

## BUY WITH CONFIDENCE

CM is Proud to be Compliant with the "Buy American Act"

We know that American-made products are important to our customers. That's why CM manufactures the majority of its chain and rigging attachments at our two Tennessee facilities. We also manufacture many of our hoists here in America as well.

Dating back to 1933, the Buy American Act requires end products for supplies or construction material to be manufactured domestically. For a product to comply with this Act, it is required that more than half the cost of its components is derived from U.S.-made components.

CM is proud to comply with the Buy American Act and is happy to supply a Certificate of Compliance upon request.



## SERVICING CUSTOMERS AROUND THE GLOBE

In today's global economy, Columbus McKinnon is ready to meet the needs of customers anywhere in the world.

We rely on our world-class global manufacturing facilities to produce best-in-class material handling products as well as perform product testing that exceeds standards outlined by industry regulations. To quickly and efficiently meet customer demands, we have also strategically positioned our warehouses to ensure our products are available to the customer when they need them.

Our material handling knowledge and expertise surpasses the competition. Our dedicated team of engineers, trainers and sales representatives continually work with customers to solve tough application problems and better understand their needs to fuel future product development.



# QUALITY MATTERS.

Rely on our Authorized Rigging Centers to build, service and repair your CM® rigging products.

Our CM® Authorized Rigging Centers are held to the highest levels of quality and safety and are part of an exclusive network of rigging product and service experts certified by Columbus McKinnon to:

- build and repair welded and mechanical chain slings
- service rigging products and manual hoists from CM, Coffing and all other Columbus McKinnon brands
- perform authorized Columbus McKinnon warranty work

These centers are classified two different ways:

**WELD & SERVICE CENTERS** have the capability to build and service welded and mechanical slings.

**SERVICE CENTERS** have the capability to build and service mechanical slings.

**FOR A LIST OF THE LOCATIONS, VISIT:**

<https://www.cmworks.com/riggingsc/RiggSvcCtrResults.aspx>

AUTHORIZED  
**RIGGING**  
WELD & SERVICE CENTER





## PRODUCT OVERVIEW

Our broad product offering is complemented by an unmatched wealth of knowledge and expertise that far surpasses our competition. This includes:

- A thoroughly trained and knowledgeable technical sales force that provides expertise on applications, regulations, training requirements and product features and benefits.
- A global network of authorized distributors that provide inventory, technical support, service after the sale, and consultation regarding specific needs.
- Knowledgeable customer service representatives to help customers with shipment information, product selection, specifications and auxiliary items.
- An engineering team constantly working to improve existing products, while developing unique and innovative new products.
- Training programs dedicated specifically to rigging products, as well as broad-based programs to cover all aspects of lifting and positioning.
- The unique ability to not only manufacture high-quality rigging products, but also lead the industry in the design and manufacture of hoists, overhead cranes, and related motion control products.

# CHAIN OVERVIEW

Our chain manufacturing roots date back to the late 1800s and the Columbus Chain Company. We hold patents in chain and chain link design as well as patents in chain manufacturing processes, which help ensure our chain is the strongest and most reliable on the market today. We also invented the first alloy chain in 1933 – the forerunner to our industry-changing Herc-Alloy 800® and 1000 chains.

Today, Columbus McKinnon is an industry-leading chain manufacturer. Relying on more than a century of chain-making expertise and innovation, we manufacture a wide selection of graded chain in Tennessee, for use in a variety of industries. We have always been an innovator in chain and rigging products, and we continually work to improve our processes and materials to ensure we manufacture the best chain in the industry year after year.

