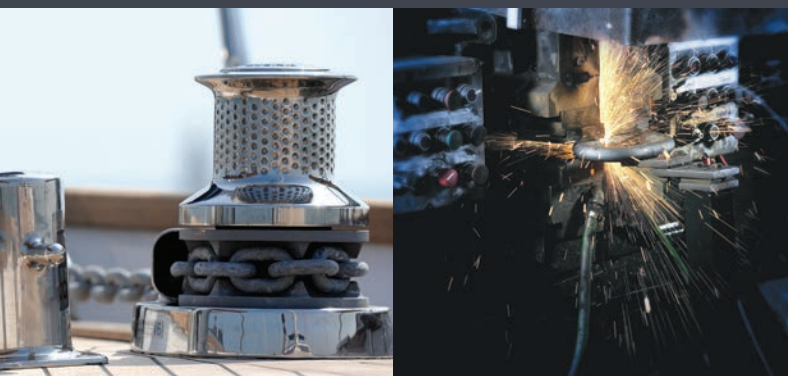




CHAIN PRODUCTS

Chain, Assemblies and Hardware





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Introduction

Due to the diversity and scale that the William Hackett Group has reached and our commitment to continuing the growth, we recently created two new trading companies based broadly around product types. William Hackett Chain Products Limited and William Hackett Lifting Products Limited.

William Hackett Chain Products Limited are based and operate from the original manufacturing factory at Cradley in the West Midlands. From this site, the company manufactures and supplies a wide range of bulk chain, chain assemblies and associated chain products as well as chain harrows. These products are sold throughout the U.K. and Ireland and our chain harrows are exported all over the world.

We currently manufacture and supply:

- Bulk chain, bespoke mooring chain assemblies and associated components.
- Swing chains, climbing nets and swing chain components.
- Grade 40 chain sling systems.
- Calibrated small craft anchor chain.
- Pump lifting chains both in stainless steel and galvanized finish, supplied to the water utility companies via our range of U.K. distributors and pump manufacturers.

- Flail chains, tow chains, transmission chains and components.
- Associated chain hardware, such as shackles, swivels, links and rings.
- Chain harrows for agricultural markets in U.K. and Ireland, as well as exporting to USA, Canada, Iceland, Australia and New Zealand as well as mainland Europe.

We hold a vast range of short, mid and long link chain, both self colour and galvanized – from 6mm to 38mm.

We have the capacity to bend and weld up to 50mm diameter material in carbon steel, alloy steel and stainless steel. Our flexible and dedicated workforce and manufacturing capabilities allow us to meet the constantly changing demands of our customers in the manufacture of bespoke assemblies.

We pride ourselves on the service that we offer and all goods are dispatched promptly via our dedicated haulage service.

As a testament to our commitment to quality and the environment, our ISO 9001: 2008 certification ensures that we have full traceability on all products supplied with records kept both electronically and in paper form and we also hold the Environmental Management System standard ISO 14001: 2004.

We are commercial members of the United Kingdom Harbour Masters Association (U.K.H.M.A.)

Please note that dimensions and weights stated in this catalogue are nominal and small variations are reserved

Grade 3 Calibrated Short Link Chain

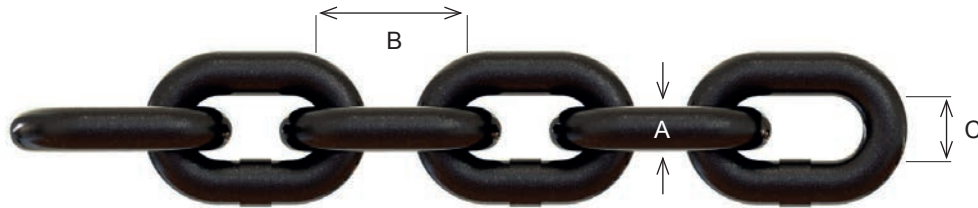
Finish: Self Colour Test: Batch Tested & Certified

Manufactured from low carbon mild steel material, this chain is manufactured on automatic chain making machines with flash butt welded joints. All sizes of chain are calibrated during manufacture, then proof load tested at the end of the process. All chain is embossed at every 20th link or 1m intervals with a four digit batch number for purposes of traceability.

