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CAUTIONS AND WARNINGS

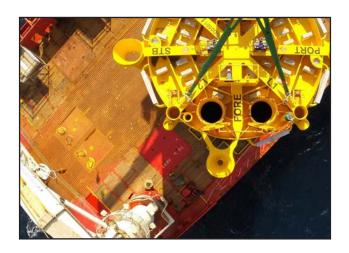
All ratings shown in this literature are based upon the items being new or in as-new condition. These ratings may not be applicable if the sling or fitting is exposed to misuse, overloading, corrosion, wear, deformation, intentional alteration and other usage factors. Catalog ratings are to be the greatest load that shall be applied to the sling or fitting at the identified hitch configuration and induced angle. Shock loading must be avoided.

Follow OSHA and ASME B30.9 guidelines. Review and follow all Manufacturer guidelines including all Mechanical and Environmental Considerations, Inspection Instructions, Warning Literature and Warning Tag Instructions.

When in doubt always consult the manufacturer directly.



We Are SLINGMAX We provide rigging solutions.





We have been solving your rigging problems for over 30 years with our below-the-hook lifting solutions. The Twin-Path® synthetic roundsling equipped with the Check-Fast® Inspection System has been providing effective solutions in a constantly evolving work environment. We understand that safety at your job site is important, which is why we engineered the CornerMax® Sleeve and CornerMax® Pad to provide load-rated edge protection. In addition, Slingmax introduced the first ever Synthetic Equalizer Block, to ensure you lift a balanced load or to perform tilt-up applications with ease.

Slingmax is also a leader in wire rope solutions. We have designed the highest efficiency multipart wire rope slings available. The **Gator-Flex® Grommet, Gator-Laid®** and **Tri-Flex®** slings provide ultimate flexibility, without sacrificing strength and durability. The **Slingmax® Pad Eye Tester** was developed to provide certainty and rigger confidence by allowing lift and connection points to be tested on your job site. Slingmax has a worldwide network that includes rigging and fabrication specialists in 12 countries. Our full-service rigging network is strategically placed to ensure that you receive the best rigging products when and where you need them.

When you need the absolute best rigging products available, look for a **Slingmax® Rigging Solutions** dealer near you.

Visit us at www.SLINGMAX.com



Twin-Path® Slings Warning

WARNING



- Death or Injury can occur from improper use or care.
- For use only by a competent and/or qualified person as defined by OSHA.
- Stay clear of the load at all times.
- Do not exceed rated capacity.
- Sling can fail if damaged, misused or overloaded.
- Inspect before each use. Damaged sling shall not be used.
- User shall protect sling from being cut by load edges, corners, protrusions and abrasive surfaces.
- Do not expose to damaging chemicals and temperatures over 180° F/ 82° C.

For additional important safety, inspection, removal and repair information, follow Slingmax[®] Guidelines, ASME B30.9, WSTDA RS 1HP and Cordage Institute CI 1905 standards.

CornerMax® Pad & Sleeve Warning

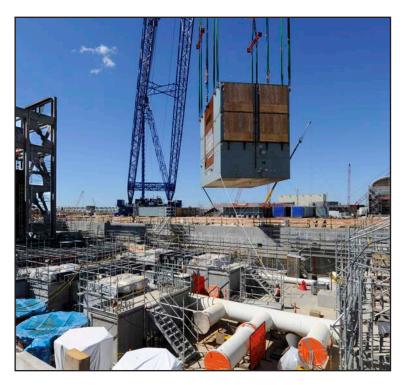
WARNING



- Death or Injury can occur from improper use or care.
- Do not exceed 25,000 lbs per inch of sling width.
- For use only by a competent and/or qualified person as defined by OSHA.
- Lift load slowly and carefully to prevent pads and sling from slipping or sliding across load edge.
- Refer to tag on pad or sleeve to ensure cut protection is correct size and type to protect the sling.
- Inspect before each use. Look for cuts, tears or other damage to the pad or sleeve. A damaged pad or sleeve may not protect the sling and lead to failure.
- Do not expose to chemicals and temperatures over 180° F/82° C

For additional important safety, inspection, removal and repair information, follow Slingmax® Guidelines, ASME B30.9, WSTDA RS-HP-1 and Cordage Institute CI 1905 standards.















Twin-Path® Slings with Covermax® Cover, K-Spec® Core Yarn and Check-Fast® Inspection System

Twin-Path® synthetic roundslings have Check-Fast® Inspection System overload indicators, Covermax® Covers for superior abrasion resistance, and inner red covers as an aid to inspection. Twin-Path® slings are used worldwide in place of steel rigging for heavy lifts. They are approximately 10% of the weight of a steel sling and are repairable. The Twin-Path® sling design, which has two individual paths of fiber working as one sling, gives the rigger confidence. These slings have less than 1% elongation at rated capacity. If productivity, safety, and precision are important, then Twin-Path® high-performance roundslings are your best choice. Independent testing shows that K-Spec® core yarn is the longest lasting load-bearing core yarn in any sling.

NOTE: Capacities shown include both paths and are for one complete sling. Sling ratings based on commercial fittings of equal or greater capacity. Conforms to ANSI/ASME B30.9 Chapter 7, NAVFAC P-307, Cordage Institute C11905 and WSTDA RS-1HP standards. This chart is based on a 5:1 Design Factor (DF); but any other DF can be fabricated. Higher capacity slings are available - **Tri-Path design. CAPAC-ITIES ARE IN POUNDS (LB)



