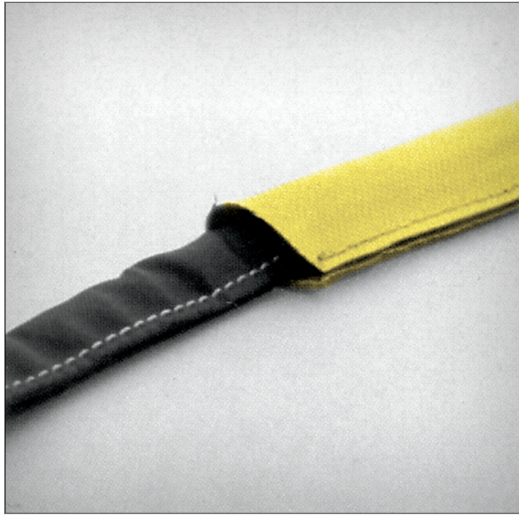


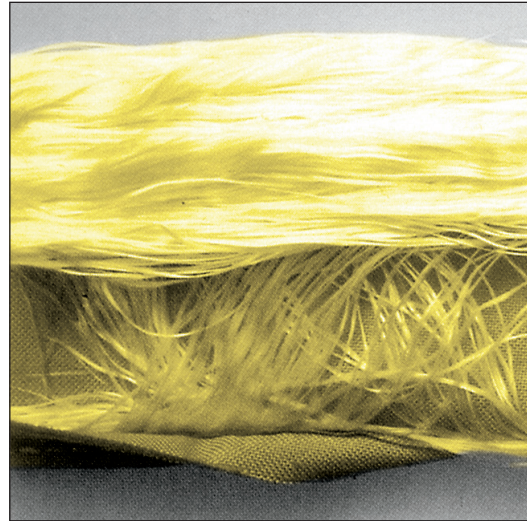
POLYESTER ROUNDSLINGS



FEATURES, DATA & APPLICATIONS



On request the Roundslings can be supplied with sleeves as protection against sharp edges.



In case of damage cut fibers will remain visible at the point of damage. The fibers are fixed by the seam.

Roundsling Features

- High strength to weight ratio
- Low elongation/Extreme flexibility
- Double cover for extra life
- Endless style means that wear points always change with each lift
- Polyester interior fibers do not contact the load, meaning little wear as long as cover is intact
- Long lasting tag indicates working load limits
- Different colors indicate load limits through UR-7

Technical Data

- Maximum working temperature 90°C (194°F)
- Oil and grease do not normally affect strength
- Resistant to most acids, however is not resistant to concentrations of alkalis
- Does not lose strength in water — will not rot or mildew
- Excellent resistance to ultraviolet rays because outer cover protects inner fibers
- Only 3% elongation

Roundsling Applications

- Boat Handling
- Cargo Handling
- Construction
- Drilling Equipment
- Electrical Equipment
- Heating Units
- Industrial
- Logging
- Machined Parts
- Oilfield — Offshore
- Pipes
- Transformers

WARNING:

Failure to read, understand and follow the use and inspection instructions furnished with each sling could result in severe personal injury or death.

BASIC SLING TYPES

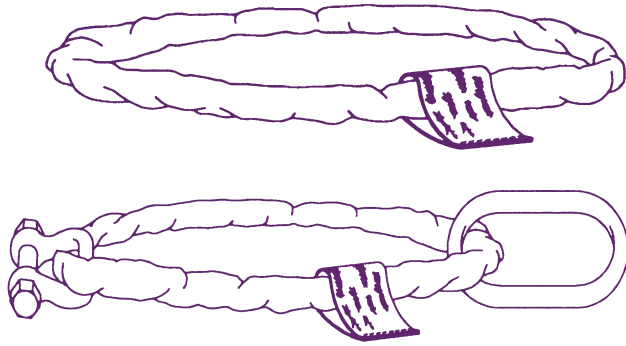


Figure 1

ENDLESS

A polyester roundsling in which the load bearing core(s) is wound in a continuous manner and fully enclosed within a protective cover(s).

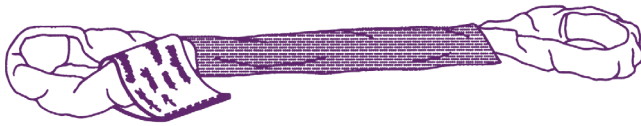


Figure 2

EYE & EYE

A polyester roundsling with a loop eye at each end typically formed with a sleeve over the body.

