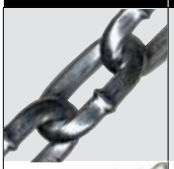
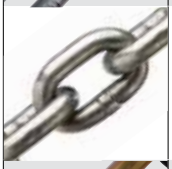
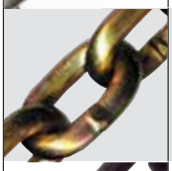
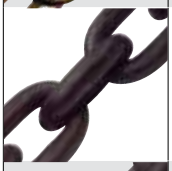
CHAIN OVERVIEW

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, Stuart Rush 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. **Not to be used for overhead lifting.**
	**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. **Not to be used for overhead lifting.**
	**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. **Not to be used for overhead lifting.**
	**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. **Meets NACM, ASME, and OSHA standards for overhead lifting.**
	**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. **Meets NACM, ASME, and OSHA standards for overhead lifting.**

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.)
GRADE 30 (PROOF COIL)					
1/2	0.515	1.73	0.81	241.6	4,500
5/8	0.625	1.916	0.855	363	6,900
3/4	0.781	2.397	1.07	568	10,600
GRADE 43 (HIGH TEST)					
1/2	0.515	1.73	0.81	241.6	9,200
5/8	0.625	1.916	0.855	363	13,000
3/4	0.781	2.397	1.07	568	20,200
GRADE 70 (TRANSPORT)					
1/4	0.281	0.883	0.40	72.9	3,150
5/16	0.327	1.10	0.50	96.9	4,700
3/8	0.391	1.247	0.563	140.4	6,600
1/2	0.515	1.73	0.81	241.6	11,300
HERC-ALLOY 800® (GRADE 80)					
7/32	0.218	0.676	0.306	44.3	2,100
9/32	0.281	0.883	0.4	72.9	3,500
5/16	0.328	1.019	0.446	99.1	4,500
3/8	0.391	1.247	0.563	140.4	7,100
1/2	0.512	1.559	0.719	244.7	12,000
5/8	0.63	1.916	0.838	367.7	18,100
3/4	0.787	2.397	1.049	573.6	28,300
7/8	0.875	2.25	1.093	776	34,200
1	1.00	3.07	1.44	941.1	47,700
1-1/4	1.25	3.92	1.59	1420	72,300
HERC-ALLOY® 1000 (GRADE 100)					
7/32	0.218	0.676	0.306	44.3	2,700
9/32	0.281	0.883	0.4	72.9	4,300
3/8	0.406	1.247	0.563	153	8,800
1/2	0.531	1.559	0.719	266.7	15,000
5/8	0.64	1.916	0.838	381.2	22,600
3/4	0.812	2.397	1.049	605	35,300

GRADE 30

GRADE 43

GRADE 70

GRADE 80

GRADE 100

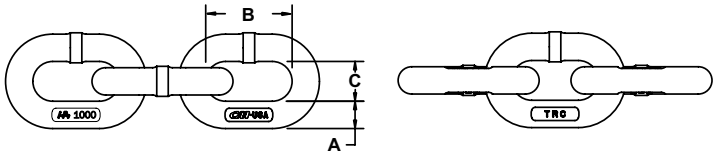
HERC-ALLOY® 1000 CHAIN

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

MADE IN THE USA

BENEFITS & FEATURES

- Meets ASTM A973 & NACM standards
- 25% higher working load limit when compared to Grade 80
- Environmentally friendly black coating for distinct appearance and ease of identification
- Certification included with every drum
- 100% proof tested
- 4:1 design factor



Chain Size (in.)	Working Load Limit (lbs.)	Nominal Chain Dimensions (in.)			Per Foot		Per Drum		
		Material Diameter A	Inside Length B	Inside Width C	Weight (lbs./ft.)	Approximate Number of Links (per ft.)	Product Code	Length (ft.)	Weight (lbs.)
7/32	2,700	0.22	0.68	0.31	0.44	17.8	677310	800	354
9/32	4,300	0.28	0.88	0.40	0.73	13.6	677311	500	365
3/8	8,800	0.41	1.25	0.56	1.53	9.6	677313	500	740
1/2	15,000	0.53	1.56	0.72	2.67	7.7	677315	300	800
5/8	22,600	0.64	1.92	0.84	3.81	6.3	677316	200	762
3/4	35,300	0.81	2.40	1.05	6.05	5.0	677317	100	619

INSPECTION, CARE & USE

HOW TO SELECT AND ORDER THE PROPER CHAIN SLING

1. Determine the weight and configuration of the load(s) to be lifted.
2. Determine the type of chain sling required, according to weight and configuration.
3. Determine the size of the body chain according to the working load limits. Be sure to take into consideration the effect of the required angle. The working load limit is the maximum load in pounds which should be applied in direct tension to a straight length of chain.