	Vertical	Choker	Vertical Basket	Basket	Hitches	Approxi- mate Weight	Nominal	Minimum	Minimum
Twin-Path® Sling Stock No.			90°	60°	45°	(Lbs. per Ft.) (Bearing - Bearing)	Body Width (Inches)*	Recommended Hardware Diameter (Inches)	Bending Radius (Inches)
TPXCF 1000	10,000	8,000	20,000	17,320	14,140	0.41	1.5 - 3"	0.63	0.32
TPXCF 1500	15,000	12,000	30,000	25,980	21,210	0.45	1.5 - 3"	0.75	0.38
TPXCF 2000	20,000	16,000	40,000	34,640	28,280	0.52	1.5 - 3"	0.86	0.43
TPXCF 2500	25,000	20,000	50,000	43,300	35,350	0.66	2.0 - 4"	1.00	0.50
TPXCF 3000	30,000	24,000	60,000	51,960	42,420	0.73	2.0 - 4"	1.10	0.55
TPXCF 4000	40,000	32,000	80,000	69,280	56,560	0.86	2.0 - 4"	1.40	0.70
TPXCF 5000	50,000	40,000	100,000	86,600	70,700	1.07	2.5 - 5"	1.50	0.75
TPXCF 6000	60,000	48,000	120,000	103,920	84,840	1.20	2.5 - 5"	1.50	0.75
TPXCF 7000	70,000	56,000	140,000	121,240	98,980	1.33	2.5 - 5"	1.84	0.92
TPXCF 8500	85,000	68,000	170,000	147,220	120,190	1.60	3.0 - 6"	1.84	0.92
TPXCF 10000	100,000	80,000	200,000	173,200	141,400	1.80	3.0 - 6"	2.00	1.00
TPXCF 12500	125,000	100,000	250,000	216,500	176,750	2.30	4.0 - 8"	2.50	1.25
TPXCF 15000	150,000	120,000	300,000	259,800	212,100	2.62	4.0 - 8"	2.50	1.25
TPXCF 17500	175,000	140,000	350,000	303,100	247,450	2.95	4.0 - 8"	2.80	1.40
TPXCF 20000	200,000	160,000	400,000	346,400	282,800	3.45	5.0 - 10"	3.00	1.50
TPXCF 25000	250,000	200,000	500,000	433,000	353,500	4.10	5.0 - 10"	3.30	1.65
TPXCF 27500	275,000	220,000	550,000	476,300	388,850	4.58	6.0 - 12"	3.62	1.81
TPXCF 30000	300,000	240,000	600,000	519,600	424,200	4.91	6.0 - 12"	9.50	4.75
TPXCF 40000	400,000	320,000	800,000	692,800	565,600	6.70	7.0 - 14"	9.50	4.75
TPXCF 50000	500,000	400,000	1,000,000	866,000	707,000	8.48	8.0 - 16"	11.40	5.70
TPXCF 60000	600,000	480,000	1,200,000	1,039,000	848,000	10.28	9.0 - 18"	11.40	5.70
TPXCF 70000**	700,000	560,000	1,400,000	1,212,400	989,800	12.44	14.5 - 29"	14.30	7.15
TPXCF 80000**	800,000	640,000	1,600,000	1,385,600	1,131,200	13.94	14.5 - 29"	14.30	7.15

WARNING Sling can fail if damaged, misused, or overloaded causing severe injury or death!

 $[\]bullet$ For use only by a competent and / or qualified person as defined by OSHA.

[•] Do not exceed rated capacity. Protect sling from being cut by load edges, corners, protrusions, and abrasive surfaces. Do not expose to damaging chemicals or temperatures. • For important safety, removal, and repair information follow OSHA, ASME B30.9 and associated Use and Care instructions. • See www.slingmax.com for more information.



Check-Fast® Inspection System

The Check-Fast® Inspection System is designed to improve job site safety. The Check-Fast® External Warning Indicator (EWI) provides a criteria for pass/fail inspection when the internal load-bearing core yarn may be damaged. The Check-Fast® Inspection System can also indicate ultraviolet (UV) light degradation, fiber-on-fiber abrasion, fatigue, and severe overload. If the sling is overloaded beyond its rated capacity, the EWI is designed to retract before the sling fails. The sling inspector now has an objective "GO/NO-GO" inspection device rather than relying on subjective and labor-intensive inspection techniques to guess if the load-bearing core yarns are in good condition.





Fiber Optic Inspection

Fiber Optic Inspection is an optional add-on for Twin-Path® slings. If crushing or heat damage has occurred to the sling, the fiber optic cable will no longer have the ability to transmit light from one end to the other. This indicates to the inspector that the sling should be removed from service and returned for factory inspection. The fiber optic cable will conduct light using natural, overhead, or flashlight sources.



WARNING Slings can fail if damaged, misused or overloaded. Inspect before use. Damaged slings shall not be used. Use only if trained. Do not exceed rated capacity. Protect slings from being cut by load edges, corners, protrusions and abrasive surfaces. Avoid exposure to acid, alkali and temperature over 180°F. DEATH or INJURY can occur from improper use or maintenance.



Rifled Cover® Technology

Rifled Cover® Technology is a major patented breakthrough only available on Slingmax® Twin-Path® high-performance fiber round-slings. Rifled Cover® Technology works like the inside of a rifle barrel, where the bullet spins as it leaves the muzzle of the gun. The helical winding of the core fibers significantly improves strength and efficiency.

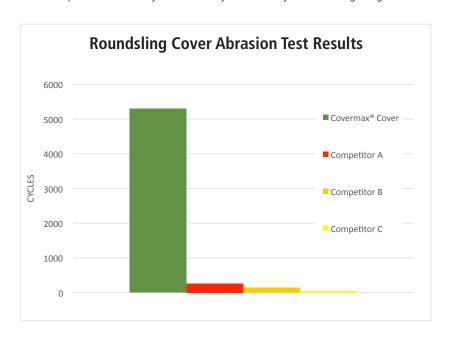
Twin-Path® high-performance roundslings with patented Rifled Cover® Technology yield three major advantages:

- 1. Increased strength-to-weight ratio. 17% increased breaking strength with the same amount of core yarn.
- 2. Consistent and predictable breaking strength for every sling.
- 3. Repeatability in the manufacturing process.



Covermax® Covers

Twin-Path® roundslings are made with a Covermax® Cover. The Covermax® Cover is made with a heavy-duty, double-layer industrial nylon material. The outside cover is green and the inside cover is red. If damage on the green cover allows red to show through, return the sling for factory inspection and repair. This cover has been tested to provide the best ultraviolet (UV) protection and the best abrasion protection on any commercially-available synthetic lifting sling.





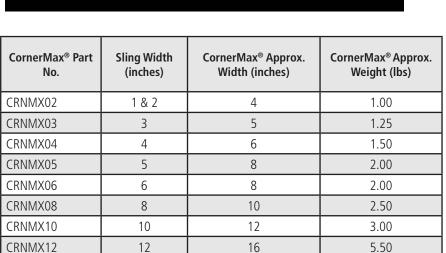
CRNMX14



CornerMax® Pads

CornerMax® Pads are one of the engineered cut protection options developed by Slingmax® Rigging Solutions. The CornerMax® Pad is designed to be used on loads that have a 90 degree straight edge. The pad creates a "tunnel" of cut protection known as the "no-touch zone". The edge of the load does not come in contact with the pad or sling, thus protecting the sling. Note that the sides of the load must completely support the pads in order to create and maintain the "tunnel". CornerMax® Pads have a rated working load limit of 25,000 pounds per inch (4464kg per cm) of sling width.