Predominantly used in non-safety critical applications within the industrial, agricultural / marine markets.

Chain diameter range: 6mm – 32mm, available in both self colour and hot dip galvanized finishes (larger sizes available upon request).

Bespoke assemblies can be manufactured on application. Supplied in full drum lengths or cut to specific customer requirements.



Part Code	Chain Size (mm)	Dimensions (mm)			Service Load (t) not to be used for lifting	M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C				
1.060.G30	6	6	18.5	8	400 Kg	1.6	500	0.78
1.070.G30	7	7	22	9	600 Kg	2.4	500	1.10
1.080.G30	8	8	24	12	750 Kg	3.0	350	1.40
1.100.G30	10	10	30	14	1.25	5.0	250	2.20
1.100.D766	10	10	28	14	1.50	6.0	150	2.10
1.120.G30	12	12	36	16	1.75	7.0	150	3.20
1.125.G30	12.5	12.5	39.9	18	1.90	7.8	150	3.30
1.130.G30	13	13	36	18	2.0	8.0	150	3.80
1.140.G30	14	14	42	19	2.25	9.0	125	4.25
1.160.G30	16	16	48	22	3.12	12.5	100	5.60
1.200.G30	20	20	60	30	5.00	20.0	50	8.50
1.220.G30	22	22	66	33	5.75	23.0	50	10.70
1.260.G30	26	26	78	38	8.13	32.5	50	15.00
1.280.G30	28	28	84	42	9.50	38.0	50	17.60
1.320.G30	32	32	96	48	11.50	46.0	50	22.75

Grade 3 Calibrated Short Link Chain

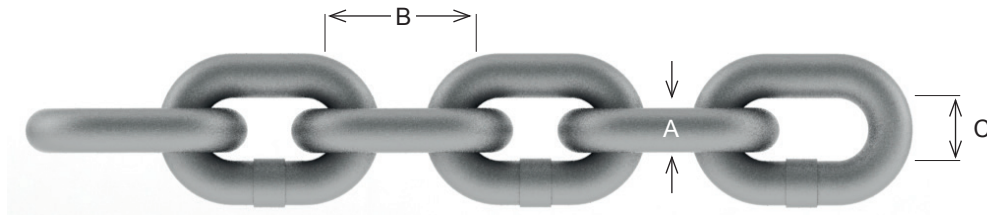
Finish: Hot Dip Galvanized Test: Batch Tested & Certified

Manufactured from low carbon mild steel material, this chain is manufactured on automatic chain making machines with flash butt welded joints. All sizes of chain are calibrated during manufacture, then proof load tested at the end of the process. All chain is embossed at every 20th link or 1m intervals with a four digit batch number for purposes of traceability.

Predominantly used in non-safety critical applications within the industrial, agricultural / marine markets.

Chain diameter range: 6mm – 32mm, available in both self colour and hot dip galvanized finishes (larger sizes available upon request).

Bespoke assemblies can be manufactured on application. Supplied in full drum lengths or cut to specific customer requirements.