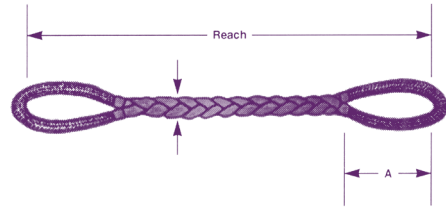


Figure 3

BRAIDED

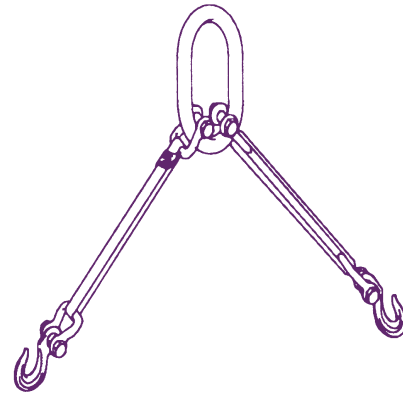
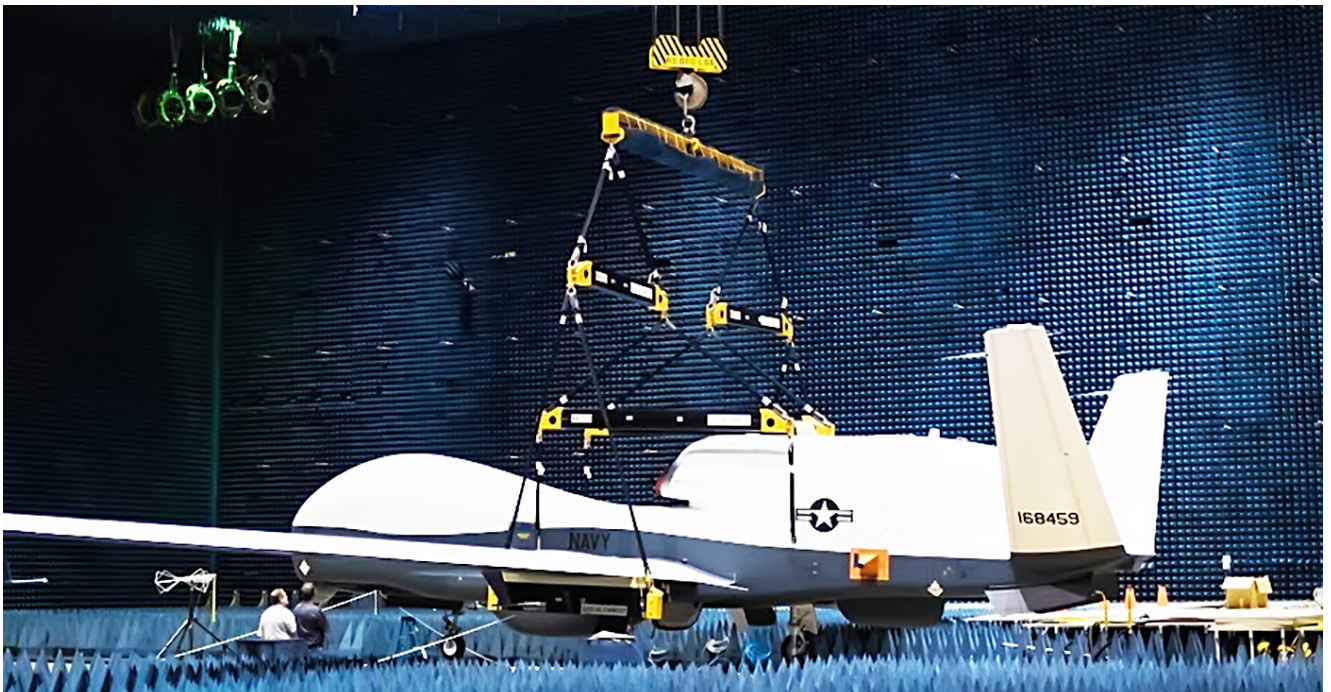


Figure 4

BRIDLE (Multi-Legged)

A polyester roundsling with multiple legs.



RECOMMENDED OPERATING PRACTICES FOR POLYESTER ROUNDSLINGS

Mechanical Considerations

Determine weight of the load. The weight of the load shall be within the rated capacity of the polyester roundsling(s).

Select a polyester roundsling having suitable characteristics for the type of load, hitch and environment.

Polyester roundslings shall not be loaded in excess of the rated capacity. Consideration shall be given to the roundsling to load angle which affects rated capacities. (See page 210.)

Polyester roundslings with fittings, which are used in a choke hitch, shall be of sufficient length to assure that the choking action is on the roundsling and never on the fitting.

Polyester roundslings used in a basket hitch shall have the load balanced to prevent slippage.