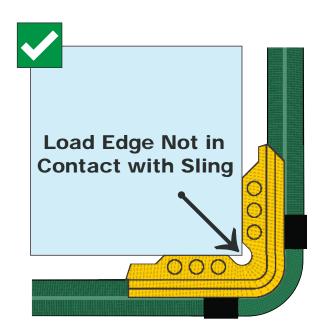


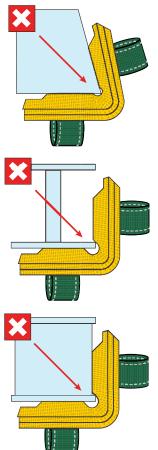


Note: All CornerMax® Pads are approximately 9 inches in length unless otherwise specified.

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WARNING CORNERMAX® PAD CUT PROTECTION Damaged or misused protection can result in damage or sling failure. Inspect before each use. Inspect for cuts, tears or damage that may prevent protection of the sling. Ensure protection is the correct size and type to protect the sling. Prevent pads and sling from slipping or sliding across load edge. DEATH or INJURY can occur from improper use, maintenance and/or inspection. MAXIMUM LOADING: Do NOT exceed 25,000 lbs. per inch of sling width.

6.50



CornerMax® Sleeves

The **CornerMax® Sleeve** is the ideal solution to protect synthetic slings from cutting when it is not practical to use a CornerMax® Pad. This can be due to the geometry of the load edge not allowing space for a pad or repetitive uses, such as unloading steel coils. The extreme cut resistance of the sleeve is attributed to its proprietary weave design and is unmatched in the rigging industry, with a cut protection rating of 25,000 pounds per inch (4464kg per cm) of sling width. The CornerMax® Sleeve is made with high-tech fiber and is laboratory tested for cut resistance. In some applications, the CornerMax® Sleeve may be attached to the sling to prevent sliding of the pad between lifts. The true benefits of the revolutionary material far outweigh the costs and now provide for the use of synthetic slings in applications previously dominated by heavy chain, mesh, and wire rope slings.





CornerMax [®] Sleeve Part No.	Approx. External Sleeve Width (inches)	Approx. Internal Sleeve Width (inches)	Approx. Weight per foot (lbs)
CRNMXS03	5	4	.57
CRNMXS04	6	5	.66
CRNMXS08	9	8	.97
CRNMXS10	11	10	1.19



WARNING CORNERMAX® SLEEVE CUT PROTECTION Damaged or misused protection can result in damage or sling failure. Inspect before each use. Inspect for cuts, tears or damage that may prevent protection of the sling. Ensure protection is the correct size and type to protect the sling. Prevent sleeve and sling from slipping or sliding across load edge. DEATH or INJURY can occur from improper use, maintenance and/or inspection. MAXIMUM LOADING: Do NOT exceed 25,000 lbs. per inch of sling width.



Synthetic Armor™ Pads

DO NOT USE FOR CUT PROTECTION! FOR ABRASION PROTECTION ONLY!

Synthetic Armor™ Pads protect slings from abrasion damage that can be caused by contact with rough surfaces such as concrete beams and structures. They are also used to protect finished or painted loads from marring. These pads can be made to fit any length or width sling. They can also be made in long lengths that the customer can cut into suitable sizes on the job. Double or triple thickness provides resistance for more severe conditions. A variety of materials is used to protect slings and loads depending on the degree of abrasion expected in the application.





Shackle Pin Pads

DO NOT USE FOR CUT PROTECTION! FOR ABRASION PROTECTION ONLY!

The pin area of a shackle can damage synthetic slings. Placing synthetic slings on the pin should be avoided. Shackles may have a sharp edge where the pin goes through the shackle ears. If the sling is rigged on this area, it can become severely damaged. If you must rig on the pin, protect your sling with a **Shackle Pin Pad**. The Shackle Pin Pad is sized for the model of shackle and protects the sling along the entire pin.



WARNING Can cause damage or failure of sling if misused or damaged. Inspect before each use. Inspect for cuts, tears or damage that may prevent protection of the sling. Be sure wear protection is the correct size and type to protect the sling. DEATH or INJURY can occur from improper use or maintenance.



Syn-Glide Film

DO NOT USE FOR CUT PROTECTION! FOR ABRASION PROTECTION ONLY!

Syn-Glide Film is the only material available on the market today that reduces 70% of cover friction by allowing the cover to glide over itself or a fitting. Syn-Glide is especially useful when a choker hitch is used or when two points of a sling are on hardware. Syn-Glide Film is an important accessory for every rigger who works with Twin-Path® slings. Syn-Glide Film is available in the form of a stitched pad or a roll of tape to fit all applications.



Syn-Glide will:

- Decrease cost of job
- Increase job speed
- Significantly reduce the need for sling repair

SYN-GLIDE PADS



SYN-GLIDE TAPE



Twin-Path® Field Taper

The Twin-Path® Field Taper is a removable, repositionable wrap that reduces the width of Twin-Path® roundslings on site. This is a tool that can be utilized to fit a sling into smaller openings without sacrificing sling capacity.



WARNING Can cause damage or failure of sling if misused or damaged. Inspect before each use. Inspect for cuts, tears or damage that may prevent protection of the sling. Be sure wear protection is the correct size and type to protect the sling. DEATH or INJURY can occur from improper use or maintenance.



Twin-Path® Adjustable Bridle

The **Twin-Path® Adjustable Bridle** (TPXA with K-Spec® core yarn or TPA with polyester core yarn) is a two-leg bridle made with a Twin-Path® roundsling and adjustable bridle ring. When tension is applied to the Twin-Path® Adjustable Bridle, it self-adjusts until the lifting point is over the center of gravity (COG). This allows the two legs to be adjusted for a level lift without the need for custom slings or hardware.







TPA Part	Bridle	Sling Eye	Adjust	table Ring Dime	nsions	Shackle Requ	irements	Sling We	eight (lbs.)
No.	Capacity (lbs.)	Nominal Width*	Ring Stock Diameter	Main Hook Area (Width)	Ring Area (Length)	Nominal Shackle size	WLL (tons)	Approx. 3 Foot Base	Approx. Adder per Foot
TPA6	6,000	2-1/2"	1-3/16"	3-1/8"	2-5/8"	5/8"	3-1/4	7.33	1.35
TPXA12	12,000	3"	1-1/8"	4-1/8"	4"	7/8"	6-1/2	12.2	1.20
TPXA20	20,000	3"	1-1/8"	4-1/8"	4"	1-1/4"	12	12.65	1.35
TPXA30	30,000	4"	1-5/8"	5-1/4"	5-1/2"	1-1/2"	17	28.19	1.53
TPXA40	40,000	4"	1-5/8"	5-1/4"	5-1/2"	1-3/4"	25	28.73	1.71
TPXA60	60,000	4"	2"	7"	7-1/2"	2"	35	50.93	2.31
TPXA90	90,000	5"	2-1/4"	8"	8-1/2"	2-1/4"	55	77.76	3.42

Note: Capacities shown are for entire bridle assembly with the double leg at a 45° horizontal angle.