Part Code	Chain Size (mm)	Dimensions (mm)			Service Load (t) not to be used for lifting	M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C				
2.060.G30	6	6	18.5	8	400 Kg	1.6	500	0.80
2.070.G30	7	7	22	9	600 Kg	2.4	500	1.15
2.080.G30	8	8	24	12	750 Kg	3.0	350	1.42
2.100.G30	10	10	30	14	1.25	5.0	250	2.25
2.100.D766	10	10	28	14	1.50	6.0	250	2.20
2.120.G30	12	12	36	16	1.75	7.0	150	3.25
2.125.G30	12.5	12.5	39.9	18	1.90	7.8	150	3.40
2.130.G30	13	13	36	18	2.00	8.0	300	3.90
2.140.G30	14	14	42	19	2.25	9.0	125	4.40
2.160.G30	16	16	45	22	3.12	12.5	100	5.80
2.200.G30	20	20	60	30	5.00	20.0	50	8.75
2.220.G30	22	22	66	33	5.75	23.0	50	11.00
2.260.G30	26	26	78	38	8.13	32.5	50	15.50
2.280.G30	28	28	84	42	9.50	38.0	50	18.00
2.320.G30	32	32	96	48	11.50	46.0	50	23.45

Grade 3 Mid Link Chain

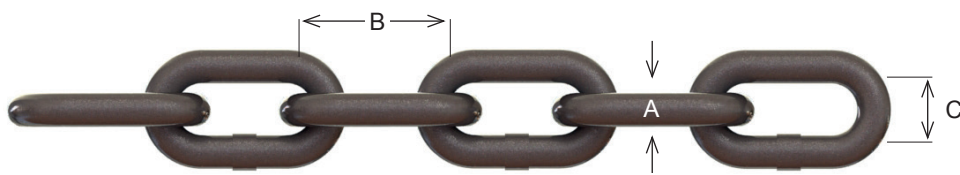
Finish: Self Colour Test: Batch Tested & Certified

Manufactured from low carbon mild steel* material, this chain is manufactured on both semi-automatic and fully automatic chain making machines with flash butt welded joints. All sizes of chain are proof load tested at the end of the manufacturing process. All chain is embossed at every 20th link or 1m intervals with a four digit batch number for purposes of traceability.

*28mm – 42mm chain manufactured from 20MN2 (U2) material.

Predominantly used for onshore and offshore mooring systems for commercial and leisure craft, navigation buoy moorings and aquaculture mooring grid systems, but also applications within the industrial and agricultural markets. The larger internal dimensions of this type of chain make it a more popular product as it can accommodate larger shackles or alternative associated end fittings.

Chain diameter range: 8mm – 42mm, available in both self colour and hot dip galvanized finishes (larger sizes available upon request). Bespoke assemblies can be manufactured on application. Supplied in full drum lengths or cut to specific customer requirements.



Part Code	Chain Size (mm)	Dimensions (mm)			Service Load (t) not to be used for lifting	M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C				
1.080.032	8	8	32	12	750 Kg	3.0	350	1.26
1.100.040	10	10	40	15	1.00	4.0	250	2.00
1.120.048	12	12	48	22	1.25	5.0	175	2.91
1.140.056	14	14	56	23	2.00	8.0	125	3.86
1.160.064	16	16	64	24	2.50	10.0	100	4.85
1.180.064	18	18	64	28	3.50	14.0	60	6.60
1.190.075	19	19	75	25	4.00	16.0	150	7.00
1.220.080	22	22	86	30	5.00	20.0	50	9.70
1.260.092	26	26	92	40	6.25	25.0	50	13.63
1.280.112*	28	28	112	45	10.00	40.0	50	15.10
1.320.128*	32	32	128	51	13.5	54.0	50	19.86
1.360.144*	36	36	144	58	17.00	68.5	50	26.00
1.380.152*	38	38	152	61	19.00	76.0	50	30.50
1.420.168*	42	42	168	68	23.25	93.0	27.5	36.00

*Supplied from U2 material and in black bitumen coated finish

Grade 3 Mid Link Chain

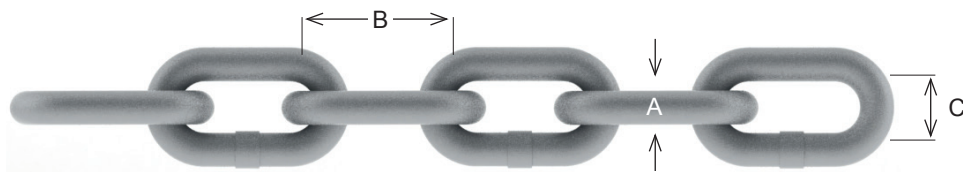
Finish: Hot Dip Galvanized Test: Batch Tested & Certified

Manufactured from low carbon mild steel* material, this chain is manufactured on both semi-automatic and fully automatic chain making machines with flash butt welded joints. All sizes of chain are proof load tested at the end of the manufacturing process. All chain is embossed at every 20th Link or 1m intervals with a four digit batch number for purposes of traceability.

