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1914 – 5A St SW Calgary, Alberta, Canada T2S 2G1



Black aircraft cable

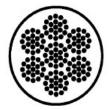
Manufactured in Korea and or China this cable is made by Powder coating aircraft cable.



Dimension	Type	Spool Size	Nominal Breaking Strength		
			lbs	kg	
1/16"	7 X 7	500 & 1000 ft	480	218	
1/8"	7 X 19	500 & 1000 ft	2000	907	
3/16"	7 X 19	500 ft	4200	1900	
1/4"	7 X 19	250 & 500 ft	7000	3175	

Black Coated Cable

Manufactured in Calgary this cable is made by coating offshore aircraft cable with a tough and durable PVC coating. The colour is flat black to best fade into the background.



Dimension	Type	Coated Dimension(approximate)	Nominal Breaking Strength	
			lbs	kg
1/16"	7 X 7	3/32"	480	218
3/32"	7 X 7	1/8"	920	417
1/8"	7 X 19	3/16"	2000	907
3/16"	7 X 19	1/4"	4200	1900
1/4"	7 X 19	5/16"	7000	3175

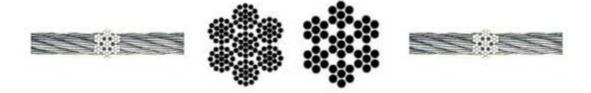
*IMPORTANT: Coating must be stripped before terminations are applied.

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Galvanized Aircraft Cable



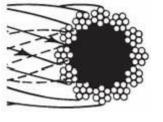
Manufactured offshore from a high strength specially processed wire it used where high strength in small size is required.

Dimension	Type	Nominal Brea	king Strength
		lbs	kg
1/32"	3 X 7	110	49
1/16"	7 X 7	480	217
3/32"	7 X 7	920	414
3/32"	7 X 19	1000	453
1/8"	7 X 19	2000	907
3/16"	7 X 19	4200	1905
1/4"	7 X 19	7000	3176
5/16"	7 X 19	9800	4446
3/8"	7 X 19	14400	6533
1/2"	7 X 19	22800	10344

Rotation Resistant Ropes

Last Updated: February 2011

The ability to fly in a chandelier or similar object on a single line with no bridles is possible with rotation resistant ropes. Special handling considerations are required when using rotation resistant rope. Rotation resistant cable is more temperamental than ordinary cable types. Do NOT use aluminum compression sleeves on stainless cable, copper only. Ends must be seized before cutting. A minimum design factor of 5:1 is recommended 10:1 is preferred where possible.



Dimension	Construction	Nominal Breaking Strength		
		lbs	kg	
3/16"	Improved Plow 19 X 7	2840	1288	
1/4"	Improved Plow 19 X 7	5020	2277	

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Fittings

Swage Sleeves

All of the oval sleeves that we supply (copper or aluminum) are capable of supporting a greater load than the rated breaking strength of the cable to which they are attached when properly applied. Only one sleeve is needed to achieve this rating when making an eye though sometimes a second sleeve is applied to hide the





"bitter ends "of the wire sticking out. Two sleeves are required to make a lap splice. Stop sleeves are only capable of holding 1/3 to 1/2 of the rated breaking strength of the cable to which they are attached. Regular checks of your tool with a "go-no-go" gauge are imperative to ensure proper compression. On stainless steel cables copper or stainless sleeves are required.

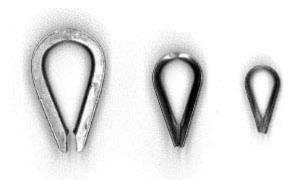
AVAILABLE FOR CABLE FROM 1/32" - 5/16"

USITT guidelines and Draft ESTA standards recommend Only copper for overhead lifting and permanent rigging.

Thimbles

Thimbles should be used whenever a rope or wire rope is formed into a tight eye. We offer three styles, AN cold rolled zinc plated

steel, Standard thimbles and Heavy duty. Stainless steel and rope thimbles are also available. On smaller sized cables, we find using an oversized thimble often makes the attachment of fittings easier. Below is a 1/8" standard, a 3/16 AN Zn, and a 1/8" AN Zn Thimble.

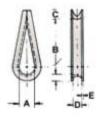


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AN Zinc Thimbles

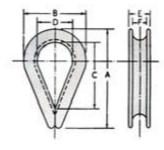


To Fit Cable Dia. In	Cold Rolled Steel Zinc	A	В	С	D	E	F
Inches	Plated Part No.						
3/64 , 1/16 , 5/64 , 3/32	AN 100-3*	.350	43/64	3/16	3/32	.032	5/64
3/32 , 7/64 , 1/8	AN 100-4*	.350	45/64	7/32	9/64	.032	5/64
5/32	AN 100-5*	.400	51/64	7/32	11/64	.032	7/64
3/16	AN 100-6*	.500	1	5/16	13/64	.032	11/64
7/32 , 1/4	AN 100-8*	.700	1-	13/32	17/64	.032	11/64
			13/32				
9/32, 5/16	9/32 , 5/16 AN 100-10*		1-	7/16	21/64	.040	7/32
			51/64				
3/8	AN 100-12*	1.00	2	5/8	25/64	.060	17/64

AN thimbles come in either cold-rolled steel (zinc plated) or stainless steel (natural finish). Fit cable diameters from 1/16" to 3/8" to meet the most demanding marine, aircraft or industrial requirements. AN Thimbles meet all Military Specifications.