*Body width is 1" wider

Metric capacities are available

WARNING Slings can fail if damaged, misused or overloaded. Inspect before use. Damaged slings shall not be used. Use only if trained. Do not exceed rated capacity. Protect sling from being cut by load edges, corners, protrusions and abrasive surfaces. Avoid exposure to acid, alkali and temperature over 180°F. DEATH or INJURY can occur from improper use or maintenance.



The Twin-Path® Adjustable Bridle has a double leg for the heavy side of the load and a single leg on the lighter side. See the Adjustable Bridle Product Manual for more information.

If the lifting points are an equal distance from the center of gravity, then the Twin-Path® Adjustable Bridle can be hooked up with the double or single leg on either lifting point.

If the lifting points are an equal distance on either side of the center of gravity but one is higher, then the double leg should be attached to the higher lifting point.





If one of the lifting points is closer to the center of gravity, then attach the double leg to this lifting point. It will have the highest weight concentration. If the Twin-Path® Adjustable Bridle is attached so that the single leg is nearest the center of gravity, the lift cannot be made.

The Twin-Path® Adjustable Bridle should be used where the double leg horizontal angle is greater than 45°. Always connect above the center of gravity. If connections are made below the center of gravity, then the load may turn while lifted.





VARNING Slings can fail if damaged, misused or overloaded. Inspect before use. Damaged slings shall not be used. Use only if trained. Do not exceed rated capacity. Protect sling from being cut by load edges, corners, protrusions and abrasive surfaces. Avoid exposure to acid, alkali and temperature over 180°F. DEATH or INJURY can occur from improper use or maintenance.



Single-Path High-Performance Sling with K-Spec® Core Yarn

Slingmax® Single-Path Slings are the only single-path, high-performance fiber roundslings available with the Check-Fast® Inspection System and Covermax® Cover.

The Covermax® Cover is the most durable cover available for a synthetic sling. Also available in polyester with a polyester cover and polyester core yarn.





	Vertical	Choker	Vertical Basket	Basket	Hitches	Approxi- mate Weight	Nominal	Minimum Recommended	Minimum
Single-Path K-Spec® Sling Stock No.	\bigcirc		Body Width (Inches)	Hardware Diameter (Inches)	Bending Radius (Inches)				
SPXCF 500	5,000	4,000	10,000	8,660	7,070	0.36	2.5"	0.76	0.38
SPXCF 1000	10,000	8,000	20,000	17,320	14,140	0.41	2.5"	0.88	0.44
SPXCF 1500	15,000	12,000	30,000	25,980	21,210	0.46	2.5"	1.00	0.50
SPXCF 2000	20,000	16,000	40,000	34,640	28,280	0.54	2.5"	1.26	0.63
SPXCF 2500	25,000	20,000	50,000	43,300	35,350	0.60	3"	1.38	0.69
SPXCF 3000	30,000	24,000	60,000	51,960	42,420	0.66	3"	1.50	0.75
SPXCF 4000	40,000	32,000	80,000	69,280	56,560	0.79	3"	1.76	0.88
SPXCF 5000	50,000	40,000	100,000	86,600	70,700	1.02	4"	1.76	0.88
SPXCF 6000	60,000	48,000	120,000	103,920	84,840	1.15	4"	2.00	1.00
SPXCF 7000	70,000	56,000	140,000	121,240	98,980	1.31	4"	2.25	1.13
SPXCF 8500	85,000	68,000	170,000	147,220	120,190	1.55	5"	2.50	1.25
SPXCF 10000	100,000	80,000	200,000	173,200	141,400	1.78	5"	2.75	1.38
SPXCF 12500	125,000	100,000	250,000	216,500	176,750	2.12	5"	3.00	1.50
SPXCF 15000	150,000	120,000	300,000	259,800	212,100	2.54	6"	3.00	1.50
SPXCF 17500	175,000	140,000	350,000	303,100	247,450	3.09	6"	3.50	1.75
SPXCF 20000	200,000	160,000	400,000	346,400	282,800	3.58	6"	3.50	1.75

WARNING Slings can fail if damaged, misused or overloaded. Inspect before use. Damaged slings shall not be used. Use only if trained. Do not exceed rated capacity. Protect sling from being cut by load edges, corners, protrusions and abrasive surfaces. Avoid exposure to acid, alkali and temperature over 180°F. DEATH or INJURY can occur from improper use or maintenance.





Sparkeater® Slings

The **Sparkeater® Sling** (SE) is the sling to use when the job site is in a hot environment (up to 300°F or 150°C). These slings are made with high-temperature core yarns and a high-temperature cover.

Sparkeater® Slings, as with all Twin-Path® slings, come with an inner red cover that provides an early warning for damage, as well as the patented Check-Fast® Inspection System.

Twin-Path®	Vertical	Choker	Vertical Basket	Basket	Basket Hitches		Nominal	Minimum Recommended	Minimum
Sparkeater® Sling Stock No.		8	90°	60°	45°	mate Weight (Lbs. per Ft.) (Bearing - Bearing)	Body Width (Inches)*	Hardware Diameter (Inches)	Bending Radius (Inches)
TPSE 1000	10,000	8,000	20,000	17,320	14,140	0.41	1.5 - 3"	0.63	0.32
TPSE 1500	15,000	12,000	30,000	25,980	21,210	0.45	1.5 - 3"	0.75	0.38
TPSE 2000	20,000	16,000	40,000	34,640	28,280	0.52	1.5 - 3"	0.86	0.43
TPSE 2500	25,000	20,000	50,000	43,300	35,350	0.66	1.5 -3"	1.00	0.50
TPSE 3000	30,000	24,000	60,000	51,960	42,420	0.73	2.0 - 4"	1.10	0.55
TPSE 4000	40,000	32,000	80,000	69,280	56,560	0.86	2.0 - 4"	1.40	0.70
TPSE 5000	50,000	40,000	100,000	86,600	70,700	1.07	2.0 - 4"	1.50	0.75
TPSE 6000	60,000	48,000	120,000	103,920	84,840	1.20	2.0 - 4"	1.50	0.75
TPSE 7000	70,000	56,000	140,000	121,240	98,980	1.33	3.5 - 7"	1.84	0.92
TPSE 8500	85,000	68,000	170,000	147,220	120,190	1.60	3.5 - 7"	1.84	0.92
TPSE 10000	100,000	80,000	200,000	173,200	141,400	1.80	3.5 - 7"	2.00	1.00



Use only if trained. Do not exceed rated capacity. Protect sling from being cut by load edges, corners, protrusions and abrasive surfaces. Avoid exposure to acid, alkali and temperature over 300°F. DEATH or INJURY can occur from improper use or maintenance.











