



PRO SLING & SAFETY INC.

Pro Lift Tie Down Assemblies



Lift with Experience

LOAD SECUREMENT PRODUCTS, “Any load-carrying vehicle must be loaded and driven in such a manner as to prevent danger to any person, or damage to any property” this is why it is extremely important to use and know how to use quality load securement products.

Minimum Number of Tiedowns

Each cargo securement system must be able to withstand a minimum amount of force in each direction.

Forward Force = 80% of cargo weight when breaking while driving straight ahead.

Rearward Force = 50% of cargo weight when accelerating, shifting gears while climbing a hill, or breaking in reverse.

Sideways Force = 50% of cargo weight when turning, changing lanes, or breaking while turning.

Upward Force = 20% of cargo weight when travelling over bumps in the road or cresting a hill.

This requirement is satisfied when the cargo is “fully contained”

All elements of the vehicle structure, anchor points and tiedowns must be strong enough to withstand the forces described above (see guide table on number of chains and tie down straps required for loads in weight on following pages).

Always ensure each tiedown is attached and secured so that it does NOT become loose or unfastened, open, or release during transit.

Minimum number of tie downs required will also depend upon the length of the article(s) being secured. When an article is not blocked or positioned to prevent forward movement by a bulkhead or headboard, or by other cargo that is positioned to avoid movement and other appropriate blocking devices, loads must be secured by at least:

- A) One Tiedown if the article is 5 feet (1.52 metres) or less in length, and 1,100 pounds (500kgs) or less in weight.
- B) Two tiedowns if the article is 5 feet (1.52 metres) or less in length and more than 1,100 pounds (500kgs) in weight.
- C) Two tiedowns if the article is longer than 5 feet (1.52 metres) but less than or equal to 10 feet (3.04 metres) in length, irrespective of weight and more than 1,100 pounds (500kgs) in weight.
- D) Two tiedowns if the article is longer than 10 feet (3.04 meters), and one additional tiedown for every 10 feet (3.04 meters) of article length, or fraction thereof, beyond the first 10 feet (3.04 meters) of length.

Log Wrappers

To determine the required amount of load encircling wrappers for long logs on logging trucks use the following formula; Aggregate working load limit of tie downs used to secure each stack shall be at least 1/6 of the weight of the stack.

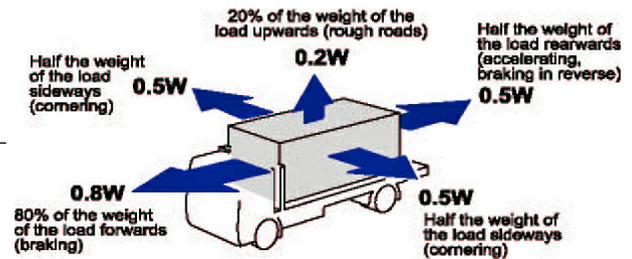
Example would be 35,000 kg load of long logs using 3/8” wire rope wrappers: 35,000kgs divide by 6 (1/6) = 5,833kgs 5,833kgs divided by 1,360kgs (WLL of 3/8” wrapper) = 4.28 Therefore a total of 5 load wrappers would be required to secure this load.

To determine the required amount of load encircling wrappers for short logs on logging trucks use the following formula; Aggregate working load limit of tie downs used to secure each stack shall be at least 1/6 of the weight of the stack.

Example would be 14,000 kg load of short logs using 3/8” wire rope wrappers:

14,000kgs divide by 6 (1/6) = 2,333kgs - 2,333kgs divided by 1,360kgs (WLL of 3/8” wrapper) = 1.71 Therefore a total of 2 load wrappers would be required to secure each load.

Please check with Pro Sling & Safety or the Federal Motor Carriers Safety Administration DOT Regulations for special requirements on securing Dressed Lumber, Metal Coils, Paper Rolls, Concrete Pipe, Vehicles and other special loads. Its important that you also check your local regulations to ensure that you conform to their requirements.



Inspection and Care in Use

Always inspect load securement devices regularly before use. Inspect chains, hooks and binders for wear, cracks, stretch and any signs of fatigue. Inspect Web Straps and Wires for any cuts, nicks or abrasion resulting from sharp corners. If working load tags are damaged, removed or can not be read, assembly should be discarded. Use corner protectors or padding on loads with sharp edges or corners. The lashing capacity of any chain is reduced by 25% if the corner radius is less than the nominal chain size. NEVER use extender (cheater) bars on loadbinders. Always ensure that load securement devices are evenly loaded and secured so that it does NOT become loose or unfastened.