## GRADED CHAIN AT A GLANCE

	ASTM & NACM Grade	CM Chain Embossment	ASTM Specification	Name	Typical Uses
	GRADE 30	G30	A413	Proof Coil	General-purpose, low-carbon chain for industrial and agricultural applications including guard rails, logging and load securement. <b>Not to be used for overhead lifting.</b>
	GRADE 43	G43	A413	High Test	Grade 43 chain is manufactured to meet ASTM & NACM specifications. Typical uses include container securement, logging, towing and marine industry applications. Grade 43 is available in many finishes. <b>Not to be used for overhead lifting.</b>
	GRADE 70	G70	A413	Transport	A higher-strength, heat-treated carbon steel chain typically used by truckers, loggers and highway crews for load securement, towing, lashing and as trawler chain. Load ratings of Grade 70 chain are approximately 20% higher than Grade 43. <b>Not to be used for overhead lifting.</b>
	GRADE 80	HA800	A391	Alloy	A higher-strength, heat-treated alloy steel chain primarily used as a sling component for overhead lifting, but can also be used in rigging and tie-down applications where a lighter weight, higher strength chain is desirable. <b>Meets NACM, ASME, and OSHA standards for overhead lifting.</b>
	GRADE 100	HA1000	A973	Alloy	With approximately 25% higher strength than Grade 80, Grade 100 chain is used primarily as a sling component for overhead lifting. Grade 100 chain can be used for all of the same applications as Grades 30 through 80. <b>Meets NACM, ASME, and OSHA standards for overhead lifting.</b>

## DIMENSIONS, WEIGHTS & WLL

Chain Size (in.)	Wire Diameter Nominal (in.)	Inside Length Nominal (in.)	Inside Width Nominal (in.)	Weight Per 100 ft (lbs.)	Working Load Limit (lbs.)
<b>GRADE 30 (PROOF COIL)</b>					
3/16	0.22	0.97	0.45	39.8	800
1/4	0.28	1.22	0.51	64.6	1,300
5/16	0.33	1.27	0.60	97.6	1,900
3/8	0.39	1.35	0.58	140.2	2,650
1/2	0.50	1.73	0.81	227.0	4,500
5/8	0.63	1.92	0.86	363.0	6,900
3/4	0.78	2.40	1.07	568.0	10,600
<b>GRADE 43 (HIGH TEST)</b>					
1/4	0.28	1.22	0.51	64.6	2,600
5/16	0.34	1.25	0.54	104.0	3,900
3/8	0.39	1.35	0.58	140.3	5,400
1/2	0.50	1.73	0.81	227.0	9,200
5/8	0.63	1.92	0.86	363.0	13,000
3/4	0.78	2.40	1.07	568.0	20,200
<b>GRADE 70 (TRANSPORT)</b>					
1/4	0.39	0.84	0.47	76.4	3,150
5/16	0.33	0.98	0.46	100.5	4,700
5/16*	0.33	1.10	0.50	96.9	4,700
3/8	0.39	1.14	0.54	145.5	6,600
3/8*	0.39	1.38	0.60	136.5	6,600
1/2	0.53	1.56	0.73	267.0	11,300
<b>HERC-ALLOY 800® (GRADE 80)</b>					
7/32	0.22	0.68	0.31	44.3	2,100
9/32	0.28	0.88	0.40	72.9	3,500
5/16	0.33	1.02	0.46	90.9	4,500
3/8	0.39	1.25	0.57	144.0	7,100
1/2	0.51	1.44	0.73	255.0	12,000
5/8	0.63	1.78	0.86	382.3	18,100
3/4	0.79	2.23	1.07	595.0	28,300
7/8	0.88	2.25	1.14	776.0	34,200
1	1.00	3.07	1.49	941.0	47,700
1-1/4	1.25	3.92	1.74	1,420.0	72,300
<b>HERC-ALLOY® 1000 (GRADE 100)</b>					
7/32	0.22	0.68	0.31	44.3	2,700
9/32	0.28	0.88	0.40	72.9	4,300
3/8	0.39	1.25	0.57	144.0	8,800
1/2	0.531	1.56	0.73	267.0	15,000
5/8	0.63	1.92	0.86	370.0	22,600
3/4	0.812	2.40	1.07	619.0	35,300

\* Standard Link Grade 70 Chain

GRADE 30



GRADE 43



GRADE 70



GRADE 80



GRADE 100



# CHAIN SLINGS OVERVIEW

Chain slings are a combination of chain, hooks, rings or other attachments used primarily for overhead lifting applications. Slings are generally used in conjunction with a crane or some type of lifting device and allow riggers to create a custom configuration to lift a load depending on the needs of the unique application.