*28mm – 42mm chain manufactured from 20MN2 (U2) material.

Predominantly used for onshore and offshore mooring systems for commercial and leisure craft, navigation buoy moorings and aquaculture mooring grid systems, but also applications within the industrial and agricultural markets. The larger internal dimensions of this type of chain make it a more popular product as it can accommodate larger shackles or alternative associated end fittings.

Chain diameter range: 8mm – 42mm, available in both self colour and hot dip galvanized finishes (larger sizes available upon request). Bespoke assemblies can be manufactured on application. Supplied in full drum lengths or cut to specific customer requirements.



Part Code	Chain Size (mm)	Dimensions (mm)			Service Load (t) not to be used for lifting	M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C				
2.080.032	8	8	32	12	750 Kg	3.0	350	1.30
2.100.040	10	10	40	15	1.00	4.0	250	2.00
2.120.048	12	12	48	22	1.25	5.0	175	3.00
2.140.056	14	14	56	23	2.00	8.0	125	3.90
2.160.064	16	16	64	24	2.50	10.0	100	5.00
2.180.064	18	18	64	28	3.50	14.0	60	6.80
2.190.075	19	19	75	25	4.00	16.0	150	7.25
2.220.080	22	22	86	30	5.00	20.0	50	9.95
2.260.092	26	26	92	40	6.25	25.0	50	14.05
2.280.112*	28	28	112	45	10.00	40.0	50	15.81
2.320.128*	32	32	128	51	13.5.	54.0	50	20.45
2.360.144*	36	36	144	58	17.00	68.5	50	27.00
2.380.152*	38	38	152	61	19.00	76.0	50	31.50
2.420.168*	42	42	168	68	23.25	93.0	27.50	37.00

*Supplied from U2 material

Chain

Grade 3 Long Link Chain

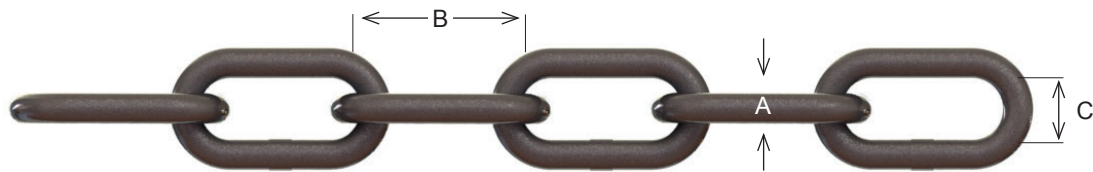
Finish: Self Colour Test: Batch Tested & Certified

Manufactured from low carbon mild steel material, this chain is manufactured on both semi-automatic and fully automatic chain making machines with flash butt welded joints. All sizes of chain are proof load tested at the end of the manufacturing process. All chain is embossed at every 20th link or 1m intervals with a four digit batch number for purposes of traceability.

Predominantly used for onshore and offshore mooring systems for commercial and leisure craft, navigation buoy moorings and aquaculture mooring grid systems, but also applications within the industrial and agricultural markets. The larger internal dimensions of this type of chain make it a more popular product as it can accommodate larger shackles or alternative associated end fittings.

Chain diameter range: 7mm – 26mm, available in both self colour and hot dip galvanized finishes (larger sizes available upon request).

Bespoke assemblies can be manufactured on application. Supplied in full drum lengths or cut to specific customer requirements.