The openings in fittings shall be the proper shape and size to ensure that the fittings will seat properly on the polyester roundsling, crane hook, or other attachments.

Polyester roundslings shall always be protected from being cut by sharp corners, sharp edges, protrusions, or abrasive surfaces.

Polyester roundslings shall not be dragged on the floor or over an abrasive surface.

Polyester roundslings shall not be twisted, shortened, lengthened, tied into knots, or joined by knotting.

Polyester roundslings shall not be pulled from under loads when the load is resting on the polyester roundsling.

Do not drop polyester roundslings equipped with metal fittings.

Polyester roundslings that appear to be damaged shall not be used unless inspected and accepted as usable.

The polyester roundsling shall be hitched in a manner providing control of the load.

Personnel, including all portions of the human body, shall be kept from between the polyester roundsling and the load, and from between the polyester roundsling and the crane hook or hoist hook.

Personnel shall stand clear of the suspended load.

Personnel shall not ride the polyester roundsling.

Shock loading shall be avoided.

Twisting the legs (branches) shall be avoided.

Load applied to a hook shall be centered in the bowl of the hook to prevent point loading.

During lifting, personnel shall be alert for possible snagging of the polyester roundsling.

The polyester roundslings legs (branches) shall contain or support the load from the sides above the center of gravity when using a basket hitch.

Polyester roundslings shall be long enough so the rated capacity is adequate when the sling to load angle is taken into consideration.

Only polyester roundslings with legible identification tags shall be used.

Tags and labels should be kept away from the load, hook and point of choke.

Polyester roundslings should not be constricted or bunched between the ears of a clevis or shackle, or in a hook. When a polyester roundsling is used with a shackle, it is recommended that it be used (rigged) in the bow of the shackle.

Place blocks under load prior to setting down the load, to allow removal of the polyester roundsling, if applicable.



RECOMMENDED OPERATING PRACTICES FOR POLYESTER ROUNDSLINGS

Environmental Considerations

Polyester roundslings should be stored in a cool, dry, and dark place to prevent loss of strength when not in use through exposure to ultraviolet rays. Polyester roundslings shall not be stored in chemically active areas.

Chemically active environments can affect the strength of polyester roundslings in varying degrees ranging from little to total degradation. The polyester roundsling manufacturer, or qualified person, should be consulted before roundslings are used in a chemically active environment.

Acids

Polyester is resistant to many acids, but is subject to degradation, ranging from little to moderate in some acids.

Each application shall be evaluated, taking into consideration the following:

- a. Type of acid
- b. Exposure conditions
- c. Concentration
- d. Temperature

Alkalis

Polyester is subject to degradation in alkalis, ranging from little to total degradation.

Each application shall be evaluated, taking into consideration the following:

- a. Type of alkali
- b. Exposure conditions
- c. Concentration
- d. Temperature

Polyester roundslings shall not be used at temperatures in excess of 194° F (90° C), or at temperatures below minus 40° F (-40° C).

Polyester roundslings incorporating aluminum fittings shall not be used where fumes, vapors, sprays, mists or liquids of alkalis and/or acids are present, unless the compatibility of these materials is verified.

Inspection

Polyester roundslings shall be visually inspected by a designated person handling the polyester roundsling before each use. These visual observations shall be concerned with the identification tag and discovering damage. Polyester roundslings shall be removed from service if there is any doubt as to the condition of the roundsling.

Type of Inspection

- a. Initial Inspection — Before any polyester roundsling is placed into service it shall be inspected by a designated person to ensure that the correct roundsling is being used as well as to determine that the roundsling meets the requirements of this specification.

- b. Frequent Inspection — This inspection shall be made by the user or other designated personnel each time the roundsling is used. (Records not required).
- c. Periodic Inspection — This inspection shall be conducted by a designated person. Frequency of inspection should be based on:
 1. Frequency of use
 2. Severity of service conditions
 3. Experience gained on service life of polyester roundslings used in similar applications
 4. Periodic inspections should be conducted at least monthly

Removal From Service

A polyester roundsling shall be removed from service if any of the following is visible:

- a. If polyester roundsling identification tag is missing or unreadable.
- b. Melting, charring or weld spatter of any part of the polyester roundsling.
- c. Holes, tears, cuts, embedded particles, excessive abrasive wear, or snags that expose the core fibers of the polyester.
- d. Broken or worn stitching in the cover which exposes the core fibers.
- e. Fittings when damaged, stretched, corroded, cracked or distorted in any way.
- f. Polyester roundslings that are knotted.
- g. Acid or alkali burns of the polyester roundsling.
- h. Any conditions which cause doubt as to the strength of the polyester roundsling.