   Note: Working load limit can be affected by angles of loading, type of hitch used, environmental conditions such as hot and cold temperatures, and D/d ratio.
4. Determine the reach required to give the desired angle. The reach is measured from the upper bearing surface of the master link to the bearing surface of the lower attachment. If chain slings are to be used in pairs and are to be matched for reach, indicate when ordering.
5. Know share of load on pick points and location of center of gravity.

For more information, visit us at www.stuart-rush.com

SLING ID TAGS

Description	Product Code
Alloy Sling ID Tag	557038
Carbon Sling ID Tag	457106
Attachment Ring	557193

Information on tag includes sling size, reach, WLL, serial number, name of manufacturer, grade of sling & number of branches

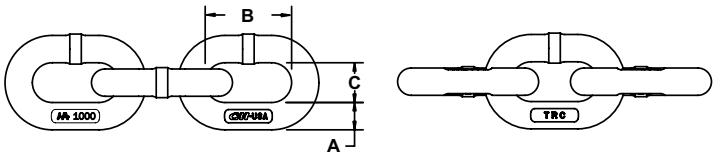
HERC-ALLOY 800® CHAIN

WORKING LOAD LIMIT: 2,100 TO 72,300 LBS.

MADE IN THE USA

BENEFITS & FEATURES

- A higher strength heat treated alloy steel chain primarily used as a sling component for overhead lifting
- Can be used in rigging and tie down applications where a lighter weight, higher strength chain is desirable
- Meets NACM, ASME, ASTM, and OSHA standards for overhead lifting
- 4:1 design factor



Chain Size (in.)	Working Load Limit (lbs.)	Nominal Chain Dimensions (in)			Per Foot		Per Drum		
		Material Diameter A	Inside Length B	Inside Width C	Weight (lbs./ft.)	Approximate Number of Links (per ft.)	Product Code	Length (ft.)	Weight (lbs.)
7/32	2,100	0.22	0.68	0.31	0.44	17.8	677010	800	354
9/32	3,500	0.28	0.88	0.40	0.73	13.6	677011	500	365
5/16	4,500	0.33	1.02	0.45	0.99	11.8	–	–	–
3/8	7,100	0.41	1.25	0.56	1.40	9.6	677013	500	700
1/2	12,000	0.53	1.56	0.72	2.45	7.7	677015	300	735
5/8	18,100	0.64	1.92	0.84	3.68	6.3	677016	200	735
3/4	28,300	0.81	2.40	1.06	5.74	5.0	677017	100	574
7/8	34,200	0.88	2.25	1.10	7.76	5.3	677018	100	776
1	47,700	1.00	3.07	1.44	9.41	3.9	677019	100	941
1-1/4	72,300	1.25	3.92	1.60	14.20	3.1	677070	90	1,278

INSPECTION, CARE & USE

HOW TO SELECT AND ORDER THE PROPER CHAIN SLING

1. Determine the weight and configuration of the load(s) to be lifted.
2. Determine the type of chain sling required, according to weight and configuration.
3. Determine the size of the body chain according to the working load limits. Be sure to take into consideration the effect of the required angle. The working load limit is the maximum load in pounds which should be applied in direct tension to a straight length of chain.

   Note: Working load limit can be affected by angles of loading, type of hitch used, environmental conditions such as hot and cold temperatures, and D/d ratio.
4. Determine the reach required to give the desired angle. The reach is measured from the upper bearing surface of the master link to the bearing surface of the lower attachment. If chain slings are to be used in pairs and are to be matched for reach, indicate when ordering.
5. Know share of load on pick points and location of center of gravity.

