°		Weight (lbs. / ft.)	Body Dia. Relaxed (in.)	(W) Width at Load (in.)	Minimum Hardware Dia. ** (in.)
EN30	Purple	2,600	2,100	5,200	3,600	1 1/2	.2	5/8	1	7/16
EN60	Green	5,300	4,200	10,600	7,400	1 1/2	.3	7/8	1 3/8	5/8
EN90	Yellow	8,400	6,700	16,800	11,800	3	.5	1 1/8	1 3/4	3/4
EN120	Tan	10,600	8,500	21,200	14,000	3	.6	1 1/8	1 7/8	7/8
EN150	Red	13,200	10,600	26,400	18,000	3	.8	1 3/8	2	1
EN180	White	16,800	13,400	33,600	23,000	3	.9	1 3/8	2 1/8	1 1/8
EN240	Blue	21,200	17,000	42,400	29,000	3	1.3	1 3/4	2 5/8	1 3/16
EN360	Grey	31,000	24,800	62,000	43,000	3	1.7	2 1/4	3 1/4	1 1/2
EN600	Brown	53,000	42,400	106,000	74,000	8	2.8	2 3/4	4	2
EN800	Olive	66,000	52,800	132,000	93,000	8	3.4	3 1/8	4 5/8	2 1/8
EN1000	Black	90,000	72,000	180,000	127,000	8	4.3	3 5/8	5 1/4	2 1/2

\* **WARNING** Do not exceed rated capacities. Sling capacity decreases as the angle from horizontal decreases. Slings should not be used at angles of less than 30°. Refer to Effect of Angle chart page 12.  
\*\* This is the smallest recommended connection hardware diameter to be used for a vertical hitch.