WARNING Inspect before use. Follow OSHA, ANSI B30.9 and Manufacturer's Guidelines. Use by untrained persons is hazardous. Improper use will result in serious injury or death. Do not exceed rated capacity. This product will fail if damaged, abused, misused, overused or improperly maintained.



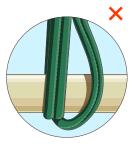
SYNTHETIC SLING BEST PRACTICES



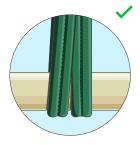
Do NOT put folded and wrinkled sling covers on bearing points.



Smooth folds and wrinkles out of the covers with your hands.



When rigging a basket hitch, do NOT pull belly slack out of the hitch with the crane.



When rigging a basket hitch, adjust belly slack out by hand, before lifting with the crane.



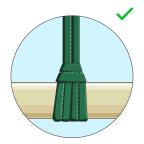
Do NOT place the identification tag in the bite of the hook, shackle or any other piece of hardware.



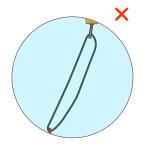
Identification should be placed 18'' - 24'' away from the lifting hooks, hardware and facing away from the load.



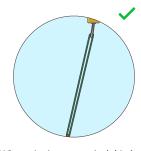
Do NOT place the identification tag in the bite of the a choker hitch. Do NOT allow wrinkles in sling jacket .



Make sure the body of the sling paths run smooth in the bite of the choker hitch without any twisting.



When rigging a vertical hitch with a long sling don't pull the slack side out with the crane.



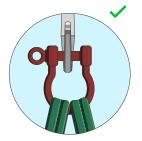
When rigging a vertical hitch with a long sling render the slack side around by hand.



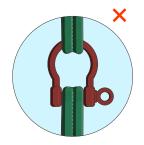
Do NOT fold one path over the other path to fit sling into tight fittings.



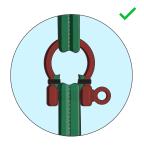
Squeeze both paths together to fit sling into tight hooks and fittings



When placing multiple Twin-Path® Slings in hooks or hardware place the slings directly on top of each other or side by side. When placing slings in narrow fittings or hooks squeeze sling towards its middle to maintain its strength efficiency.



When connecting two slings with a shackle, DO NOT place a sling over the pin without protection.



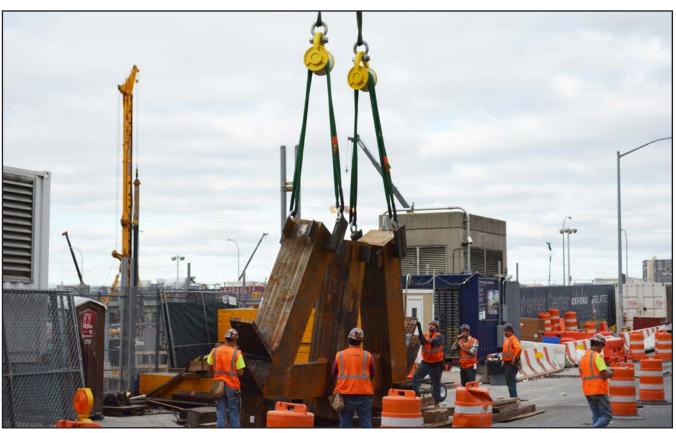
When connecting two slings with a shackle, use sling protection over the pin to protect the sling from cutting.



TILT-UP WITH TWIN-PATH® SLINGS









Inspections of Twin-Path® Products

- Check-Fast® External Warning Indicator (EWI) and Tell-Tail
 indicators shall extend past the tag area of each sling. If
 your sling is equipped with Check-Fast® and the EWI is not
 visible or both Tell-Tails are not visible, remove the sling
 from service. Send to manufacturer for repair evaluation.
- If Fiber Optic Inspection is installed in the sling, inspect by allowing light to enter the fiber optic cable. If the fiber optic cable does not transmit light from end to end, remove the sling from service and contact the manufacturer for repair evaluation.
- 3. Slings shall be inspected for evidence of cutting or tearing of the outer cover. Slings with cuts shall be removed from service and sent back to the manufacturer for repair evaluation. Damage to the cover may indicate core damage.
- 4. Inspect slings for evidence of heat damage. Sparkeater® slings shall not be exposed to temperatures over 300°F/150°C. Slings made with K-Spec® core yarn or polyester shall not be exposed to temperatures above 180°F/82°C. Cold temperature exposure down to -40°F/-40°C does not affect the strength of the products.
- 5. If any part of the sling shows evidence of chemical degradation or damage, remove the sling from service. Return the sling to the manufacturer for repair evaluation.
- 6. Slings using aluminum fittings shall not be used where fumes, vapors, sprays, or mists of alkalis or acids are present.
- 7. Twin-Path® slings and any fittings attached shall be subjected to frequent and regular inspections. In addition to the initial inspection by a competent person and frequent written inspections, the slings shall be visually inspected before each use.
- 8. Written inspections shall be performed as required and documents of such inspection by a competent person shall be kept on file in the safety department of the plant or site where used. Inspections may be done more often based on frequency of use, severity of conditions, and experience of past service life.

- 9. Slings shall be examined throughout their length for abrasion, cuts, heat damage, fitting distortion or damage, and tag legibility. If the inspector has any doubts, the sling shall be removed from service. If deterioration is found, the sling must be removed from service.
- 10. Slings removed from service that are not repairable shall be destroyed and rendered completely unfit for future use.
- 11. Abrasion, heat damage, or cuts to the cover may indicate a loss of strength to the core yarns, and these slings shall not be used until evaluated by the manufacturer.