Inspection Records

Written inspection records, utilizing the identification for each polyester roundsling as established by the user, should be kept on file. These records should show a description of the new polyester roundsling and its condition on each periodic inspection.

Repair of Round Slings

There shall be no repairs of load bearing fibers.

Repairs to the protective covers shall be done only by the original manufacturer or their appointed agent.

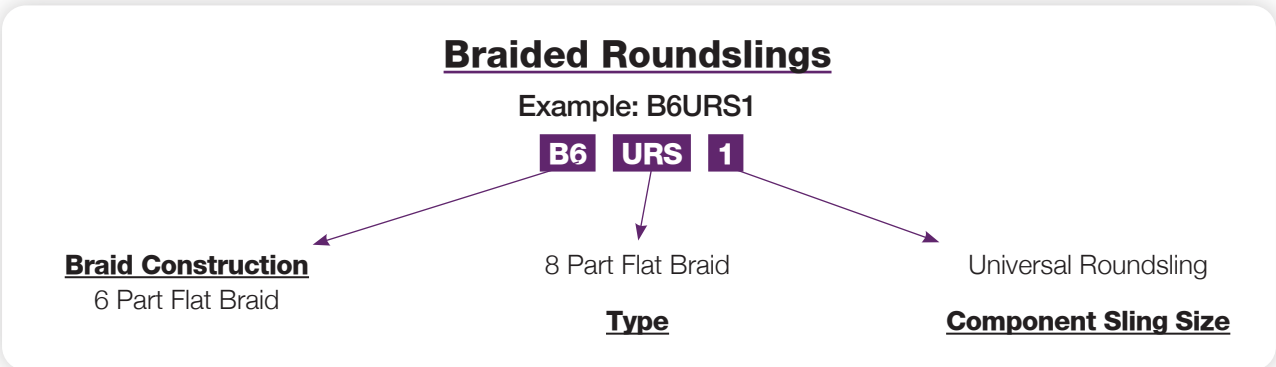
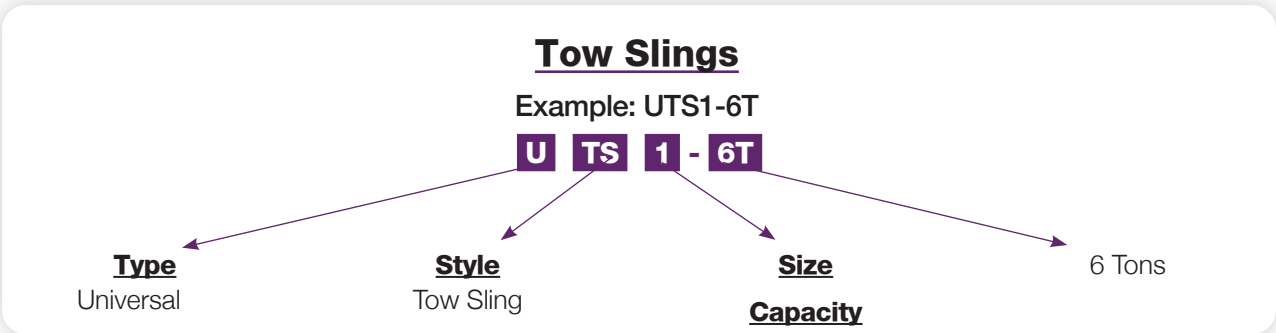
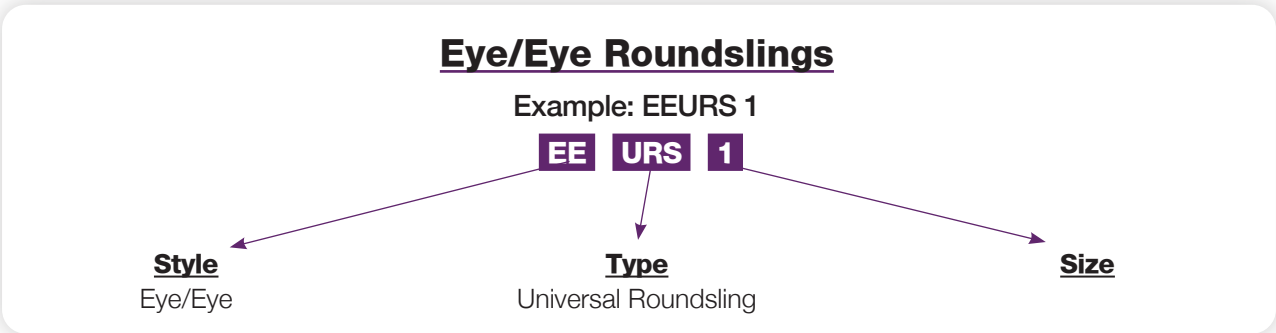
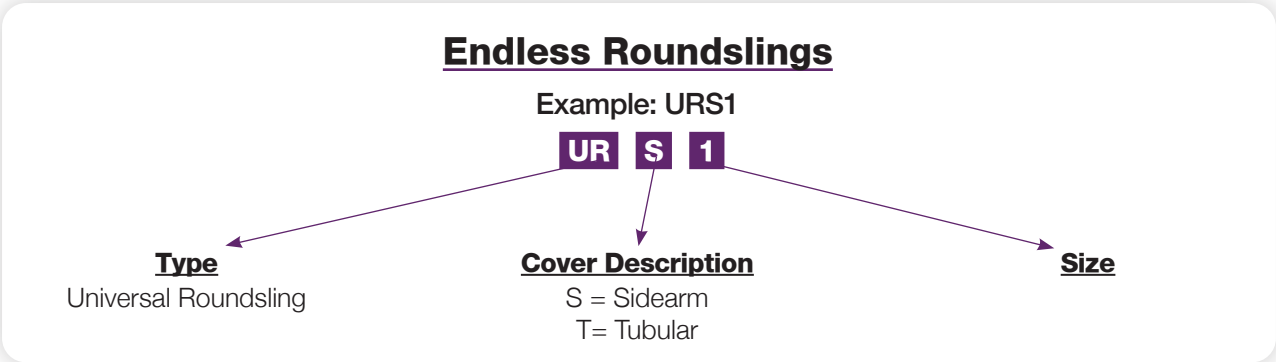
Only polyester roundslings, which can be identified from the information on the identification tag, shall be repaired.