Standard Thimbles

Last Updated: February 2011



Part No	Cable Dia	A	В	C	D	E	F
EY411-4*	1/8	2	1-1/8	1-3/8	5/8	9/32	5/32
EY411-6*	3/16	2	1-1/8	1-3/8	5/8	11/32	1/4
EY411-8*	1/4	2	1-1/8	1-7/16	11/16	3/8	5/16
EY411-10*	5/16	2-1/8	1-1/4	1-1/2	13/16	15/32	3/8
EY411-12*	3/8	2-3/8	1-1/2	1-11/16	1	17/32	7/16
EY411-14*	7/16	2-11/16	1-3/4	1-15/16	1-1/8	11/16	9/16

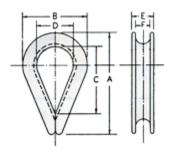
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EY411-16*	1/2						
EY411-18*	9/16	3-1/2	2-3/8	2-1/4	1-7/16	15/16	11/16
EY411-20*	5/8						
EY411-24*	3/4	3-3/4	2-3/4	2-11/16	1-5/8	1-1/8	13/16
EY411-28*	7/8	5	3-1/8	3-9/16	1-7/8	1-9/32	1

Heavy Duty Thimbles



Part No	Cable Dia	A	В	C	D	E	F
EY414-8*	1/4	2-1/4	1-1/2	1-5/8	7/8	15/32	5/16
EY414-10*	5/16	2-5/8	1-13/16	1-7/8	1-1/16	17/32	3/8
EY414-12*	3/8	3	2-1/8	2-1/8	1-1/8	21/32	7/16
EY414-14*	7/16	3-1/2	2-3/8	2-5/16	1-1/4	3/4	1/2
EY414-16*	1/2	3-5/8	2-3/4	2-3/4	1-1/2	15/16	9/16
EY414-18*	9/16	3-5/8	2-11/16	2-3/4	1-1/2	15/16	5/8
EY414-20*	5/8	4-1/4	3-1/8	3-1/4	1-3/4	1-1/32	11/16
EY414-24*	3/4	5	3-13/16	3-3/4	2	1-1/4	13/16
EY414-28*	7/8	5-1/2	4-1/4	4-1/4	2-1/4	1-7/16	1

Wire Rope Clips & Fist Grips



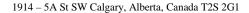
Last Updated: February 2011

Often generically referred to as Crosby clips and occasionally as bulldogs we offer both forged and malleable wire rope clips. Forged clips are required for use in overhead lifting. The malleable clips are recommended for non critical light duty applications such as guard rails, guy wires etc. The efficiency rating on the proper number of properly applied wire rope clips is 80% of the strength of the wire rope. We offer both offshore and Genuine Crosbie Wire Rope

Clips. Fist Grips have a couple of advantages over Wire Rope clips in that they are impossible to apply incorrectly and they damage the rope

less in situations where the clip will be removed.







Clip size	Number of forged clips	Number of malleable clips	Amount of turn back required	Torque in ft. lbs.
1/8"	2	3	3 1/4"	4.5
3/16"	2	3	3 3/4"	7.5
1/4"	2	3	4 3/4"	15
5/16"	2	3	5 1/4"	30
3/8"	2	3	6 1/2"	45

Wire rope clips must be re tightened after applying load. In accordance with good rigging practice wire rope and its terminations should be regularly inspected.

Slings, Drifts, and Cables

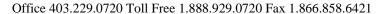
Wire Rope

Whatever the nomenclature we can supply the cables you need. For hanging chain hoists and the like, we have 5's, 10's, 20's in 3/8 or ½" steel. These are manufactured with a Flemish eye splice and then secured with a pressed tapered steel sleeve. Each end has a heavy-duty thimble. We can also fabricate the cables you require for the suspension of scenery with cable from 1/32" to 1/4" with the fittings of your choice..

Slings are made with Heavy Duty Thimbles and Flemished Spliced Eyes on each end. 3/8"



Thimble Eyes will accept a 5/8" Shackle, 1/2" Thimbles will accept a 3/4" Shackle.



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Rope Diameter (inches)	Vertical Lift	Choker Hitch	Basket Hitch
(mories)			
1/4 3/8 1/2	1200 2600 4400	900 1940 3200	2400 5200 8800

Polyester Tube Slings, Spansets, Round slings, Steel Round slings, Steel Flex sling, Soft Steel



Different Brand or trademark names for similar but very different products. When looking at a lifting sling from an aluminum tube's point of view, it prefers supple, soft and nonabrasive slings. A round sling is the prefect choice rather than a steel sling. Round slings are made of many strands of polyester covered with a protective polyester sheath.

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Unfortunately, polyester melts at approx. 250°C (~480°F). Research has shown that a 2k luminair-housing can reach temperatures of about 190°C (~370°F), with the truss-chord straight over it being almost 140°C (~280°F). Accidents have been reported of round slings being melted by spots, pyro or the heat of the rays, and as a result, trusses have fallen. When round slings are used, a safety backup must be applied such as a wire rope or chain sling.

So rather than have a backup steel sling why not make the sling out of steel but softer than a single cable. A steel round sling has a normal outside webbing for soft slings, but instead of the polyamide core, the steel round sling has a core made of many small steel cables, which makes it resistant to high temperatures. The steel wires within the steel round are as flexible as a normal soft sling, but have a much better fire resistance. The steel round can be used in circumstances where the normal soft slings are not allowed.

The outside webbing is black, including an identification label and a hidden inspection window to inspect the steel wires within the sling. The wire-rope core has better heat resistance than the truss itself.

Black Steel Round sling with Galvanized Aircraft Cable on the inside.

- Increased Safety, Higher Heat Resistance
- No Backup rigging required
- Conforms load to grip easily
- unique inspection window allows for easy inspection of steel cable.

Rated Capacity: Vertical:5300 lbs. Choker:4200 lbs. Basket:10200 lbs.

Safety cables

Safety cables for lights are available. 30" Long made with 1/8" black power coated aircraft cables fitted with a 5/16 ferruled steel snap.

ROPES & CORDS

Last Updated: February 2011

Down Stage Right can supply most of your rope and cordage requirements from twill tape and black cotton tie line to large diameter manila and polyester ropes and braids. To make life very very confusing the synthetic fibre ropes are all available in either a 3 strand, solid braid, double braid or parallel core configuration in nylon, polyester or more exotic materials. Polyester ropes are available in a spun or non spun finish. Due to the huge number of different sizes, colours, materials and braid types combinations (and to simplify things) Down Stage Right Industries stocks several favourites that we have found the theatrical industry usually purchases. If you need a particular rope we are happy to bring in the particular configuration and colour that you want. Please call for details or recommendations for a particular product.