Procraft Grade 70 Gold Chromate Transport Chain

Transport chain is used in tie down and load securement applications. It has a gold zinc plated finish for cleanliness and ease of identification. Procraft transport chain is produced to the NACM standards and is marked with grade and each individual link is proof load tested. **DO NOT** use in overhead applications and **NEVER** exceed the rated capacity of the chain.

Grade 70 Chain Diameter	Working Load Limit		Minimum number of chains required to secure loads in forward direction by weight of articles in lbs. (kgs)									
	(lbs)	(kgs)	5,000 (2,270)	10,000 (4,540)	15,000 (6,800)	20,000 (9,070)	25,000 (11,340)	30,000 (13,600)	35,000 (15,870)	40,000 (18,140)	45,000 (20,410)	50,000 (22,680)
1/4	3,150	1,429	2	3	4	6	7	8	9	11	12	13
5/16	4,700	2,132	1	2	3	4	5	6	6	7	8	9
3/8	6,600	2,994	1	2	2	3	4	4	5	5	6	7
7/16	8,750	3,990	1	1	2	2	3	3	4	4	5	5
1/2	11,300	5,127	1	1	2	2	2	3	3	4	4	4

Minimum number of tie down chains required to secure a load as per Federal Motor Carriers Safety Administration, DOT Regulations; per 49CFR, Part 393 - Paragraph 393.102.



Stock Code	Chain Size Inches	Feet Per Drum	Working Load Limit Pounds	Weight per Foot Pounds
0807-08	1/4	400	3,150	0.94
0807-10	5/16	550	4,700	1.11
0807-12	3/8	400	6,600	1.50
0807-16	1/2	200	11,300	2.60

Procraft Grade 70 Gold Chromate Grab Hooks

Grade 70 Grab Hooks are to be used with Grade 70 transport chain for tie down applications. Grab hooks are designed to grab onto the chain or hook into rails. These hooks are suitable for load securement and are **NOT** to be used for overhead lifting. **DO NOT** exceed rated capacities.



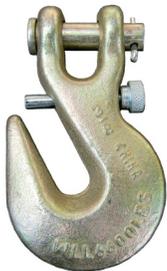
Stock Code	Chain Size Inches	Rated Capacity Pounds	Weight per Piece Pounds
38CL-A08	1/4	3,150	0.36
38CL-A10	5/16	4,700	0.62
38CL-A12	3/8	6,600	1.00
38CL-A14	7/16	8,800	1.31
38CL-A16	1/2	11,300	2.22



To avoid injury inspect before use, do not overload, **NEVER** use handle extenders (cheater bars) and never use grade 70 transport chains and fittings for overhead lifting. Death or injury can occur from improper use.

Procraft Grade 70 Grab Hooks Trigger Safety (Latch)

Grade 70 Grab Hooks are to be used with Grade 70 transport chain for tie down applications. Grab hooks are designed to grab onto the chain or hook into rails. These hooks are suitable for load securement and are **NOT** to be used for overhead lifting. **DO NOT** exceed rated capacities.



Stock Code	Chain Size Inches	Rated Capacity Pounds	Weight per Piece Pounds
38CL-AP12	3/8	6,600	1.20
38CL-AP16	1/2	11,300	2.60

Procraft Grade 70 Gold Chromate Slip Hooks

Grade 70 Slip Hooks are to be used with Grade 70 transport chain for tie down applications. Slip hooks are designed to slip onto the chain or hook into rails. These hooks are suitable for load securement and are **NOT** to be used for overhead lifting. **DO NOT** exceed rated capacities. Hooks come with or without a safety latch, please advise the preferred type at time of order.



Stock Code	Chain Size Inches	Rated Capacity Pounds	Weight per Piece Pounds
39CL-A08	1/4	2,750	0.55
39CL-A10	5/16	4,300	0.79
39CL-A12	3/8	5,250	1.21
39CL-A14	7/16	7,000	2.06
39CL-A16	1/2	9,000	2.75

Procraft Grade 70 Slip Hooks with Latch Kit

Grade 70 Slip Hooks are to be used with Grade 70 transport chain for tie down applications. Slip hooks are designed to slip onto the chain or hook into rails. These hooks are suitable for load securement and are **NOT** to be used for overhead lifting. **DO NOT** exceed rated capacities. This hook comes with a safety latch installed for increased safety.