All repaired polyester roundslings shall be proof tested to a minimum of two (2) times the rated capacity before being put back into service. Certification of proof test should be provided.

TERMINOLOGY

Guide to CERTEX Roundsling Terminology

Product tables on the following pages contain Type/Size designations for CERTEX Roundslings. The following keys will help you interpret CERTEX Roundsling Type/Size codes.



ENDLESS ROUNDSLINGS TUBULAR TYPE



- The double cover gives more than 40% longer service life.
- Roundslings are gentle to the product being handled.

CERTEX Cat. Ref. No.	Type/Size	Std. Color	Approx. Dia./Inch	Approx. Wt./Foot	Rated Capacities		
					Vertical	Choker	Basket
CX08-0002	URT1	PURPLE	0.60	0.30	2600	2100	5200
CX08-0004	URT2	GREEN	0.80	0.40	5300	4200	10600
CX08-0006	URT3	YELLOW	1.00	0.50	8400	6700	16800
CX08-0008	URT4	TAN	1.20	0.60	10600	8500	21200
CX08-0010	URT5	RED	1.30	0.80	13200	10600	26400
CX08-0012	URT6	WHITE	1.40	0.90	16800	13400	33600
CX08-0014	URT7	BLUE	1.55	1.20	21200	17000	42400
CX08-0016	URT8	ORANGE	1.75	1.50	25000	20000	50000
CX08-0018	URT9	ORANGE	1.95	2.00	31000	24800	62000
CX08-0019	URT10	ORANGE	2.35	2.80	40000	32000	80000
CX08-0020	URT11	ORANGE	3.15	3.60	53000	42400	106000
CX08-0021	URT12	ORANGE	3.95	4.60	66000	52800	132000
CX08-0022	URT13	ORANGE	4.80	5.80	90000	72000	180000

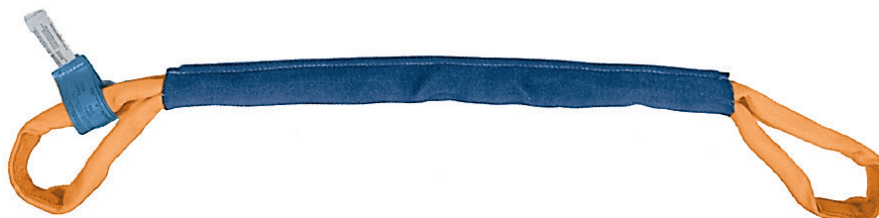
Types - URS are sideseam double polyester covers.
 URT are tubular double polyester covers.
 Other cover types available on request.

CAUTION:

Roundslings should never be used at Loads that exceed rated capacities. Always inspect Roundslings before each use.