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Twill Tape

Twill tape is a flat twill-woven ribbon of cotton, linen, polyester, or wool. Used in attaching soft goods and electrical cables to pipes we offer both cotton and polyester twill in 100 yard rolls.

Tie Line

Used as a general purpose tie line for drops or cables it is offered in 1000 and 3000' spools. Available in cotton and polyester. Size 4, #4.5 or 1/8" and #5.

Sash Cord

The primary advantage of sash cords are their handling characteristics and their knot holding ability. It does not have the strength or durability of double braids. Available in white as a cotton polyester blend or in black as spun polyester. Sash braid is generally a coarser cousin of solid braid.

Whipping Line

A bees waxed polyester fibre used for whipping the ends of ropes. Available in a 40lb and 100lb test.

Trick line

50 yd spools of 108# test 1/32" line used for effects

Manila

Last Updated: February 2011

Often mislabeled as hemp, manila is significantly stronger and is used in for hand lines in counterweight rigging and as general purpose spot line rope. We only carry #1 grade sea worthy manila. Manila has generally been replaced by synthetics in our industry

DIAMETER	TENSILE STRENGTH (LBS)	MAX. WORKING LOAD (LBS)
1/2	2380	264
9/16	3100	388
5/8	3960	496
3/4	4860	695
7/8	6950	995

Working loads are guidelines only. Once put into service rope is continually deteriorating. Manila rope will deteriorate in storage even under ideal conditions.

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Solid Braids

Solid braid ropes are sometimes referred to as "sash cord" because this pattern was used to raise sash windows. It is formed by braiding 8 to 18 strands in a reasonably complicated pattern with all the strands rotating in the same direction on the braider. The individual stitches are oriented in the same direction as the rope. The center may contain a filler core. These ropes maintain their round shape well and therefore work exceptionally well in pulleys and sheaves. They tend to have high elongation and are generally less strong than other forms of construction, and are difficult to splice.

Size	DIAMETER	TENSILE STRENGTH		NSILE STRENGTH MAX. WORKING L	
			(LBS)		(LBS)
	In (mm)	nylon	polyester	nylon	polyester
#2	1/16,(1.5)	270	126	22.5	12.6
#4	1/8 (3.2)	600	450	50	45
#5	5/32 (4.0)				
#6	3/16 (4.8)	1450	1300	120	130
#8	1/4 (6)	1840	1700	153	170
#10	5/16 (8)	2880	2600	240	260
#12	3/8 (10)	4140	3750	414	375

Double Braid

Last Updated: February 2011

"Double braid" ropes, also referred to as "Marine Ropes" or "Yacht Braid" or "2 in 1" are perhaps the most well known braided rope on the market today. They are constructed of a hollow braided rope, which acts as a core inside another braided rope. The combination of the 2 ropes in 1 results in a rope with higher tensile strength than commonly found in twisted ropes. The inner rope and outer rope are generally designed to share the load fairly evenly. Double braid ropes have a torque free construction, and are easily spliced. However, caution must be exercised where double braid ropes are run over pulleys, through hardware or in any situation where the outer rope may slide along on the inner rope and bunch up. This condition, often called "milking", will cause dramatic loss of strength by causing the entire load to go onto the inner rope, because the sheath is bunched up and therefore not under the same tension as the inner rope. Polyester double braid ropes big advantage is that they do not have the same stretch as nylon. They can also be made with a soft "spun" covering giving a better hand feel. The elasticity of nylon ropes can absorb sudden shock loads that would break other ropes.

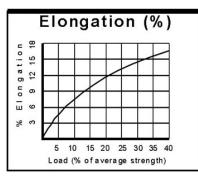
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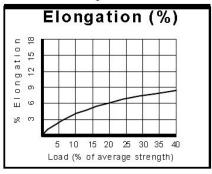


DIAMETER	TENSILE S	STRENGTH (LBS)	MAX. WOR	KING LOAD (LBS)
size	nylon	polyester	nylon	polyester
1/4	2100	2400	210	240
5/16	3400	3600	340	360
3/8	4800	4800	480	480
1/2	8300	9000	830	900
5/8	15200	15300	1520	1530
3/4	19100	19000	1910	1900

NYLON



Polyester



Polyester Stage Ropes

Manufactured by New England Ropes Stage Set X is a superior replacement for manila with a longer life, much higher strength and no slivers. This rope was specially developed as a replacement for manila handlines in counterweight rigging and we find it to be Cadillac of the synthetic handline ropes. Multiline II is a three stranded rope with the same ideals in mind. It is more economically priced and has slightly different handling characteristics.

Stage-Set X

PRODUCT DESCRIPTION: New England Ropes' Stage-Set X is the softest, strongest and most environmentally stable product available in the theatre industry for counterweight systems. It's parallel core of polyester fibre contained within a helically wrapped polyester tape and covered by a braided polyester jacket, remains firm and round under all load conditions and resists crushing in rope locks.



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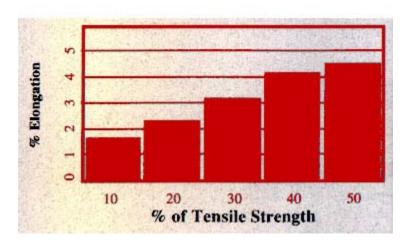
FEATURES:

- Very low stretch
- Soft and easy to handle
- Remains firm and round in rope locks
- Easy to knot
- Renders well on blocks
- Torque-free non-hockling
- No fiber splinters
- Indefinite shelf life, will not mildew or rot

APPLICATIONS:

- Counter weight systems
- General purpose stage rigging

WORKING ELONGATION



TECHNICAL SPECIFICATIONS:

Product Code (White)	Diame	eter	Weight (Lbs/100 ft.)	Tensile (Lbs.)			
	Inches	mm					
3130-12	3/8"	9	3.8	4,500			
3130-14	7/16"	11	5.1	6,300			
3130-16	1/2"	12	6.7	7,900			
3130-20	5/8"	16	11.2	14,000			
3130-24	3/4"	18	14.8	17,600			
3130-28	7/8"	22	22.0	26,300			
3130-32	1"	24	26.6	31,600			

Compliance to the above specifications is based upon testing according to the Cordage Institute Standard Testing Methods for Fiber Rope and/or ASTM D-4268 Standard Methods of Testing Fiber Ropes.