Mechanical Considerations

- Load both paths of Twin-Path® slings equally. Do not side load. Do not load the edge of the sling.
- Determine the weight of the load. The weight of the load shall be within the rated capacity of the sling.
- 3. Select a sling having suitable characteristics for the type of load, hitch, and environment.
- 4. Slings shall not be loaded in excess of the rated capacity. Consideration shall be given to the angle of the lift, which may affect the lifting capacity. Diameters of pins and edges also may affect the capacity of the lifting sling.
- 5. Slings used in a choker shall not be forced to tighten around the load by pounding with hammers or other objects. Choker hitches are the least effective way to use a sling based on capacity. Two chokers should be used to balance the load. One choker in the center of the load may create an unbalanced situation, which could lead to an accident.
- Slings used in a basket hitch must have the load balanced to prevent slippage and accidents.
- Slings used with fittings shall be compatible with the fittings used.
 The lifting capacity shall be rated at the lower of the fitting or sling.
 Fitting openings shall be of the proper shape and size to assure that the sling will seat properly.
- 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. The pin area of a shackle can cause synthetic slings to cut or tear.
- Slings shall not be dragged on the floor or drawn across other surfaces that may damage the sling.
- 10. Slings shall not be twisted or tied in knots to shorten.
- 11. Slings can be damaged by resting loads on them or by pulling slings from under a load.
- 12. Do not drop objects on slings or run over them with vehicles.
- 13. Damaged slings shall not be used.
- 14. Sling hitches must provide control of the load.
- 15. Portions of the human body shall be kept from between the sling and the load, and from between the sling and any attachment to lifting devices such as hooks.
- 16. Personnel shall stand clear of suspended loads.
- 17. Personnel shall not ride on the sling or suspended loads.

- 18. Avoid shock loading.
- 19. Twisting and kinking the legs of the sling shall be avoided.
- 20. Load applied to the hook should be centered in the bowl of the hooks. Do not point-load the hook.
- 21. During lifting with or without the load, all personnel shall be alert for possible snagging.
- 22. The slings shall contain or support the load from the sides above the center of gravity so the load will not tilt when the load is lifted.
- 23. Synthetic roundsling users shall be trained in the selection, inspection, cautions to personnel, environmental effects, and rigging practices.
- 24. Only legibly marked or labeled slings must be used. If the tag is not legible or missing, the sling must not be used.
- Keep labels or tags away from the load, the hook, and the angle of choke.
- 26. Synthetic slings shall be inspected before each lift.





Environmental Considerations

K-Spec® core yarn strength retention is based on test results of components at 150°F/65°C (or less) for 6 months. K-Spec® has the following strength retentions:

- 100% when exposed to age, 10% detergent solution, rot and mildew, sunlight or toluene
- 99% when exposed to acetic acid, gasoline, hydrochloric acid 1M, hydraulic fluid, kerosene, or sea water
- 98% when exposed to 25% ammonium hydroxide, 10% hypophosphite solution, or 40% phosphoric acid
- 97% when exposed to 5M sodium hydroxide
- 95% when exposed to Portland cement or sulfuric acid
- 88% when exposed to Clorox® bleach or nitric acid

	K-Spec® Core Yarn	Aramid	HMPE	Polyarylate	Polyester	Nylon
Mechanical Properties						
Tenacity (grams / denier)	31.5	20 – 29	25 – 41	23 – 29	7 – 10	7.5 – 10
Elongation at break %	3.6	1.5 – 4.6	2.5 – 3.9	3.3 – 3.6	12 – 18	15 – 28
Moisture Regain %	0.1	1.5 – 6.5	0.0	0.1	0.5	4.0 - 6.0
Specific Gravity	1.11	1.39 – 1.47	0.97	1.40	1.38	1.14
Creep Resistance	Excellent	Very Good	Fair	Excellent	Good	Fair
Chemical Resistance Solvents	Excellent	Excellent	Excellent	Excellent	Good	Good
Solvents	Excellent	Excellent	Excellent	Excellent	Good	Good
Acids						
Weak	Excellent	Good	Excellent	Excellent	Good	Fair
Strong	Excellent	Fair	Excellent	Excellent	Fair	Poor
Bases						
Weak	Excellent	Excellent	Excellent	Excellent	Fair	Excellent
Strong	Excellent	Fair	Excellent	Fair	Poor	Excellent
Thermal Properties						
Maximum Temperature	180°F	300°F	158°F	180°F	194°F	194°F
	82°C	150°C	70°C	82°C	90°C	90°C



SLINGMAX® WIRE ROPE SLINGS











QUICK REFERENCE CHART Most Popular SLINGMAX® Heavy-Lift Wire Rope Slings

	Parts of wire rope in body	D/d Body*	D/d Eye*	Termination of each Eye	Minimum Length	Features
Tri-Flex® sling	3	5/1	1.5/1	1 Ferrule	6' for 7/8" component wire*	Good replacemen for single-strand wire rope slings
Gator-Laid® sling	9	5/1	1/1	3 Ferrules	9' for 3/4" component wire*	80% efficiency; parallel-laid eyes
Gator-Flex® grommet	9	5/1	N/A	Hand tuck	5´ for 1/4″ component wire*	Endless
		*Ratio based on finished body diameter	*Ratio based on finished body diameter		*Minimum length increases as component wire size increases	'

Inspection of Slingmax® Wire Rope Slings

- Follow general criteria in ASME/ANSI B30.9 Chapter 9-2 "Wire Rope Slings – Selection, Use and Maintenance".
- Retirement Criteria: For Tri-Flex® slings of less than 9 parts, 20 broken wires per lay length means that the sling should be removed from service. For slings of 9 parts or more, 40 broken wires per lay length means that the sling should be removed from service.

ADVANTAGES:

Flexibility

Low D/d ratios

Fabrication to tight tolerances'

Meets conditions specified by the Wire Rope Technical Board Sling Manual



Gator-Laid® Wire Rope Slings

For heavy lifting, **Gator-Laid® Wire Rope Slings** are the most efficient and flexible multi-part wire rope slings that meet all industrial and regulatory standards. These slings have metal sleeves for the splice connection and parallel-laid wire in the eyes. They are heavy-lift slings that can be made in short working lengths.

Gator-Laid® products were developed in conjunction with the offshore oil industry to provide the world's best heavy-lift wire rope slings.



D/d OF 1:1 D/d OF 5:1 IN THE EYE USING FINISHED DIAMETER IN THE BODY USING FINISHED DIAMETER Finished Component **Standard Vertical Rated Choker Rated Basket Rated** Weight Per Foot Diameter **Parts** Capacity (tons) Capacity (tons) Capacity (tons) (lbs.) Eye Size 1-3/4" 7/16" 22" 14.6 10.9 29.2 3.15 2" 1/2" 24" 19.1 14.3 38.2 4.14 26" 9/16" 2-1/4" 24.1 18.0 48.2 5.31 5/8" 2-1/2" 28" 29.6 22.2 59.2 6.48 3" 3/4" 30" 42.3 9.36 31.7 84.6 3-1/2" 7/8" 35" 57.3 42.9 114.6 12.78 4" 1" 40" 74.4 55.8 148.4 16.65 1-1/8" 45" 4-1/2" 93.6 60.2 187.2 21.06 5" 1-1/4" 50" 115.0 86.2 230.0 26.01 5-1/2" 1-3/8" 55" 276.4 138.2 103.6 31.50 6" 1-1/2" 60" 164.1 123.0 328.2 37.44 7" 1-3/4" 70" 220.3 165.2 51.03 440.6 8" 2" 80" 285.1 213.8 570.2 66.51 9" 90" 2-1/4" 355.6 266.7 711.2 84.24 10" 2-1/2" 100" 434.8 326.1 869.6 104.00

NOTE: Rated Capacity is based on a 5:1 Design Factor.