Stock Code	Chain Size Inches	Rated Capacity Pounds	Weight per Piece Pounds
39CL-AL08	1/4	2,750	0.65
39CL-AL10	5/16	4,300	0.92
39CL-AL12	3/8	5,250	1.32
39CL-AL14	7/16	7,000	2.07
39CL-AL16	1/2	9,000	2.90



Procraft Forged Lever Type Loadbinders (Cinches)

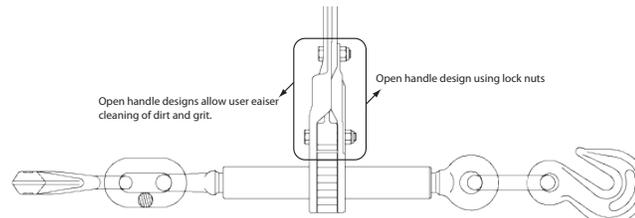
Procraft Load Binders are forged, quenched and tempered with each binder being proof load tested. The all forged design is better suited to the cold environments than cast product, and will yield or stretch before failing. Loadbinders are suitable for load securement and are **NOT** to be used for overhead lifting. **DO NOT** exceed rated capacities and **NEVER** use handle extenders or “cheater” bars.



Stock Code	Chain Size Inches	Rated Capacity Pounds	Weight Per Piece Pounds
04ST-08	1/4 G7	2,600	3.63
04ST-12	5/16 G7 to 3/8 G4	5,400	7.93
04ST-16	3/8 G7 to 1/2 G4	9,200	12.56

Procraft Forged Ratchet Loadbinders (Cinches)

Procraft Ratchet Load Binders have a ratchet handle with an open design using locking bolts. The open handle allows the user to simply strike with a hammer or other tool, and any substances (ice, snow and dirt) that may interfere with the ratchet system will be removed. They are forged, quenched and tempered with each binder being proof load tested. The all forged design is better suited to the cold environments than cast product, and will yield or stretch before failing. Loadbinders are suitable for load securement and are **NOT** to be used for overhead lifting. **DO NOT** exceed rated capacities and **NEVER** use handle extenders or “cheater” bars.



Stock Code	Chain Size Inches	Rated Capacity Pounds	Weight Per Piece Pounds
04RA-10	1/4 G7 to 5/16 G4	3,900	3.68
04RA-12	5/16 G7 to 3/8 G4	5,400	10.95
04RA-16	3/8 G7 to 1/2 G4	9,200	12.96

Procraft Forged Ratchet Loadbinders with Safety Pin

This Ratchet Load Binders is manufactured to European Standard EN12195-3 and are suitable for use with Grade 80 alloy chain and the grab hooks have safety pins for increased safety. They are forged, quenched and tempered with each binder being proof load tested. Loadbinders are suitable for load securement and are **NOT** to be used for overhead lifting. **DO NOT** exceed rated capacities and **NEVER** use handle extenders or “cheater” bars.



Stock Code	Chain Size Inches	Lashing Capacity kN (Pounds)	Weight Per Piece Pounds
04RA08-16CPL	1/2	100 (22,480)	16.53



To avoid injury inspect before use, **DO NOT** overload, never use handle extenders (cheater bars) and **NEVER** use grade 70 transport chains and fittings for overhead lifting. Death or injury can occur from improper use.

Procraft Web Tie Down Straps

Procraft web tie down straps are light weight and are simple to use. They are a cost effective product to use in place of chain, but can be more easily damaged and prone to being cut on sharp edges and should **NOT** be used on certain loads. Procraft straps are manufactured to the WSTDA standards for increased strength and durability, and come complete with rated capacity tags.

Webbing Width	Working Load Limit		Minimum number of web straps required to secure loads in forward direction by weight of articles in lbs. (kgs)									
	(lbs)	(kgs)	5,000 (2,270)	10,000 (4,540)	15,000 (6,800)	20,000 (9,070)	25,000 (11,340)	30,000 (13,600)	35,000 (15,870)	40,000 (18,140)	45,000 (20,410)	50,000 (22,680)
2	3,335	1,512	2	3	4	5	6	8	9	10	11	12
3	4,300	1,950	1	2	3	4	5	6	7	8	9	10
4	5,400	2,449	1	2	3	3	4	5	6	6	7	8

Minimum number of tie down web straps required to secure a load as per Federal Motor Carriers Safety Administration, DOT Regulations; per 49CFR, Part 393 - Paragraph 393.102.

Procraft 4" Truck Winch Straps

Winch straps are used in conjunction with truck winches on flat bed trucks and large trailers. Make sure winch straps are protected from sharp corners when securing to the load. Straps can be manufactured to customers requirements including varying lengths, special end fittings and ink marked with companies name.