Weights - Are average and may vary +/- 5%

Tensile strengths - Are approximate average for new, unused ropes. To estimate the minimum tensile strength of a new rope, reduce the approximate average by 15% (Cordage Institute defines minimum tensile strength as two standard deviations below the average tensile strength of the rope).

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SUNLIGHT/UV:

Very little degradation from UV. Can be used outside over long term if inspected regularly.

CHEMICALS:

Good resistance to most minerals / organics, acids, weak alkalis, bleaches and other oxidizing agents and most solvents. Polyester is generally considered to have a better overall resistance to acids or oxidizing agents.

HEAT:

Melting point of 480°F, progressive strength loss above 300°F.

DIELECTRICS:

Good resistance to the passage of electrical current. However in rope form, dirt, surface contaminants, water entrapment and the like can significantly affect dielectric properties. Extreme caution should be exercise any time a rope is in the proximity of live circuits.

SHEAVES:

Recommended D/d ratio is 8:1

WORKING LOADS:

No blanket working load recommendation can be made because it depends on the application and conditions of use, especially potential danger to personnel. It is recommended that the user establish working loads and safety factors based on professional and experienced assessments of risks. The working load is a guideline for the use of a rope in good condition for non-critical applications and should be reduced where life, limb, or valuable property is involved, or exceptional service such as shock, sustained loading, severe vibration, etc.

The Cordage Institute specifies that the Safe Working Load of a rope shall be determined by dividing the Minimum Tensile Strength by the Safety Factor. Safety factors range from 5 to 12 for non-critical uses, 15 for life lines.

SLK= Minimum Break Strength / Safety Factor

COATING:

Last Updated: February 2011

Can be Urethane coated to improve abrasion resistance, UV resistance, to create a water barrier, and to provide color coding.

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SPECIFIC GRAVITY:

COLOR: White, Black, Red, Blue (black "x" tracers)

MULTILINE II

PRODUCT DESCRIPTION:

Multiline II is a 3-strand composite rope, its unique construction combines filament and staple/spun polyester wrapped around a polyolefin core (smaller than 1/2" diameter does not have polyolefin core). Multiline II feels and handles like manila, yet provides greater durability, higher strength, lighter weight, and a consistent supple feel over time.

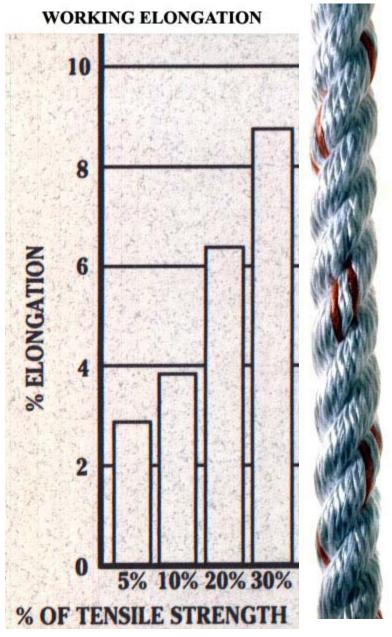
FEATURES:

- Low elongation
- High Strength
- Abrasion Resistant
- Stays flexible and very easy to handle
- Splices well
- Sure gripping surface
- Renders well around blocks, sheaves, and winches.
- Long service life
- Environmentally stable
- No fiber splinters

APPLICATIONS:

- Hand lines
- Hoisting / Bull Ropes
- Counterweight Rigging
- Drop lines

Last Updated: February 2011



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TECHNICAL SPECIFICATIONS:

Product Code (White)	Diamo	eter	Weight (Lbs/100 ft.)	Tensile (Lbs.)		
	Inches	mm				
7300-10	5/16"	8	2.5	2,300		
7300-12	3/8"	9	3.6	3,200		
7300-14	7/16"	11	5.0	4,100		
7300-16	1/2"	12	6.2	5,800		
7300-20	5/8"	16	9.5	8,200		
7300-24	3/4"	18	13.7	10,500		
7300-28	7/8"	22	18.0	15,500		
7300-32	1"	24	20.6	18,700		

Compliance to the above specifications is based upon testing according to the Cordage Institute Standard Testing Methods for Fiber Rope and/or ASTM D-4268 Standard Methods of Testing Fiber Ropes.

Weights - Are average and may vary +/- 5%

Tensile strengths - Are approximate average for new, unused ropes. To estimate the minimum tensile strength of a new rope, reduce the approximate average by 15% (Cordage Institute defines minimum tensile strength as two standard deviations below the average tensile strength of the rope).

SUNLIGHT/UV:

Polyester jacket protects against UV degradation. The polyolefin fibers are UV stabilized to minimize UV degradation. Can be used outside over long term if inspected regularly.

CHEMICALS:

Good resistance to most minerals / organics, acids, weak alkalis, bleaches and other oxidizing agents and most solvents. Polyester is soluble in 95% sulfuric acid or strong alkalines at boil. Polyolefin is soluble in concentrated chlorosulphonic and sulfuric acids.

DIELECTRICS:

Last Updated: February 2011

Good resistance to the passage of electrical current. However in rope form, dirt, surface contaminants, water entrapment and the like can significantly affect dielectric properties. Extreme caution should be exercise any time a rope is in the proximity of live circuits.