EYE/EYE TYPE ROUNDSLINGS

Standard Roundslings can be formed into eye and eye type slings by adding a cover sleeve over the middle part of the Roundslings. The Eye and Eye Roundslings are available in the same sizes and colors as standard Roundslings.*



CERTEX Cat. Ref. No.	Type/Size	Std. Color	Approx. Dia./Inch	Approx. Wt./Foot
CX08-0023	EEURS 1	PURPLE	2.25	0.40
CX08-0024	EEURS 2	GREEN	2.50	0.50
CX08-0025	EEURS 3	YELLOW	2.50	0.60
CX08-0026	EEURS 4	TAN	3.25	0.70
CX08-0027	EEURS 5	RED	3.50	0.85
CX08-0028	EEURS 6	WHITE	3.50	1.10
CX08-0029	EEURS 7	BLUE	4.25	1.40
CX08-0030	EEURS 8	ORANGE	5.00	1.85
CX08-0031	EEURS 9	ORANGE	6.50	2.50
CX08-0032	EEURS 10	ORANGE	8.50	3.20
CX08-0033	EEURS 11	ORANGE	10.00	4.00
CX08-0034	EEURS 12	ORANGE	11.50	5.00
CX08-0035	EEURS 13	ORANGE	14.00	6.30

* Available with different body coverings depending on service requirements

Rated capacities are same as endless type

Standard eye sizes: 1 - 2 = 6 inches

3 - 6 = 9 inches; 7 - 9 = 12 inches

10 - 13 = 18 inches

All measurements and weights are for pull to pull.






Available in lengths up to 40'.

CAUTION:

Roundslings should never be used at Loads that exceed rated capacities. Always inspect Roundslings before each use.

CERTEX HIGH PERFORMANCE ROUNDSLINGS



CERTEX Cat. Ref. No	Type/Size	Rated Load (Lbs.) at Design Factor (DF) 5:1				
		Vertical	Choker	Basket Hitches		
				90° 		
CX08-0210	RS10HP	10,000	8,000	20,000	17,320	14,140
CX08-0212	RS15HP	15,000	12,000	30,000	25,980	21,210
CX08-0214	RS20HP	20,000	16,000	40,000	34,640	28,280
CX08-0216	RS25HP	25,000	20,000	50,000	43,300	35,350
CX08-0218	RS30HP	30,000	24,000	60,000	51,960	42,420
CX08-0220	RS40HP	40,000	32,000	80,000	69,280	56,560
CX08-0222	RS50HP	50,000	40,000	100,000	86,600	70,700
CX08-0224	RS60HP	60,000	48,000	120,000	103,920	84,840
CX08-0226	RS70HP	70,000	56,000	140,000	121,240	98,980
CX08-0228	RS85HP	85,000	68,000	170,000	147,220	120,190
CX08-0230	RS100HP	100,000	80,000	200,000	173,200	141,400
CX08-0232	RS125HP	125,000	100,000	250,000	216,500	176,750
CX08-0234	RS150HP	150,000	120,000	300,000	259,800	212,100
CX08-0236	RS175HP	175,000	140,000	350,000	303,100	247,450
CX08-0238	RS200HP	200,000	160,000	400,000	346,400	282,800

* HIGHER CAPACITY SLINGS AVAILABLE ON REQUEST. PLEASE REFER TO INSPECTION, OPERATING PRACTICES, REMOVAL FROM SERVICE, AND REPAIR CRITERIA.

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 being cut by loads edges, corners, protrusions, and abrasive surfaces. Avoid exposure to acid alkali, and temperature over 158 degrees Fahrenheit. DEATH or INJURY can occur from improper use of maintenance.

CERTEX HIGH PERFORMANCE ROUNDSLINGS

FEATURES

- HIGHEST STRENGTH TO WEIGHT RATIO
- LOW ELONGATED/ EXTREME FLEXIBILITY
- ENDLESS STYLE MEAN WEAR POINTS CHANGE WITH EACH NEW LIFT
- HEAVY BULK 2 PLY OUTER COVER WITH SUPERIOR ABRASION RESISTANCE
- MADE IN USA
- REPAIRABLE COVER
- 1% STRETCH AT RATE CAPACITY
- PROOF TESTED TO 2 TIMES RATED CAPACITY

TECHNICAL DATA

- MAXIMUM WORKING TEMPERATURE 158 DEGREES FAHRENHEIT (70° C) PER CORDAGE INSTITUTE STANDARD CI-
- HIGH SALTWATER TOLERANCE
- GOOD UV RESISTANCE
- EXCELLENT FATIGUE RESISTANCE
- USES FILTEC EHP CORE YARNS FEATURING HONEYWELL SPECTRA FIBER AND ARAMIDS

ROUNDSLING APPLICATIONS

- BOAT HANDLING
- CONSTRUCTION
- OILFIELD
- DRILLING EQUIPMENT
- HEATING UNITS
- INDUSTRIAL PLANTS
- OFFSHORE MARINE
- PIPES
- TRANSFORMERS
- AEROSPACE



WARNING:

Sling can fail if damaged, misused, or overloaded. Inspect before use. Damaged sling shall no be used. Use only if trained. Do not exceed rated capacity. Protect sling being cut by loads edges, corners, protrusions, and abrasive surfaces. Avoid exposure to acid alkali, and temperature over 158 degrees Fahrenheit. DEATH or INJURY can occur from improper use of maintenance.