Stock Code	Description	Rated Capacity Pounds	Weight per Piece Pounds
90TIE-4D25YEL	4" x 25 ft Dee Ring	5,400	5.00
90TIE-4D30YEL	4" x 30 ft Dee Ring	5,400	6.20
90TIE-4D40YEL	4" X 40 ft Dee Ring	5,400	8.00
90TIE-4F30YEL	4" x 30 ft Flat Hook	5,400	6.20
90TIE-4F40YEL	4" x 40 ft Flat Hook	5,400	8.00

Procraft 4" Truck Winch Straps & Accessories

Winches are available as portable or weld on units, easily installed on flat bed trucks, trailers, and railcars. Used in conjunction with either 3" or 4" winch straps they can be lighter and easier to handle than chain and loadbinders. Extra care should be taken with the webbing on sharp corners.



Stock Code	Style	Mounting	Rated Capacity Pounds	Weight per Piece Pounds
44WN-PRT	Standard	Portable	5,000	10.50
44WN-PRTLTP	Low Profile	Portable	5,000	10.50
44WN-REG	Standard	Weld-On	5,400	9.20
44WN-RHM	Low Profile	Weld-On	5,400	9.10
44WNBAR-COMBO	Combination Winch Bar	»	»	5.90
44WN-WNDR	Strap Winder	»	»	2.50
44WN	Lashing Winch	Bolt-On	3,335	3.10
44CAP-04	2 & 4" Wide Plastic Corner	»	»	0.30



Procraft 3" & 2" Web Ratchet Tie Down Sets

This type of ratchet tie down is one the most commonly used tie down for general use and is suitable for a wide range of applications including flat bed trucks and van tie downs. Standard assemblies come complete with fixed end, but can be manufactured to customers specifications and requirements. **DO NOT** use a cheater bar to increase leverage on ratchets.



Stock Code	Description	Rated Capacity Pounds	Weight per Piece Pounds
90TIE-3SET30F	Flat Hooks 3" x 30 ft	5,000	12.44
90TIE-3SET30WH	Wire Hooks 3" x 30 ft	5,000	14.30
90TIE-2SET30F	Flat Hooks 2" x 30 ft	3,335	6.00
90TIE-2SET30W16	HD Wire Hooks 2" x 30 ft	3,335	5.80
90TIE-2SET25W16	HD Wire Hooks 2" x 25 ft	3,335	5.40
90TIE-2SET20W16	HD Wire Hooks 2" x 20 ft	3,335	5.00
90TIE-2SET15W16	HD Wire Hooks 2" x 15 ft	3,335	4.60
90TIE-2RL08	Ratchet Loop Strap 2" x 8 Ft	3,335	3.40
90TIE-2RL12	Ratchet Loop Strap 2" x 12 Ft	3,335	3.70
90TIE-2RL16	Ratchet Loop Strap 2" x 16 Ft	3,335	4.00
90TIE-2RL20	Ratchet Loop Strap 2" x 20 Ft	3,335	4.40
90TIE-2SET12E	'E' Track Fittings with LD Ratchet 2" x 12 ft	1,000	1.00
90TIE-ROPEE	'E' Track Tie Off & Dee Ring	1,000	1.00

Procraft 1" Web Ratchet Tie Down Straps

These straps are commonly used for small utility or van tie downs. Standard assemblies come complete with 9" fixed end, but can be manufactured to customers specifications. **DO NOT** use a cheater bar to increase leverage on ratchets.



Stock Code	Description	Rated Capacity Pounds	Weight per Piece Pounds
90TIE-1X10WSET	1" x 10ft Wire Hooks	1,000	1.50
90TIE-1X12WDSET	1" x 12 ft Wire Hooks & Dee Ring	1,000	1.40
90TIE-1X20WDSET	1" x 20ft Wire Hooks & Dee Ring	1,000	1.60
90TIE-1RL12	Ratchet Loop Strap 1" x 12 Ft	1,000	1.20
90TIE-1R20	Ratchet Loop Strap 1" x 20 Ft	1,000	1.40



To avoid injury inspect before use, check webbing for cuts and abrasion. Protect any web belts from sharp corners or edges. Always ensure you are using the correct strap for the load or job. Never exceed rated capacities. Death or injury can occur from improper use.



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Ratings shown in this catalogue are based upon the items being new or in “as new” condition. Strengths are shown in either working load limit or rated capacity which is the maximum load that should be applied to the product, or breaking strength where the product must be used with an appropriate design factor applied to calculate the rated capacity of the product. All details are correct at time of printing and specifications may change without notice. It is the customers responsibility to determine the suitability of the product to its intended use, including all industry regulations and guidelines. Careful inspection of any lifting and rigging product is highly recommended for any wear, deformation and misused prior to use.

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