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SHEAVES:

Recommended D/d ratio is 8:1

WORKING LOADS:

No blanket working load recommendation can be made because it depends on the application and conditions of use, especially potential danger to personnel. It is recommended that the user establish working loads and safety factors based on professional and experienced assessments of risks. The working load is a guideline for the use of a rope in good condition for non-critical applications and should be reduced where life, limb, or valuable property is involved, or exceptional service such as shock, sustained loading, severe vibration, etc.

The Cordage Institute specifies that the Safe Working Load of a rope shall be determined by dividing the Minimum Tensile Strength by the Safety Factor. Safety factors range from 5 to 12 for non-critical uses, 15 for life lines.

SLK= Minimum Break Strength / Safety Factor

COATING:

Can be Urethane coated to improve abrasion resistance, UV resistance, to crate a water barrier and to provide color coding.

SPECIFIC GRAVITY:

1.20

COLOR:

White (Orange tracer is standard; it is also available without a tracer)

STANDARD LENGTH:

Last Updated: February 2011

Available in standard 600, 1200, & 2400 ft lengths

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Blocks & Sheaves

Small utility blocks from **Block Division**, Inc

These are rated blocks grooved with steel sheaves fitted with Bronze bearings grooved for cable from 1/8" to 3/8" and sheave sizes from 1 ½" to 5" in diameter. Most blocks are available with single or double sheaves. Sheaves without housings are also available if you want to build your own creations.

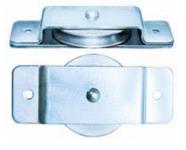
Flat Block Fixed Eye Block Swivel Eye Block

Deck Block









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Shackle Plates

There are five uniquely different designs in the Shackle Plates[™] Dynasty. Each one allows you the freedom of choice as you design the rigging requirements of your scenery, as well as meeting the changing needs of every production.

Quick and easy to use. Choose the best suited Shackle PlateTM for your project and simply attach it by bolting to the lowest point of the scenery directly in line with the Keeper PlateTM that you have bolted to the top of the scenery. The cable line used to suspend the scenery is attached to the Shackle PlateTM and then run though the Keeper Plate'sTM eye opening and finally onto the suspending point. Now you're ready to go.

Shackle PlateTM 3/8" Hole Part # 200



Made from heavy-gauge steel and predrilled for assembly with two 1/4" bolts and two #8 or #10 flat head screws.

Can be used with shackles or jaw-type turnbuckles that have a 3/8" or less through-bolt.



Shackle PlateTM 1/2" Hole Part # 201

Made from heavy-gauge steel and pre-drilled for assembly with two 1/4" bolts and two #8 or #10 fl at head screws.

Will accept shackles or jaw type turnbuckles with a 1/2" through-bolt and mounts easily to the bottom-rail of any flat or for use as a floor or ceiling plate.



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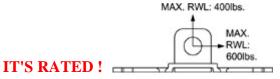
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90° Shackle PlateTM Part # 202



Made from heavy-gauge steel and pre-drilled for assembly with two 1/4" bolts. Mounts easily to the side-stiles of any wood or metal flat.



90° Shackle PlateTM Stubby Part # 203



Made from heavy-gauge steel and pre-drilled for assembly with two 1/4" bolts. This smaller version of the 90-degree Shackle PlateTM will mount easily and more discreetly into the side-stiles of any wood or metal flat.



1/2" Hole Shackle PlateTM Stubby Part # 206



Last Updated: February 2011

Made from heavy-gauge steel and pre-drilled for assembly with two 1/4" bolts. Smaller version of the 1/2" Shackle PlateTM that will mount easily and more discreetly into the bottom-rail of any wood or metal fl at, and can also be used as a fl oor or ceiling plate.



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Keeper PlateTM Stubby Part # 205



Made from heavy-gauge steel and pre-drilled for assembly with two 1/4" bolts.

Attach the Keeper PlateTM Stubby at the top of the scenery directly in line with the Shackle PlateTM that you have bolted to the lowest point of the piece. The cable line used to suspend the scenery is attached to the Shackle PlateTM and then run though the Keeper Plate's TM eye opening and finally onto the suspending point

Keeper PlateTM Part # 2040



Made from heavy-gauge steel and pre-drilled for assembly with two 1/4" bolts and two #8 or #10 fl at head screws.

Attach the Keeper PlateTM at the top of the scenery directly in line with the Shackle PlateTM that you have bolted to the lowest point of the piece. The cable line used to suspend the scenery is attached to the Shackle PlateTM and then run though the Keeper Plate'sTM eye opening and finally onto the

suspending point.

Photo Examples of Shackle Plates in use! (Click Here)

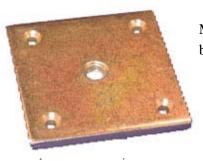
Welding Bolt PlateTM Part # 3050



Made from 1/8" heavy-gauge steel.

Use this trouble-free plate to attach one piece of scenery to another. Weld the square end onto your steel scenery making sure that the rounded end with the hole is exposed. Now your other scenery can be bolted directly to the plate.

Threaded Square PlateTM Part # 30100



Made from 1/4" heavy-gauge steel. Pre-drilled and tapped for a 3/8-16 bolt with four counter-sunk holes for #8 or #10 fl at head screws

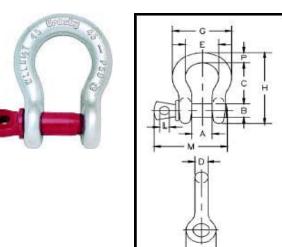
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Shackles

We offer drop forged, quenched and tempered screw pin anchor shackles as our standard but we will provide safety as well as other types of shackles on request. Working load limits are stamped into each shackle. We recommend the use of shackles in overhead lifting because they are rated for this with a built in 5:1 safety factor. We ordinarily sell Crosby shackles.