## CHAIN SLING CONFIGURATIONS

Standard sling configurations consist of chain branches that are affixed on one end to a master link or ring with some type of attachment, typically a hook, attached to the opposite end. CM manufactures the chain and attachments needed to build a sling. The following symbols are used to describe a sling.

### FIRST SYMBOL (BASIC TYPE):

- S** : Single chain sling
- C** : Single choker chain sling with a standard end link on each end, no hooks.
- D** : Double branch chain sling (2 legs)
- T** : Triple branch chain sling (3 legs)
- Q** : Quadruple branch chain sling (4 legs)

### SECOND SYMBOL (TYPE OF MASTER OR END LINK):

- O** : Oblong master link of standard dimensions
- P** : Pear shaped master link (available on request)
- R** : Ring

### THIRD SYMBOL (TYPE OF HOOK):

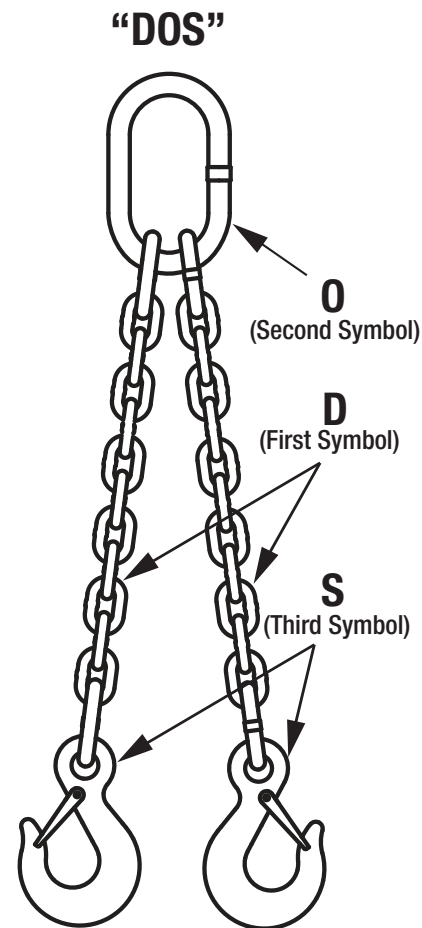
- S** : Sling Hook
- G** : Grab Hook
- F** : Foundry Hook
- L** : Latchlok

A hook safety latch is not required by OSHA. However, if a latch is present it must be in working condition.

If attachments are other than standard, give detailed specifications.

Sling tags are stamped 1 to 4 to reflect number of branches. Additional coding is defined as follows:

- AS** : Adjustable Single
- ES** : Endless Single
- SAL** : Single Adjustable Loop
- AD** : Adjustable Double
- SB** : Single Basket
- ED** : Endless Double
- DAL** : Double Adjustable Loop
- DB** : Double Basket