Part Code	Chain Size (mm)	Dimensions (mm)			Service Load (t) not to be used for lifting	M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C				
1.070.042	7	7	42	14	480 Kg	1.9	500	0.89
1.080.052	8	8	52	16	500 Kg	2.0	400	1.10
1.095.050	9.5	9.5	50	19	1.00	4.0	300	1.65
1.120.061	12	12	61	22	1.25	5.0	175	2.68
1.130.081	13	13	81	22	1.50	6.0	150	2.95
1.160.100	16	16	100	24	2.50	10.0	100	4.30
1.180.090	18	18	90	30	3.50	14.0	100	5.88
1.200.100	20	20	100	30	4.00	16.0	125	7.20
1.220.111	22	22	111	33	5.00	20.0	100	8.65
1.260.125	26	26	125	42	6.25	25.0	100	12.30

Grade 3 Long Link Chain

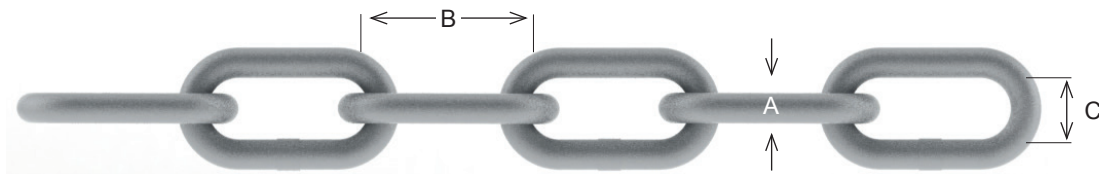
Finish: Hot Dip Galvanized Test: Batch Tested & Certified

Manufactured from low carbon mild steel material, this chain is manufactured on both semi-automatic and fully automatic chain making machines with flash butt welded joints. All sizes of chain are proof load tested at the end of the manufacturing process. All chain is embossed at every 20th link or 1m intervals with a four digit batch number for purposes of traceability.

Predominantly used for onshore and offshore mooring systems for commercial and leisure craft, navigation buoy moorings and aquaculture mooring grid systems, but also applications within the industrial and agricultural markets. The larger internal dimensions of this type of chain make it a more popular product as it can accommodate larger shackles or alternative associated end fittings.

Chain diameter range: 7mm – 26mm, available in both self colour and hot dip galvanized finishes (larger sizes available upon request).

Bespoke assemblies can be manufactured on application. Supplied in full drum lengths or cut to specific customer requirements.



Part Code	Chain Size (mm)	Dimensions (mm)			Service Load (t) not to be used for lifting	M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C				
2.070.042	7	7	42	14	480 Kg	1.9	500	0.90
2.080.052	8	8	52	16	500 Kg	2.0	400	1.15
2.095.050	9.5	9.5	50	19	1.00	4.0	300	1.75
2.120.061	12	12	61	22	1.25	5.0	175	2.80
2.130.081	13	13	81	22	1.50	6.0	150	3.04
2.160.100	16	16	100	24	2.50	10.0	100	4.45
2.180.090	18	18	90	30	3.50	14.0	100	6.10
2.200.100	20	20	100	30	4.00	16.0	125	7.45
2.220.111	22	22	111	33	5.00	20.0	100	8.95
2.260.125	26	26	125	42	6.25	25.0	100	12.65

Grade 4 (M) Short Link Chain to EN818-3

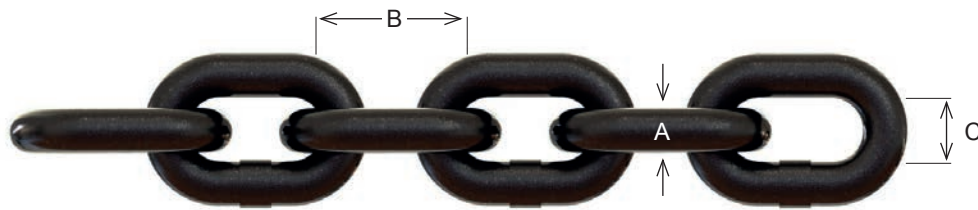
Finish: Self Colour Test: Batch Tested & Certified

Specially manufactured for William Hackett from high tensile low carbon steel material, this chain is manufactured on automatic chain making machines with flash butt welded joints. All sizes of chain are proof load tested at the end of the manufacturing process. All chain is embossed at every 20th Link or 1m intervals with a batch number and manufacturers' mark.