Nominal Size (in.)	Working Load	Stock No.		Weight Each			Dime	ension	ns (in.)							Toleranc +/	
	Limit (t)*	G-209	S-209	(lbs.)	A	В	С	D	E	F	G	Н	L	M	P	С	A
3/16	1/3	1018357	_	.06	.38	.25	.88	.19	.60	.56	.98	1.47	.16	1.12	.19	.06	.06
1/4	1/2	1018375	1018384	.10	.47	.31	1.13	.25	.78	.61	1.28	1.84	.19	1.38	.25	.06	.06
5/16	3/4	1018393	1018400	.19	.53	.38	1.22	.31	.84	.75	1.47	2.09	.22	1.66	.31	.06	.06
3/8	1	1018419	1018428	.31	.66	.44	1.44	.38	1.03	.91	1.78	2.49	.25	2.03	.38	.13	.06
7/16	1-1/2	1018437	1018446	.38	.75	.50	1.69	.44	1.16	1.06	2.03	2.91	.31	2.38	.44	.13	.06
1/2	2	1018455	1018464	.72	.81	.63	1.88	.50	1.31	1.19	2.31	3.28	.38	2.69	.50	.13	.06
5/8	3-1/4	1018473	1018482	1.37	1.06	.75	2.38	.63	1.69	1.50	2.94	4.19	.44	3.34	.69	.13	.06
3/4	4-3/4	1018491	1018507	2.35	1.25	.88	2.81	.75	2.00	1.81	3.50	4.97	.50	3.97	.81	.25	.06

Quicklinks

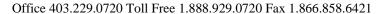


Quick links are not recommended for overhead lifting by the manufacturer, but are often used because of their convenience. Please keep in mind the working load limits when using quick links. If in doubt, use a shackle. We can supply batch tested as well as the Original Malion Rapide individually tested quick links. Mallion Rapide quick links are manufactured by Péguet

and Cie

which was founded in 1941 as a family-owned company and now has a presence in more than 50 countries world-wide. The big strength of the Maillon Rapide (Quick Link) lies in its effectiveness. Despite their small size, they have a matchless strength, further checked by traction tests during the whole manufacturing process. Safety margin is 5 times the guaranteed working load limit (WLL).

	Size	Working I	Load Limit
metric	imperial	lbs	Kg
4mm	1/8"	220	100
5mm	3/16"	660	300



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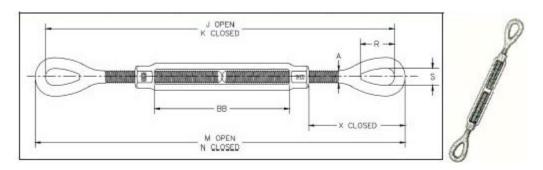
6mm	1/4"	880	400
8mm	5/16"	1760	800
9mm	3/8"	2200	1000
10mm	7/16"	2600	1200
12mm	1/2"	3300	1500

Turnbuckles

Turnbuckles are available in a wide variety of sizes and styles. The most commonly used in the theatre are shown below, but we do carry larger sizes and other styles. Available in eye to eye, jaw to jaw, or hook to hook. These are all drop forged galvanized items. Both Crosby and offshore products are available.

Eye & Eye

Last Updated: February 2011



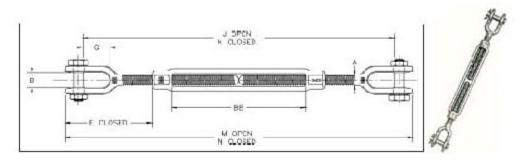
	Stock	Working	Weight					Dimen	sion	s (iı	n.)	
Thread Diameter x Take up (in.)	No. Galv.	Load Limit (lbs.)	Each (lbs.)	٨	J Open	K Closed	M Open	N Closed	R	S	X Closed	ВВ
1/4 x 4	1031252	500	.26	.25	11.80	7.80	12.25	8.25	.78	.34	1.75	4.00
5/16 x 4 1/2	1031270	800	.45	.31	13.56	9.06	14.12	9.62	.94	.44	2.09	4.50
3/8 x 6	1031298	1200	.76	.38	17.47	11.47	18.16	12.16	1.12	.53	2.52	6.00
1/2 x 6	1031314	2200	1.54	.50	20.08	13.08	20.96	13.96	1.44	.72	3.23	6.00
1/2 x 12	1031350	2200	2.14	.50	32.08	19.08	32.96	19.96	1.44	.72	3.23	12.00

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Jaw & Jaw



Thread Dia.	HC-227	Working Load	Woight						Di	mensio	ons (in.)				
x Take up (in.)	Stock No.	Load Limit (lbs.)	Each (lbs.)		В	E Closed	G	J Open	K Closed	M Open	N Closed	R	S	X Closed	ВВ
1/4 x 4	1031877	500	.30	.25	.45	1.58	.62	11.35	7.35	12.07	8.07	.78	.34	1.75	4.00
5/16 x 4 1/2	1031895	800	.50	.31	.50	1.98	.87	13.71	8.71	14.01	9.51	.94	.44	2.09	4.50
3/8 x 6	1031911	1200	.80	.38	.54	2.12	.87	16.81	10.81	17.77	11.77	1.12	.53	2.52	6.00
1/2 x 6	1031939	2200	1.51	.50	.65	2.75	1.06	19.29	12.29	20.48	13.48	1.44	.72	3.23	6.00
1/2 x 9	1031957	2200	1.71	.50	.65	2.75	1.06	25.29	15.29	26.48	16.48	1.44	.72	3.23	9.00
1/2 x 12	1031957	2200	2.08	.50	.65	2.75	1.06	31.29	31.29	32.48	19.48	1.44	.72	3.23	12.0

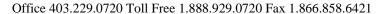
Stage Hardware

Last Updated: February 2011

D Rings & Hanging Irons

These items are manufactured as a tie off or attachment point for rigging hardware. Shown below are D Ring (most economical), top hanger, bottom hanger and ceiling plate.