TOWSLINGS



The Universal Towsling, for use with light and heavy equipment, are far superior to commonly used towlines. These towslings are very similar to our polyester roundslings and manufactured to the same high quality specifications as our patented product with the additions of reinforced eyes and a two foot sliding sleeve on the body of the sling for use in a V-type hitch. These slings are extremely light weight for their ratings and are safer than conventional towslings, as they will not snap abruptly and recoil when overloaded. Universal's Towslings are not affected by water, salt, or petroleum products which are commonly found around these types of applications. The towslings are rated with a maximum loading pressure and are not intended for overhead lifting applications.

Types Available — Standard lengths of 20 ft. Other lengths on request.

CERTEX Cat. Ref. No.	Type/Size	Rating	Approx. Weight
CX08-0036	UTS1-6T	2 tons	10 lbs.
CX08-0037	UTS2-12T	4 tons	12 lbs.
CX08-0038	UTS3-20T	6.6 tons	16 lbs.
CX08-0039	UTS4-25T	8.5 tons	18 lbs.
CX08-0040	UTS5-32T	11.7 tons	22 lbs.
CX08-0041	UTS6-42T	14.0 tons	26 lbs.
CX08-0042	UTS7-52T	17.5 tons	32 lbs.
CX08-0043	UTS8-62T	20.6 tons	40 lbs.
CX08-0044	UTS9-77T	25.6 tons	53 lbs.
CX08-0045	UTS10-95T	31.6 tons	70 lbs.
CX08-0046	UTS11-125T	41.6 tons	85 lbs.
CX08-0047	UTS12-160T	53 tons	110 lbs.
CX08-0048	UTS13-200T	66.6 tons	135 lbs.

WARNING: The above ratings are maximum load pressures that may be applied to new towslings under ideal test conditions over four inch round pin diameters at each end of the towslings without causing damage to the towslings. Smaller pin diameters, sharp corners or sharp edges exposed to the towslings, and shock loading (jerking of the towslings under load) can greatly reduce the maximum load pressure ratings. Check with the manufacturer for your specific application.

BRAIDED ROUNDSLINGS

6 PART FLAT BRAID							
CERTEX Cat. Ref. No	Type/Size	Std. Color	Approx. Width/Inch	Approx. Wt./Ft.	Rated Capacities		
					Vertical	Choker	Basket
CX08-0049	B6URS1	PURPLE	2.5	1.0	6,700	5,300	13,400
CX08-0050	B6URS2	GREEN	3.0	1.3	13,500	10,800	27,000
CX08-0051	B6URS3	YELLOW	3.25	1.7	21,400	17,100	42,800
CX08-0052	B6URS4	TAN	3.75	2.0	27,000	21,600	54,000
CX08-0053	B6URS5	RED	4.0	2.8	33,600	26,800	67,200
CX08-0054	B6URS6	WHITE	5.0	3.4	42,800	34,200	85,600
CX08-0055	B6URS7	BLUE	6.5	4.0	54,000	43,200	108,000
CX08-0056	B6URS8	ORANGE	7.5	4.5	63,7000	50,960	127,400
CX08-0057	B6URS9	ORANGE	8.5	6.3	79,000	63,200	158,000
CX08-0058	B6URS10	ORANGE	10.0	8.5	102,000	81,600	204,000
CX08-0059	B6URS11	ORANGE	12.0	11.0	135,000	108,000	270,000
CX08-0060	B6URS12	ORANGE	13.0	14.0	168,000	134,000	336,000
CX08-0061	B6URS13	ORANGE	15.0	17.0	229,500	183,600	459,000