WARNING Inspect before use. Follow OSHA, ANSI B30.9 and Manufacturer's Guidelines. Use by untrained persons is hazardous. Improper use will result in serious injury or death. Do not exceed rated capacity. This product will fail if damaged, abused, misused, overused or improperly maintained.



Gator-Flex® Grommets

Gator-Flex® Grommets are endless for heavy lifts that require short connections. These slings can be made shorter than standard multipart slings, but maintain all of their advantages. They are the most flexible grommets in the industry.



D/d = 5:1 BASED ON FINISHED DIAMETER RATED CAPACITY AT 5:1

Finished Diameter	Component Parts	Vertical Rated Capacity (tons)	Choker Rated Capacity (tons)	Basket Rated Capacity (tons)	Weight Per Foot (lbs.)
1"	1/4"	10	7	20	2
1-1/4"	5/16"	15	11	30	3
1-1/2"	3/8"	22	15	44	5
1-3/4"	7/16"	29	21	58	6
2"	1/2"	38	27	76	8
2-1/4"	9/16"	48	34	96	11
2-1/2"	5/8"	59	42	118	13
3"	3/4"	85	59	170	19
3-1/2"	7/8"	115	81	230	25
4"	1"	148	104	296	33
4-1/2"	1-1/8"	187	131	374	42
5"	1-1/4"	230	161	460	52
5-1/2"	1-3/8"	276	194	552	63
6"	1-1/2"	328	230	656	75
7"	1-3/4"	441	308	882	102
8"	2"	570	399	1140	133
9″	2-1/4"	711	498	1422	168
10"	2-1/2"	870	609	1740	209
11"	2-3/4"	1040	728	2080	250
12"	3"	1224	857	2448	300

NOTE: Rated Capacity is based on a 5:1 Design Factor.

WARNING Inspect before use. Follow OSHA, ANSI B30.9 and Manufacturer's Guidelines. Use by untrained persons is hazardous. Improper use will result in serious injury or death. Do not exceed rated capacity. This product will fail if damaged, abused, misused, overused or improperly maintained.



Tri-Flex® Wire Rope Slings

Tri-Flex® Wire Rope Slings provide the best combination of strength and flexibility. Because of the Tri-Flex® sling construction, there is a large savings in material and machine costs in the larger sizes. This, combined with ease of use, makes Tri-Flex® Wire Rope Slings the slings for smart buyers.



BASKET HITCH EQUALS D/d of 5:1 USING FINISHED DIAMETER



Finished Diameter	Component Parts	Vertical Rated Capacity (tons)	Choker Rated Capacity (tons)	Basket Rated Capacity (tons)	Weight Per Foot (lbs.)
1/2"	1/4"	1.7	1.3	3.4	.44
5/8"	5/16"	2.6	1.9	5.2	.68
3/4"	3/8"	3.6	2.7	7.2	.99
7/8"	7/16"	4.9	3.7	9.8	1.33
1"	1/2"	6.4	4.8	12.8	1.75
1-1/8"	9/16"	8.0	6.0	16.0	2.24
1-1/4"	5/8"	9.9	7.4	19.8	2.73
1-1/2"	3/4"	14.0	10.5	28.0	3.9
1-3/4"	7/8"	19.0	14.3	38.0	5.4
2"	1"	24.8	18.6	49.6	7.0
2-1/4"	1-1/8"	31.2	23.4	62.4	8.9
2-1/2"	1-1/4"	38.4	28.8	76.8	10.9
2-3/4"	1-3/8"	46.0	34.5	92.0	13.3
3"	1-1/2"	55.0	41.2	110.0	15.8
3-1/4"	1-5/8"	63.4	47.6	126.8	18.5
3-1/2"	1-3/4"	73.0	54.8	146.0	21.5
4"	2"	95.0	71.2	190.0	28.0
4-1/2"	2-1/4"	118.0	88.5	236.0	35.6
5"	2-1/2"	145.0	109.0	290.0	44.0

NOTE: Rated Capacity is based on a 5:1 Design Factor.

WARNING Inspect before use. Follow OSHA, ANSI B30.9 and Manufacturer's Guidelines. Use by untrained persons is hazardous. Improper use will result in serious injury or death. Do not exceed rated capacity. This product will fail if damaged, abused, misused, overused or improperly maintained.



Slingmax® Pad Eye Tester

Light weight, portable tool for testing pad eyes, lifting lugs, and eye bolts. It can be used upright, inverted, or in a horizontal plane. Models are available up to 30 ton proof test capability. Equipped with an adjustable clevis height and large dial capacity readout. Aluminum housing on 10 Ton, 20 Ton, and 30 Ton models.

Applications

Proof testing pad eyes, lifting lugs, and eye bolts. Can be used upright as pictured, inverted, or in a horizontal plane



Part No.	Capacity		Clevis D	imensions		Pin Diameter	Weight	
	(US Tons)	Α	В	С	E	F	(D)	(lbs)
PET-010-PC	10	4-5/8	1-13/16	2-7/8	2	3	1"	30
PET-020-PC	20	6-3/16	2	3-3/16	2-1/4	4	2"	65
PET-030-PC	30	8-1/2	3-1/2	5	3	5-3/8	2"	110

Inspect before use. Follow OSHA, ANSI B30.9 and Manufacturer's Guidelines. Use by untrained persons is hazardous. Improper use will result in serious injury or death. Do not exceed rated capacity. This product will fail if damaged, abused, misused, overused or improperly maintained.



Synthetic Equalizer Block

Specifically designed to be used with Twin-Path[®] Slings

The **Synthetic Equalizer Block** is used to maintain tension on all legs of the sling during a lift. Rather than adjusting slings and hooks prior to completing a lift, the Synthetic Equalizer Block will automatically adjust itself when load is put on the device from the sling. This product was designed specifically for Twin-Path® slings and is the only rolling block for synthetic roundslings.