For more information, visit us at www.cmco.com

SLING ID TAGS

Description	Product Code
Alloy Sling ID Tag	557038
Carbon Sling ID Tag	457106
Attachment Ring	557193

Information on tag includes sling size, reach, WLL, serial number, name of manufacturer, grade of sling & number of branches

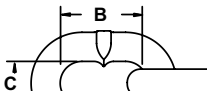
PROOF COIL CHAIN GRADE 30

WORKING LOAD LIMIT: 800 TO 10,600 LBS.

Grade 30 chain, commonly called Proof Coil, is manufactured to meet ASTM & NACM specifications. Typical uses include barrier chains, trailer safety chains, light construction, marine industry, etc. Grade 30 chain is available in a wide assortment of finishes and packaged configurations. It should not be used for overhead lifting.

BENEFITS & FEATURES

- Meets ASTM & NACM standards
- Available in a wide assortment of finishes including, Self-Colored, Zinc Plated, Galvanized, Powder Coated
- Permanent identification on chain (embossed with CM30)
- 100% proof tested
- Available in drums, pails and multiple styles of assemblies
- Design factor 4:1



Chain Size (in.)	Working Load Limit (lbs.)	Nominal Chain Dimensions (in.)			Weight (lbs./ft.)*	Approximate Number of Links (per ft.)
		Material Diameter A	Inside Length B	Inside Width C		
1/2	4,500	0.52	1.73	0.81	2.42	6.9
5/8	6,900	0.63	1.92	0.86	3.63	6.3
3/4	10,600	0.78	2.40	1.07	5.68	5.0

Chain Size (in.)	Self-Colored Finish				Zinc Plated Finish						Hot Dipped Galvanized Finish					
	Full Drum		Half Drum		Full Drum		Half Drum		Pail		Full Drum		Half Drum		Pail	
	Product Code	Length (ft.)	Product Code	Length (ft.)	Product Code	Length (ft.)	Product Code	Length (ft.)	Product Code	Length (ft.)	Product Code	Length (ft.)	Product Code	Length (ft.)	Product Code	Length (ft.)
North American																
1/2	–	–	671045	200	671445	200	–	–	671415	40	671345	200	–	–	–	–
5/8	671046	150	–	–	–	–	–	–	–	–	671346	150	–	–	–	–
3/4	671047	100	–	–	–	–	–	–	–	–	671347	100	–	–	–	–

*Weight for Hot Dipped Galvanized Finish: Add 5% for sizes under 1/2", Add 2% for sizes over 1/2"

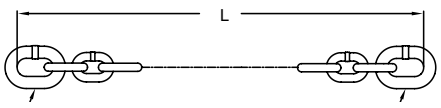
BUOY CHAIN

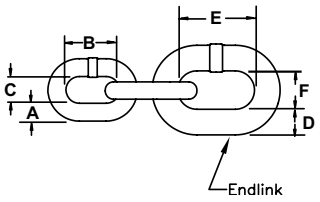
WORKING LOAD LIMIT: 15,000 TO 91,000 LBS.

For use on navigation markers for the U.S. Coast Guard, Public Works Canada and other navigation jurisdictions.

BENEFITS & FEATURES

- **Not for overhead lifting**
- Design factor 4:1





Chain Size (in.)	Minimum Breaking Strength (lbs.)	Product Code	L (ft.)	Chain Dimensions (in.)			Endlink Dimensions (in.)			Finish	Weight (lbs./shot)
				A	B	C	D	E	F		
1/2	15,000	6510049	90	0.50	3.00	1.88	0.75	4.50	2.69	Self Colored	196.00
1/2	15,000	6510048	45	0.50	3.00	1.88	0.75	4.50	2.69	Self Colored	99.26
3/4	32,000	6510050	90	0.75	4.50	2.69	0.88	5.25	3.13	Self Colored	431.66
3/4	32,000	6510051	45	0.75	4.50	2.69	0.88	5.25	3.13	Self Colored	215.66
1	58,000	4340890	90	1.00	6.00	3.56	1.00	6.00	3.56	Self Colored	760.50
1	58,000	4340890G	90	1.00	6.00	3.56	1.00	6.00	3.56	Hot Dipped Galvanized	760.50
1-1/8	77,000	4340990	90	1.13	6.75	4.00	1.13	6.75	4.00	Self Colored	961.20
1-1/4	91,000	4341090	90	1.25	7.50	4.44	1.25	7.50	4.44	Self Colored	1,186.20