Although not commonly used nowadays, Gr.4 chain still plays an important role for the construction of chain sling systems where conventional Gr.8 and Gr.10 chain sling systems can not be used due to extreme environmental conditions.

Chain diameter range: 6mm – 32mm, available in both self colour and hot dip galvanized finishes.

Gr.4 chain sling systems and bespoke Gr.4 assemblies can be manufactured on application. Supplied in full drum lengths or cut to specific customer requirements.



Part Code	Chain Size (mm)	Dimensions (mm)			Working Load Limit (t)	M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C				
1.060.G40.1	6	6	18	9	500 Kg	2.0	500	0.78
1.070.G40.1	7	7	21	10.5	750 Kg	3.0	350	1.10
1.080.G40.1	8	8	24	12	1.00	4.0	350	1.40
1.100.G40.1	10	10	30	15	1.60	6.4	250	2.20
1.130.G40.1	13	13	39	19	2.65	10.6	150	3.80
1.160.G40.1	16	16	48	24	4.00	16.0	100	5.60
1.200.G40.1	20	20	60	30	6.30	25.2	60	8.50
1.220.G40.1	22	22	66	33	7.50	30.0	50	10.70
1.260.G40.1	26	26	78	39	10.00	40.0	50	15.00
1.320.G40.1	32	32	96	48	16.00	64.0	25	22.75

Grade 3+ High Test Mid Link Chain

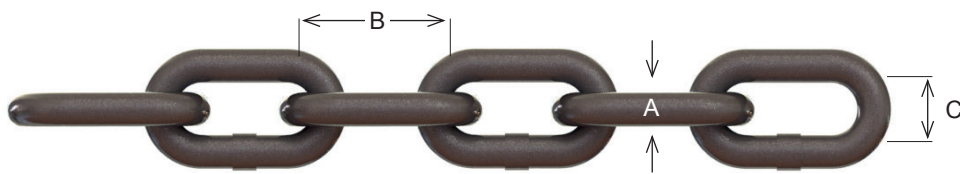
Test: Batch Tested and Certified

Specially manufactured for William Hackett from low carbon steel material, this chain is manufactured on automatic chain making machines with flash butt welded joints and meets the loading requirements of Gr.4 chain. All sizes of chain are proof load tested at the end of the manufacturing process. All chain is embossed at every 20th Link or 1m intervals with a batch number for traceability purposes.

Predominantly used for onshore and offshore mooring systems for commercial and leisure craft, navigation buoy moorings and aquaculture mooring grid systems, but also applications within the industrial and agricultural markets. The larger internal dimensions of this type of chain make it a more popular product as it can accommodate larger shackles or alternative associated end fittings.

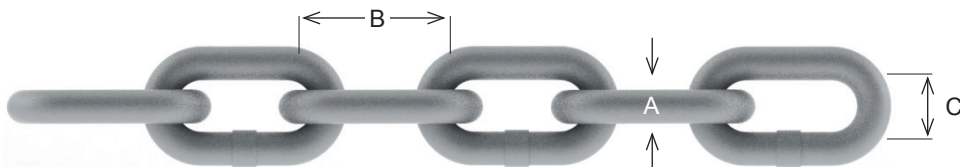
Chain diameter range: 16mm – 22mm, available in both self colour and hot dip galvanized finishes.

Bespoke assemblies can be manufactured on application. Supplied in full drum lengths or cut to specific customer requirements (other sizes available on request).