Part No.	Capacity (5:1 DF)	Maximum Sling Width (Inches)	Suggested Sling for 90° Basket	Block Weight (lbs)
SEB10	10 US ton	3	TPXCF1000	44
SEB25	25 US ton	4	TPXCF2500	79
SEB50	50 US ton	6	TPXCF5000	220
SEB75	75 US ton	8	TPXCF7500	380
SEB125M	125 Metric ton	8	TPXCF15000	640











WARNING Follow OSHA, ANSI B30.9 and Manufacturer's Guidelines. Can fail if damaged, misused or overloaded. Inspect before use. Use only if trained. Do not exceed rated capacity. Protect sling from contact with edges. DEATH or INJURY can occur from improper use or maintenance.



DEFINITIONS OF TERMS

Abrasion: The mechanical wearing of surface resulting from frictional contact with materials or objects.

Bunching: Squeezing of a synthetic sling in narrow hardware or in a narrow lifting point.

Break Strength: The total force (lbs or kg) at which the sling fails. The total weight (strain) that can be applied before failure. Break strength divided by the design factor equals the working load limit.

Design Factor (DF): A multiple of working load limit which varies from country to country. In North America a 5:1 DF is the standard. In Europe and Australia, a 7:1 DF is the standard. In Japan 6:1.

Double Basket Hitch: This is a basket hitch with the middle pulled up over the lifting hook between each eye (end) of the sling to form two basket hitches. It has the same rating as two basket hitches (with the same angle). This hitch should not be used at angles less than 60° to the horizontal.

Double Choker Hitch: This hitch has double the single choker hitch capacity when the body of the sling passes through the eyes and back to the hook.

Double Wrap Basket Hitch: A basket hitch with one additional wrap around the load, providing 360° contact around the load in order to have more control of the load during a lift. This hitch is great for bundled loads and high centers of gravity. The rating is the same as a single basket.

Double Wrap Choker Hitch: This hitch has the same rating as a single choker hitch except it has an extra wrap around the load for greater stability, providing 360° contact around the load.

External Warning Indicator (EWI): A type of visual overload indicator that can be installed on Slingmax[®] roundslings.

Length: The distance between bearing points of the sling. Also known as working length.

Proof Load Test: A non-destructive load test usually to twice the rated capacity of the sling.

Qualified Person: A person who, by possession of a recognized degree or certificate of a professional standing in an applicable field, or who, by extensive knowledge, training and experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter and work.

Safe Working Load (SWL): See Working Load Limit (WLL).

Safety Factor: A measurement no longer used in the USA to describe the design factor of a sling.

Side Loading: A load applied at an angle to the vertical plane of a crane boom or the lifting axis of rigging hardware.

Sling Loading: The total tension load applied to a sling during a lifting application.

Synthetic Fiber: Man-made material used for the cover, the core, and the stitching thread of Twin-Path® sling products, and CornerMax® protections.

Tell-Tails: Extensions of the load core yarns. When the sling is stretched beyond its elastic limit, they retract and may disappear under the tag. Remove sling from service if Tell-Tails are not visible.

Twin-Path® Sling: A trademarked product composed of two separate load cores and a contrasting inner and outer cover.

Ultimate Strength: Same as break strength—that total force (lbs or kg) at which the sling fails. The total weight strain that can be applied before failure.

Vertical Rated Capacity (VRC): The Vertical Rated Capacity is the maximum rated capacity for a sling in a straight hitch or vertical configuration.

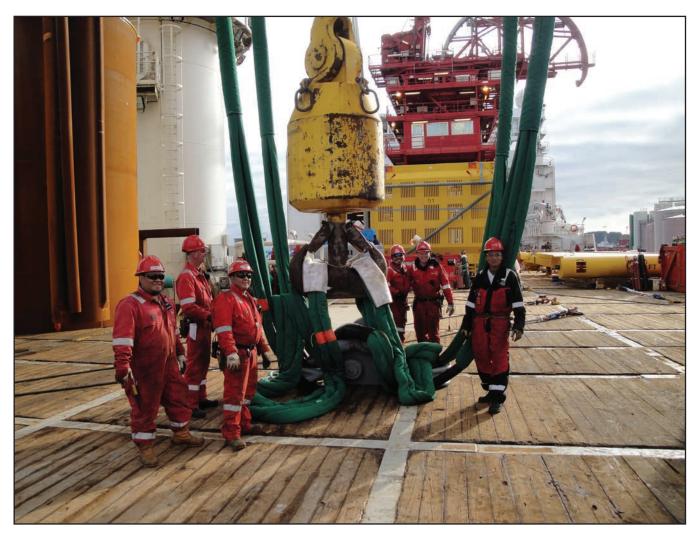
Working Load Limit (WLL): The maximum weight that a piece of rigging equipment should carry. Rated capacity, load rating, Safe Working Load (SWL) and Working Load Limit are frequently used interchangeably. Break strength divided by design factor equals Working Load Limit.



SLINGMAX® RIGGING PRODUCTS in Use and Available Worldwide

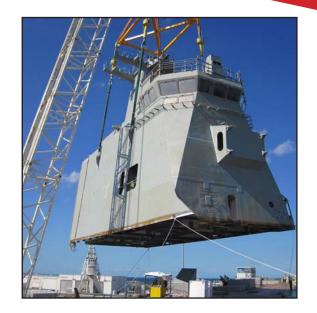
We can provide slings to exact metric capacities and lengths at design factors (DF) of 5:1 for North America, 6:1 for Japan, 7:1 for Europe and Australia. Engineered lifts use slings with lower DFs.





WARNING Sling can fail if damaged, misused or overloaded. Inspect before use. Damaged sling shall not be used. Use only if trained. Do not exceed rated capacity. Protect sling from being cut by load edges, corners, protrusions and abrasive surfaces. Avoid exposure to acid, alkali and temperature over 180°F. DEATH or INJURY can occur from improper use or maintenance.













Twin-Path® The Most Inspectable Slings Ever!



Check-Fast® Inspection System provides a pass/fail inspection.

If overloaded, the External Warning Indicator disappears before the sling fails.



The separate inner cover shows red for warning that the sling is damaged and should be taken out of service for repair.



Twin-Path® slings are repaired with patches like this. Each sling is proof tested after a repair.



Older slings may have two kinds of indicators. Tell-tails warn of overload and a fiber optic warns of core yarn damage (TPXC).

Products and services to help you rig SAFER — BETTER — FASTER



A full line of engineered softeners featuring CornerMax® cut protection

SLINGMAX® INC.

P.O. Box 2423, Aston, PA 19014-2423 USA

TEL: 800-874-3539 FAX: 610-494-5835 TEL: 610-485-8500 www.slingmax.com

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