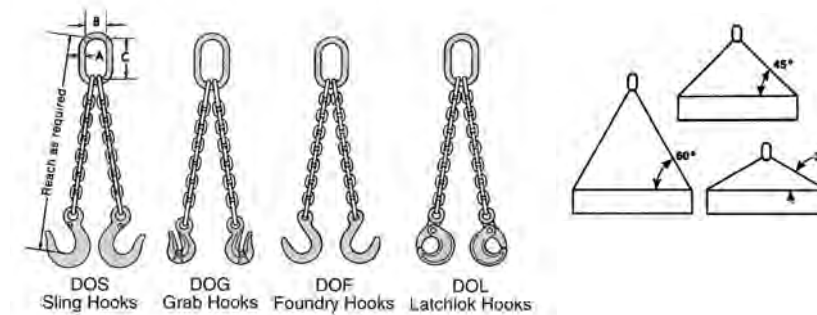


## STANDARD TYPES OF CHAIN SLINGS

### SINGLE CHAIN SLINGS : TYPE S & C

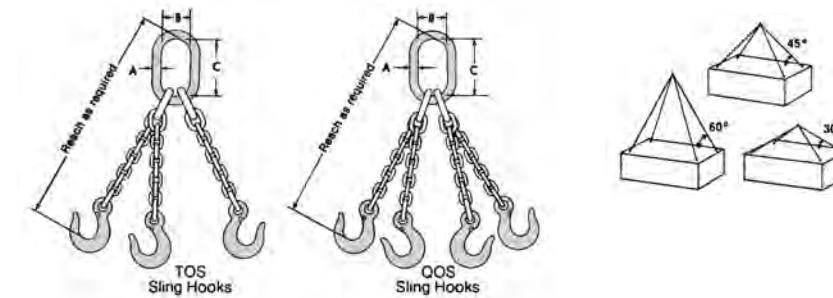


### DOUBLE CHAIN SLINGS : TYPE D



### TRIPLE CHAIN SLINGS : TYPE T

### QUADRUPLE CHAIN SLINGS : TYPE Q



### SAFETY NOTE

A quad branch chain sling, especially when used on a load of rigid structure, is usually not sustaining the load evenly on each of its four branches. The maximum working load limits are therefore set at the same values as triple branch chain slings of equal quality and size with branches used at same angle of inclination.

# HOOKS OVERVIEW

Whether you're lifting, pulling, towing or securing loads, the Columbus McKinnon line of hooks has you covered. Our history in rigging-type products dates back more than 100 years, and we rely on this long-standing knowledge and expertise to develop durable and reliable hooks that can stand up to even the toughest overhead lifting and binding applications.

Available in numerous grades and materials, we have a variety of hook styles for both overhead and non-overhead lifting applications. Learn more about all of our available hook styles below.

## OVERHEAD LIFTING HOOKS

Not all hooks are appropriate for overhead lifting. When choosing an overhead lifting hook, it's important to consider the application you will be using it for. If you are lifting a plate, you may need one type of hook, while lifting a vehicle engine may require another. **Only Grade 80 and Grade 100 alloy hooks should be used in overhead lifting applications.** CM dual rates many Grade 80 and Grade 100 hooks to minimize inventory requirements for our distributors and create more versatility for riggers. Below are various types of hooks CM recommends for overhead lifting applications.

### CLEVLOK® HOOKS

CM trademarked Clevlok® Herc-Alloy® Hooks are typically used for overhead lifting applications. This line of hooks offers easy installation in the shop or in the field. These hooks are 100% proof tested at the factory, thus requiring no additional testing once installed.



### EYE HOOKS

CM Herc-Alloy® Eye Hooks are an excellent choice for welded assemblies. For some applications, they also may be used with mechanical couplers such as the CM Hammerlok®. These hooks are designed for overhead lifting and can be used in place of Clevlok® hooks if preferred. Overhead lifting eye hooks are 100% proof tested at the factory, thus requiring no additional testing once installed using the CM Hammerlok.



### "S" HOOKS

CM Herc-Alloy® "S" Hooks are built and designed for special lifting applications. CM "S" hooks are 100% proof tested at the factory and can be used for various applications where a wide throat opening is desired.



### PLATE HOOKS

CM Herc-Alloy® Plate Hooks are designed for lifting plate material, like steel, in vertical and horizontal orientations. Plate hooks should be used in pairs and careful attention should be paid to sling angles when determining the working load limit.



### SORTING HOOKS

CM Sorting Hooks are designed to lift and move material with long narrow throat openings. Sorting hooks are 100% proof tested and are available with and without handles.



### HOOKS FOR USE WITH SYNTHETICS

CM manufactures a line of hooks designed specifically for use with synthetic slings.



## NON-OVERHEAD LIFTING HOOKS

Non-overhead lifting hooks are designed for pulling or load securement application. These hooks do not have the same requirements as those used for overhead lifting. Non-overhead lifting hooks are available in Grades 30, 43, and 70. Grade 80 hooks that are not suitable for overhead lifting are marked T-80 and should only be used for load securement.

### CLEVIS HOOKS (NON-CRADLE GRAB & SLIP HOOKS)

Clevis Hooks are not designed for overhead lifting, but instead are most often used for load securement with tie-down chains. Clevis hooks are easy to install in the field and can be used in combination with various grades of chain including Grade 30, 43, 70 and 80. These feature a U-shaped attachment point with a pin to secure chain or other rigging attachments. Different grades of clevis hooks have different working load limits, therefore you must ensure you use the correct hook grade and size for your application.