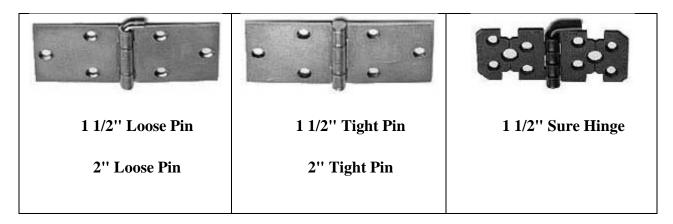
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Hinges

We offer loose pin, tight pin and sure hinges for your scenic and or construction projects

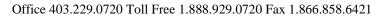


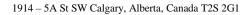
Eye Bolts

G-277 Shoulder Nut Eye Bolts



Shoulder Eye bolts should be utilized whenever there are angular lifts involved





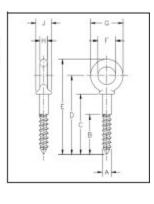


Shank	G-277	Working	Weight				Dim	ension	s (in.)			
Diameter	Stock	Load	Per	A	В	C	D	E	F	G	H	J
& Length	No.	Limit	100									
(in.)	Galv.	(lbs.)	(lbs.)									
1/4 x 2	1045014	650	6.60	.25	.50	.88	.19	1.50	2.00	2.94	.50	.47
1/4 x 4	1045032	650	9.10	.25	.50	.88	.19	2.50	4.00	4.94	.50	.47
5/16 x 2-1/4	1045050	1200	12.50	.31	.62	1.12	.25	1.50	2.25	3.50	.69	.56
5/16 x 4-1/4	1045078	1200	18.80	.31	.62	1.12	.25	2.50	4.25	5.50	.69	.56
3/8 x 2-1/2	1045096	1550	21.40	.38	.75	1.38	.31	1.50	2.50	3.97	.78	.66
3/8 x 4-1/2	1045112	1550	25.30	.38	.75	1.38	.31	2.50	4.50	5.97	.78	.66
1/2 x 3-1/4	1045130	2600	42.60	.50	1.00	1.75	.38	1.50	3.25	5.12	1.00	.91
1/2 x 6	1045158	2600	56.80	.50	1.00	1.75	.38	3.00	6.00	7.88	1.00	.91

G-275 Screw Eye Bolts



Last Updated: February 2011



Lag Eyes for a secure mounting into substantial wood framing are a great tool for the rigging kit.

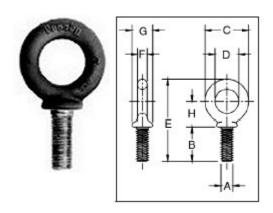
Shank	G-275	Weight										
Diameter &	Stock No.	Per 100	A	В	C	D	E	F	G	H	J	
Length (in.)	Galv.	(lbs.)										
1/4 x 2	1046111	4.30	.25	1.50	2.00	2.50	2.94	.50	.88	.19	.47	
5/16 x 2-1/4	1046139	9.90	.31	1.69	2.25	2.94	3.50	.63	1.13	.25	.56	
3/8 x 2-1/2	1046157	18.88	.38	1.88	2.50	3.28	3.97	.75	1.38	.31	.66	
1/2 x 3-1/4	1046175	37.50	.50	2.44	3.25	4.25	5.12	1.00	1.75	.38	.91	
5/8 x 4	1046193	85.50	.63	3.00	4.00	5.31	6.44	1.25	2.25	.50	1.12	

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Shoulder Type Machinery Eye Bolts



S-279 UNC

Size	S-279	Working	Weight			Dime	nsions	(in.)			
	Stock	Load	per	A**	В	C	D	E	F	G	H
	No.	Limit (lbs.)	100 (lbs.)	Thread							
1/4 x 1	9900182	650	5.00	1/4 - 20	1.02	1.13	.75	2.29	.19	.53	.70
5/16 x 1-1/8	9900191	1200	9.00	5/16 - 18	1.15	1.38	.88	2.74	.25	.59	.90
3/8 x 1-1/4	9900208	1550	15.00	3/8 - 16	1.27	1.62	1.00	3.07	.31	.69	1.00
1/2 x 1-1/2	9900217	2600	28.00	1/2 - 13	1.53	1.95	1.19	3.70	.38	.91	1.20

M-279 Metric

Size	M-279	Working	Weight		D	imens	ions (n	nm)			
	Stock	Load Limit	Each	A**	В	C	D	E	F	G	H
	No.	(kg)	(kg)	Thread							
M6 x 1.0	1045753	200	.03	M6 x 1.0	13.0	28.7	19.1	49	4.9	13.5	21.7
M8 x 1.0	1045789	400	.05	M8 x 1.25	13.0	35.1	22.4	56	6.4	15.0	25.5
M10 x 1.5	1045833	640	.07	M10 x 1.5	17.0	41.1	25.4	64	7.9	17.5	26.5
M12 x 1.75	1045869	1000	.11	M12 x 1.75	20.5	49.5	30.2	78	9.7	23.1	32.8

Chain

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There is a wide variety of sizes and styles of chain on the market. Great care should go into the selection of the appropriate chain for your application. We stock the most useful types for the entertainment industry.

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Jack Chain

Is a twisted non-welded loop style of chain useful for very light duty suspension not requiring high strength. Often used in the support of curtain track or drapes from carriers.



Size	Max Dia	Inside length	WLL (lbs)
#8	.16	1.09	60
#10	.14	.93	43
#12	.11	.75	29
#14	.08	.63	16
#16	.06	.5	10

Double Loop

Is a weldless knotted style of low carbon steel chain. While it has higher working load limits, its uses are again for very light duty suspension



Size	Dia	Inside Length	WLL (lbs)		
5	.06	.92	55		
4	.07	1	70		
3	.08	1.1	90		
2	.09	1.33	115		
1	.11	1.54	155		
2/0	.14	2.17	255		
3/0	.15	2.17	305		
4/0	.16	2.19	365		
8/0	.23	2.9	705		

Grade 30

Is a good general purpose chain. It is proof tested to twice its working load limit with a



minimum ultimate load of 4 times its working load limit. While not recommended for overhead lifting by the various manufactures it is commonly used in the theatre for the suspension of scenery and pipes due to the ease of attachment of fittings. JR Clancy has come out with the following recommendation from their Chain supplier. "When used within the appropriate work load limits proof coil chain may be used in hanging towing and pulling applications

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Grade 80

This is the only grade of chain recommended by the manufactures for overhead lifting. Unfortunately it is very expensive and the attachment of fittings is very particular.