Finish: Self Colour

Part Code	Chain Size (mm)	Dimensions (mm)			Service Load (t) not to be used for lifting	M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C				
1.160.064.1	16	16	64	22	3.25	13.0	100	4.85
1.220.080.1	22	22	86	28	6.25	25.0	50	9.70



Finish: Hot Dip Galvanized

Part Code	Chain Size (mm)	Dimensions (mm)			Service Load (t) not to be used for lifting	M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C				
2.160.064.1	16	16	64	22	3.25	13.0	100	5.00
2.220.080.1	22	22	86	28	6.25	25.0	50	9.95

Grade 3+ High Test Long Link Chain

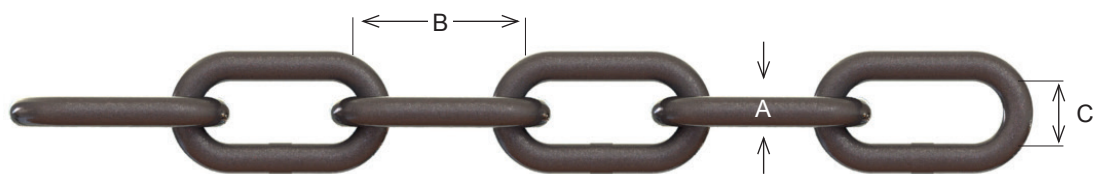
Test: Batch Tested & Certified

Specially manufactured for William Hackett from low carbon steel material, this chain is manufactured on automatic chain making machines with flash butt welded joints and meets the loading requirements of Gr.4 chain. All sizes of chain are proof load tested at the end of the manufacturing process. All chain is embossed at every 20th link or 1m intervals with a batch number for traceability purposes.

Predominantly used for onshore and offshore mooring systems for commercial and leisure craft, navigation buoy moorings and aquaculture mooring grid systems, but also applications within the industrial and agricultural markets. The larger internal dimensions of this type of chain make it a more popular product as it can accommodate larger shackles or alternative associated end fittings.

Chain diameter range: 13mm – 20mm, available in both self colour and hot dip galvanized finishes.

Bespoke assemblies can be manufactured on application. Supplied in full drum lengths or cut to specific customer requirements (other sizes available on request).



Finish: Self Colour

Part Code	Chain Size (mm)	Dimensions (mm)			Service Load (t) not to be used for lifting	M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C				
1.130.081.1	13	13	81	22	2.25	9.0	150	2.95
1.160.100.1	16	16	100	24	3.25	13.0	100	4.30
1.200.100.1	20	20	100	30	5.00	20.0	100	7.20

Finish: Hot Dip Galvanized

Part Code	Chain Size (mm)	Dimensions (mm)			Service Load (t) not to be used for lifting	M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C				
2.130.081.1	13	13	81	22	2.25	9.0	150	3.04
2.160.100.1	16	16	100	24	3.25	13.0	100	4.45
2.200.100.1	20	20	100	30	5.00	20.0	100	7.45

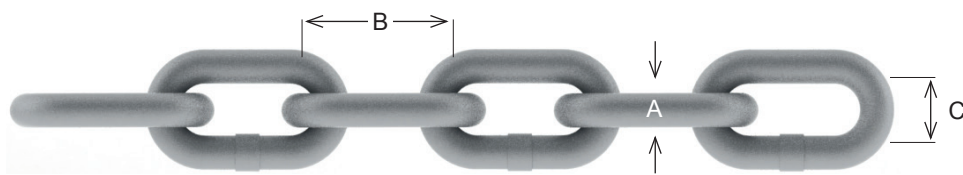
Grade 7 Alloy Steel Chain

Finish: Hot Dip Galvanized Test: Batch Tested & Certified

Specially manufactured for William Hackett from high quality alloy steel material, this chain is manufactured on automatic chain making machines with flash butt welded joints. The chain is stress relieved at 400 – 420°C. after the quench and tempering process and followed by proof loading at 2.5 x working load limit. This process is to alleviate hydrogen cracking when the chain enters the hydrochloric acid bath during the galvanizing process. The other purpose of stress relieving Gr.7 chain, intended for a marine environment, is to prevent stress corrosion cracking when in service. All chain is embossed at regular intervals with a batch number for traceability purposes.