### EYE HOOKS (NON-CRADLE GRAB & SLIP HOOKS)

Standard Eye Hooks are not designed for overhead lifting, but instead are most often used for load securement with tie-down chains. Eye hooks are used in combination with various grades of chain including Grade 30, 43, 70 and 80. Eye hooks feature a simple circular attachment point for rigging chain or other attachments. Different grades of eye hooks have different working load limits, therefore you must ensure you use the correct hook grade and size for your application.



## HOOK INSPECTION & USE

### INSPECTION:

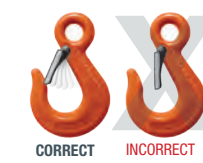
- ▲ Discard hooks that are worn more than 10% of the original dimension or are worn beyond a specific dimension or tolerance as provided in a wear allowance table, chart or diagram.
- ▲ Discard hooks that have an increase in throat or slot opening more than 5% of the original opening (not to exceed 1/4 inch).
- ▲ Discard hooks with any visibly apparent bend or twist from the plane of the unbent hook.
- ▲ Replace load pins that are permanently distorted.
- ▲ Hooks should not be subjected to bending, exposed to sharp objects or tip loaded.
- ▲ Replacement load pins shall be obtained from the manufacturer of the hook.

### USE:

- ▲ Care should be exercised during use, so the hook is not abused or damaged.
- ▲ Hooks attached to chain should be selected to match the size and working load limit of the chain.
- ▲ Do not exceed the working load limit or shock load the chain or attachments. Loads applied rapidly or dropped freely can result in serious overloading of the hook.
- ▲ Use proper size chain in the throat of the grab hook.
- ▲ Hooks should not be subjected to bending, exposed to sharp objects, tip loaded (unless specified by the manufacturer) or loaded in a manner inconsistent with its design.
- ▲ Avoid exposure to corrosive mediums or high temperatures that could affect the thermal treatment and strength of the hook.
- ▲ Hooks can be used from -40 degrees F to 400 degrees F without reduction of working load limit. Call the manufacturer if you exceed these temperatures.

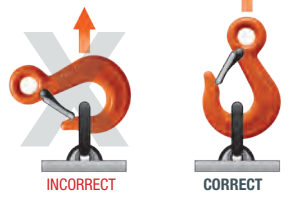
Refer to American Society of Mechanical Engineers ASME B30.10 for a discussion of hooks, inspection procedures and operating practices.

### HOOK LATCHES

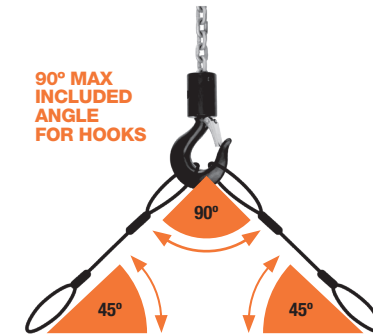


Hook latches (when required) must be in good working condition. If not, the hook should be removed from service.

### NEVER TIP LOAD A HOOK!



### 90° MAX INCLUDED ANGLE FOR HOOKS

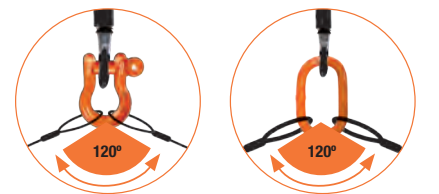


### SELECTING THE RIGHT SIZE HOOK/SLING

Be sure the component is of adequate size and shape so that it can be properly seated in the saddle of hook or lifting device.

### LOW HORIZONTAL ANGLES

Use a shackle or oblong master link when working with low horizontal angles. Both can be used with included angles up to 120°.



Always verify manufacturer's information prior to use.





RIGGING & ATTACHMENTS

▶ CHAIN SLING COMPONENTS  
HERC-ALLOY 800® (GRADE 80)

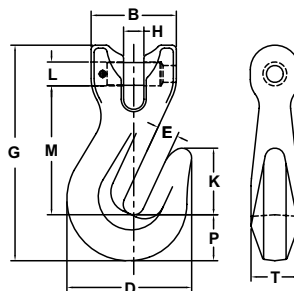


# CLEVLOK® GRAB HOOK WITHOUT CRADLE HERC-ALLOY 800®

WORKING LOAD LIMIT: 3,500 TO 18,100 LBS.