Recommended for overhead lifting applications.

Chain Size	Spec. 8	Feet	Material	Working	Maximum	Minimum	Maximum	Weight
(in.)	Drum	Per	Size	Load	Inside	Inside	Length	Per 100
	Stock	Drum	(in.)	Limit	Length	Width	100 Links	Ft.(lbs.)
	No.			(lbs.)*	(in.)	(in.)	(in.)	
9/32 (1/4)	273527	500	.276	3500	.90	.34	90	72
5/16	273536	500	.343	4500	1.00	.48	100	114
3/8	273545	500	.394	7100	1.25	.49	125	148

CM Special Theatrical Alloy Chain (STAC)

- Special theatrical alloy chain for rigging applications where bridle adjustability is required
- Adjustable to approximate 4" (100mm), will accept up to a 3/4 inch shackle.
- For adjustment in bridles, also useful for hanging safety steels.
- High strength chain with a working load limit of 12,000lbs, 5900 Kg.
- Made from heat treated alloy steel fire proof and abrasion resistant.
- Tested and certified, complete with chain tag.
- 4:1 design factor meets N.A.C.M./GR80 standards for strength
- Each link proof tested to assure weld and material integrity
- Chain embossed with STAC and CM for easy identification as CM alloy
- .5750 lbs. per link
- 1.84 lbs. per foot

Last Updated: February 2011

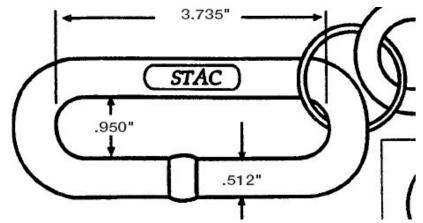
• Tagged with size, grade, reach and working load limit for positive easy identification



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SECOA Theatrical Chain (STCTM)

SECOA Theatrical Chain (STCTM) is an economical chain designed for overhead lifting applications for the theatrical market.

FEATURES:

- Rugged, versatile, high strength with low weight.
- The ultimate tensile strength is two and a half times the strength of a standard 1/4" proof coil chain.
- Same link size as standard 1/4" grade 30 Proof Coil Chain.
- Easily works with existing 1/4" chain hardware.
- SECOA Theatrical Chain (STCTM) is made from alloy steel for superior performance and strength.
- Working load limit of 3,250 pounds.
- Complies with OSHA 1910.184(e)(5) Sling use.
- Lot traceable. Every tenth link has a coded date stamp for quality assurance.
- Proof Tested. Every link is proof tested to twice the working load limit.
- Each link is embossed with "STC" for identification.
- Yellow iridescent chromate finish for easy

identification. BENEFITS:

- Safe, reliable and economical.
- High working load limit for safety.
- Easily identifiable in the field.
- Lot traceable.
- Proof Tested.
- Retrofits easily into existing systems for added safety



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Cutters

Quality Swiss made <u>Felco</u> wire rope cutters. Strong lightweight forged aluminium handles give these heavy duty cutters outstanding performance. Their cutting capacity is optimized by the shape of the handles. These are professional tools, made to last in a manufacturing environment, when cutting wire rope, steel rod, or spring wire. All parts are easily replaceable



Our most popular cutter, the original C7 is unmatched by its competitors in blade hardness, long life, and cutting capabilities. A cable when crushed or deformed in cutting is difficult to use with fittings. Felco cable cutters with the unique triangular jaws, never leave frayed ends. The C7 cuts wire rope 3/16" in diameter and smaller. The C7 is great also great for hard wire 1/8" and smaller

Length: 8" Weight: 10 oz



The C9 is the smallest of the two handled cable cutters. It will cut up to 1/4" steel cable and up to 3/16" high tensile steel strand.

Length: 13" Weight: 1.5 lbs

Last Updated: February 2011



The C 12 cuts up to 3/8" diameter wire rope and up to 3/16" high tensile steel strand. Length: 19" Weight: 3.0 lbs

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The C16 Cuts up to 5/8" diameter wire rope and up to 1/4" high tensile steel strand.

Length: 23" Weight: 5.0 lbs Replacement blades available

SWAGERS & GAUGES

Quality <u>Loos & Co</u>. American made adjustable hand swaggers are available for cable from 1/32 to 5/16". as are "go-no-go" or sleeve compression gauges. All compressions should be check with a gauge to ensure proper compression.



Our Most popular model the No. 1-SC is a multigroove tool for swagging stops and ovals on cables between 1/16" & 3/16"

Length: 20" Weight: 4.2 lbs



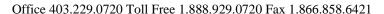
The No.1-BSC is the Bench version of the No. 1-SC with capabilities for swagging stops and ovals on cables between 1/16" & 3/16"

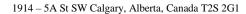
Length: 24" Weight: 6.6 lbs



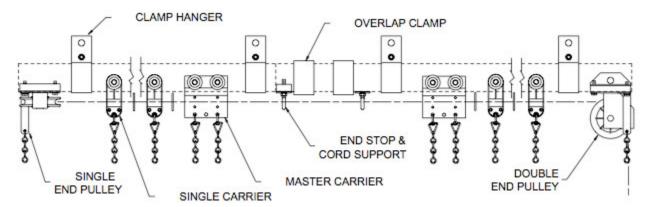
The No. 0-1/4 is a single groove tool can be used for 1/4" Sleeves, 1/4",9/32",5/16" stops.

Length: 28" Weight: 5.0 lbs









Track

Last Updated: February 2011

We are the local supplier of H & H Specialties Inc. Curtain Track and other Products. Please refer the to H & H Specialties Inc webpage and refer to their product catlogue for detailed track and accessories lists.

We would be happy to answer any questions you have and recommend products to suit your specific needs. Please refer to our contact page for our contact information.

Thank you for choosing Down Stage Right Industries.