8 PART ROUND BRAID							
CERTEX Cat. Ref. No	Type/Size	Std. Color	Approx. Width/Inch	Approx. Wt./Ft.	Rated Capacities		
					Vertical	Choker	Basket
CX08-0062	B8URS1	PURPLE	3.0	1.3	9,000	7,200	18,000
CX08-0063	B8URS2	GREEN	3.5	1.6	18,000	14,400	36,000
CX08-0064	B8URS3	YELLOW	4.0	2.3	28,500	22,8000	57,000
CX08-0065	B8URS4	TAN	4.5	2.8	36,000	28,800	72,000
CX08-0066	B8URS5	RED	5.0	3.7	44,800	35,800	89,600
CX08-0067	B8URS6	WHITE	5.7	4.3	57,000	45,600	114,000
CX08-0068	B8URS7	BLUE	7.0	5.2	72,000	57,600	144,000
CX08-0069	B8URS8	ORANGE	8.0	6.0	85,000	68,000	170,000
CX08-0070	B8URS9	ORANGE	9.0	8.0	105,400	84,320	210,800
CX08-0071	B8URS10	ORANGE	11.0	11.2	136,000	108,800	272,000
CX08-0072	B8URS11	ORANGE	12.5	14.5	180,200	144,160	360,400
CX08-0073	B8URS12	ORANGE	13.5	18.4	224,500	179,600	449,000
CX08-0074	B8URS13	ORANGE	15.5	23.0	306,000	244,800	612,000

Each individual roundslings have double polyester covers.
 Eyes are fully covered with Cordura buffer.
 Other cover types available on request.
 Available in lengths up to 40 feet.

CAUTION:

Roundslings should never be used at Loads that exceed rated capacities.
 Always inspect Roundslings before each use.

MULTI-LEG & HARDWARE TYPE



CO



DOS

Single Leg Slings					Double Leg Slings				
CERTEX Cat. Ref. No.	Color	Oblong Link	Alloy Hook Size in Tons	Vertical Capacity in Lbs.	CERTEX Cat. Ref. No.	Oblong Link	60°	45°	30°
CX08-0075	Purple	1/2"	1-1/2	2,600	CX08-0082	5/8"	4,500	3,675	2,600
CX08-0076	Green	5/8"	3	5,300	CX08-0083	3/4"	9,100	7,450	5,300
CX08-0077	Yellow	3/4"	5	8,400	CX08-0084	1	7,250	11,800	8,400
CX08-0078	Tan	3/4"	7	10,600	CX08-0085	1	18,300	14,900	10,600
CX08-0079	Red	1"	11	13,200	CX08-0086	1 1/4"	22,800	18,600	13,200
CX08-0080	White	1"	11	16,800	CX08-0087	1 1/2"	29,000	23,700	16,800
CX08-0081	Blue	1 1/4"	15	21,200	CX08-0088	1 1/2"	36,700	29,900	21,200

Rated capacities are affected by angle of lift (roundslings to load angle) measured from the horizontal when used with multi-legged roundslings or choker/basket hitches.

Larger capacities upon request.

RATED CAPACITY INFORMATION

Rated capacities are affected by angle of lift (roundsling to load angle) measured from the horizontal when used with multi-legged roundslings or choker/basket hitches. To determine the actual capacity at a given angle of lift, multiply the original roundsling rating by the appropriate loss factor determined from the table below.

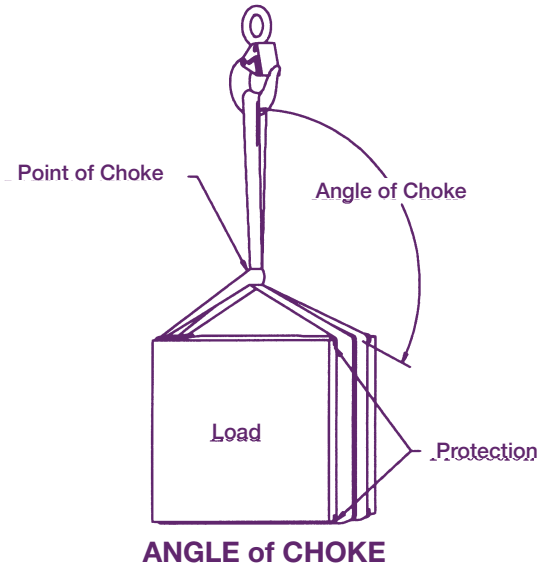


Table II: Sling Angle Chart (Angle of Lift)			
Angle/Degrees Horizontal	Factor	Angle/Degrees	Factor
90	1.000	55	0.819
85	0.996	50	0.766
80	0.985	45	0.707
75	0.966	40	0.643
70	0.940	35	0.574
65	0.906	30	0.500

Rated Capacity of Choker Hitch	
Angle of Choke (degrees)	Sling Rated Load Factor
120 - 180	1.00
105 - 120	0.93
90 - 105	0.87