## BENEFITS & FEATURES

- Quenched and tempered alloy steel
- Fatigue rated
- Built without lugs to avoid catching when slipping into tight clearance
- Durable orange powder coated finish
- Replacement pin available
- 4:1 design factor



Size (in.)	Working Load Limit (lbs.)	Standard Package	Product Code			Dimensions (in.)										Weight (lbs.)
			Completed Unit	Load Pin	Retainer Pin	B	D	E	G	H	K	L	M	P	T	
9/32	3,500	10	659232	595780SP	602306	1.36	1.91	0.36	3.70	0.33	1.04	0.36	2.29	0.76	0.81	0.6
3/8	7,100	10	659235	595781	495828	1.90	2.78	0.47	4.81	0.45	1.49	0.51	2.87	1.03	1.06	1.3
1/2	12,000	5	659238	SP595782P	495829	2.31	3.62	0.59	6.35	0.59	1.98	0.63	3.78	1.51	1.38	2.5
5/8	18,100	5	659239	SP595783P	495823	2.87	4.41	0.75	7.74	0.75	2.39	0.75	4.82	1.80	1.69	4.4

Note: If used as a choker, working load limit should be reduced by 20%.

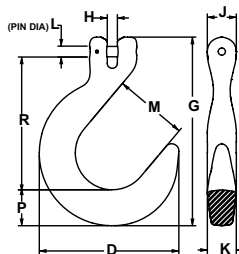


# CLEVLOK® FOUNDRY HOOK HERC-ALLOY® 1000

WORKING LOAD LIMIT: 4,300 TO 35,300 LBS.

## BENEFITS & FEATURES

- Clevlok® head designed for easy assembly
- “I” beam body design increases grip when removing from load
- Meets ASTM A952 standards
- Quenched & tempered alloy steel
- Individually proof tested
- Durable orange powder coated finish
- 4:1 design factor



Size (in.)	Working Load Limit (lbs.)	Clevlok Foundry Hook			Alloy Load Pin	Retaining Pin	Dimensions (in.)									
		Product Code	Standard Package Quantity	Weight (lbs.)			Product Code	Product Code	D	G	H	J	K	L	M	P
9/32	4,300	475798	5	2.43	595780SP	602306	4.82	6.52	0.35	1.00	1.00	0.36	2.55	1.24	4.59	
3/8	8,800	475799	5	4.14	595781	495828	5.73	7.87	0.47	1.16	1.27	0.51	3.05	1.43	5.59	
1/2	15,000	475800	5	7.10	SP595782P	495829	6.83	9.40	0.59	1.50	1.50	0.63	3.55	1.75	6.58	
5/8	22,600	475801	5	12.03	595785	495824	7.94	10.98	0.70	1.74	1.81	0.75	4.07	2.03	7.69	
3/4	35,300	475802	5	21.00	595786	495824	9.17	13.20	0.88	2.05	2.00	0.91	4.50	2.63	8.87	



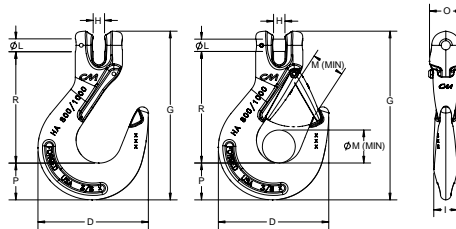
# CLEVLOK® SLING HOOK

## DUAL RATED FOR USE WITH HA800 OR HA1000

**WORKING LOAD LIMIT: 2,700 TO 35,300 LBS.**

### BENEFITS & FEATURES

- For use with both Grade 80 & 100 chain
- Available with and without a latch (improved cast latch)
- Quenched and tempered alloy steel
- Clevlok head design
- 100% proof tested and fatigue rated
- Durable orange powder coated finish
- Replacement pin and latch kit available
- New CE compliant hooks and latches
- Meets EN 1677, ASTM A953 and ASME B30.10 standards
- 4:1 design factor



Size (in.)	Working Load Limit (lbs.)	Standard Package	Product Code					Dimensions (in.)										Weight (lbs.)
			With Latch	Without Latch	Latch Kit	Alloy Load Pin	Retaining Pin	D	G	H	I	L	M	O	P	R		
7/32	2,700	10	657716	557716	4X455321	SP595778P	495827	3.05	5.00	0.31	0.66	0.28	0.96	1.13	0.94	3.45	1.10	
9/32	4,300	10	657718	557718	4X455322	595780SP	495827	3.53	5.55	0.38	0.75	0.36	0.83	1.32	1.11	3.75	1.20	
3/8	8,800	10	657719	557719	4X455325	595781	495828	4.54	6.93	0.47	1.00	0.51	1.06	1.34	1.51	4.58	2.21	
1/2	15,000	5	657720	557720	4X455328	SP595782P	495823	5.48	8.28	0.58	1.33	0.63	1.38	1.87	1.55	5.59	4.22	
5/8	22,600	5	657721	557721	4X455329	SP595783P	495849	6.20	9.61	0.71	1.47	0.75	1.69	2.11	1.83	6.44	6.64	
3/4	35,300	Bulk	657722	557722	4X455330	595786	495824	7.63	11.79	0.88	1.88	0.94	2.09	2.55	2.51	7.74	11.22	



# CLEVLOK® STYLE LATCHLOK® HOOK

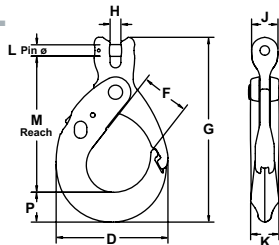
## HERC-ALLOY® 1000



**WORKING LOAD LIMIT: 4,300 TO 22,600 LBS.**

### BENEFITS & FEATURES

- High-cycling, long-life spring
- 100% proof tested
- Meets ASTM A952 standards
- Durable orange powder coated finish
- Positive locking hook
- 4:1 design factor



Size (in.)	Working Load Limit (lbs.)	Product Code	Replace Latch Kit Part #	Dimensions (in.)									Weight (lbs.)
				H	M	P	D	F	J	K	G	L	
9/32	4,300	M616005	656005	0.35	5.05	0.88	3.77	1.64	1.00	0.91	6.61	0.36	2.40
3/8	8,800	M616010	656010	0.45	6.08	1.07	4.76	2.26	1.17	1.15	7.98	0.51	4.20
1/2	15,000	M616015	656015	0.59	7.88	1.58	6.26	2.91	1.50	1.47	10.54	0.63	9.00
5/8	22,600	M616020	656020	0.71	8.96	1.97	7.37	3.22	1.74	1.85	12.19	0.75	14.00

HERC-ALLOY® 1000

CHAIN SLING COMPONENTS

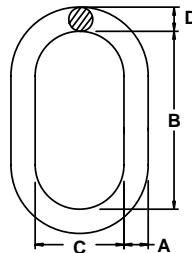
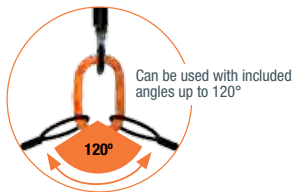


# FORGED MASTER LINK GRADE 80

WORKING LOAD LIMIT: 5,100 TO 20,400 LBS.

## BENEFITS & FEATURES

- Quenched and tempered alloy steel
- Fatigue rated to Grade 80 specifications
- 100% proof tested
- Raised markings for better identification
- Durable orange powder coated finish
- 6:1 design factor



Trade Size (in.)	Working Load Limit (lbs.)	Product Code	Nominal Dimensions (in.)			Weight (lbs.)
			Material Diameter A	Inside Length B	Inside Width C	
1/2	5,100	M50P	0.50	5.00	2.50	0.90
5/8	7,700	M62P	0.63	6.00	3.00	1.75
3/4	10,600	M75P	0.75	6.00	3.00	2.35
1	20,400	M100P	1.00	8.00	4.00	6.00

CHAIN & RIGGING ATTACHMENTS (CMRP-6)

PHONE: 800.888.0985

WWW.CMWORKS.COM