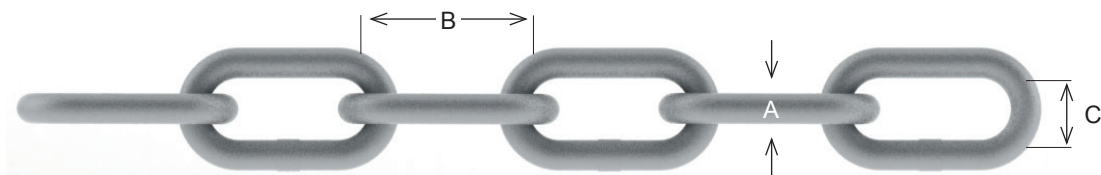
The high strength to weight ratio of this chain makes it ideal use for aquaculture mooring grid systems and in the manufacture of pelagic fishing nets. The larger internal dimensions of this type of chain make it a more popular product as it can accommodate larger shackles or alternative associated end fittings. Chain diameter range: 10mm – 22mm, available in hot dip galvanized finish.

Bespoke assemblies can be manufactured on application. Supplied in full drum lengths or cut to specific customer requirements.



Grade 7 Alloy Steel Mid Link Chain

Part Code	Chain Size (mm)	Dimensions (mm)			M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C			
AM2.100	10	10	40	14	11.5	250	2.00
AM2.130	13	13	52	18	19.5	150	3.40
AM2.160	16	16	64	22	29.0	100	5.10
AM2.200	20	20	79	28	47.0	100	7.20
AM2. 220	22	22	88	31	53.0	50	9.60



Grade 7 Alloy Steel Long Link Chain

Part Code	Chain Size (mm)	Dimensions (mm)			M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C			
AL2.130	13	13	81	22	18.0	150	3.00
AL2.160	16	16	100	24	28.0	100	4.40
AL2.200	20	20	100	30	41.0	100	7.40

Grade 5 Stainless Steel Short Link Chain

Test: Batch Tested & Certified

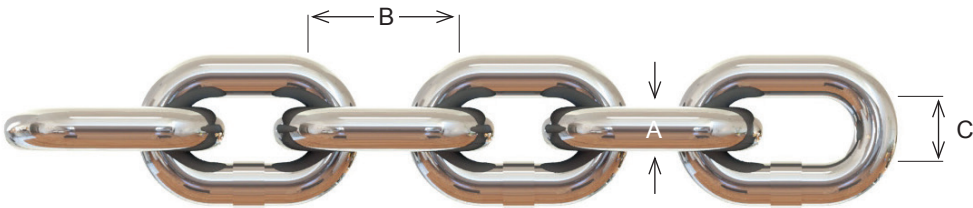
Manufactured from 316L, 1.4404 stainless steel material, this chain is manufactured on fully automatic chain making machines with flash butt welded joints. All sizes of chain are proof load tested at the end of the manufacturing process to 2.5 x working load limit. All chain is embossed at every 20th link or 1m intervals with a grade marking, batch number and manufacturers' mark.

This type of chain is predominantly used in areas of extreme corrosion, such as salt water environment, waste water treatment or food processing applications.

Chain diameter range: 6mm – 16mm. Finish: solution annealed for additional corrosion resistance and tumble polished.

Bespoke Gr.5 assemblies can be manufactured on application.

Supplied in full drum lengths or cut to specific customer requirements (other sizes available on request).



Material: AISI 316L Stainless Steel

Part Code	Chain Size (mm)	Dimensions (mm)			W.L.L. (t)	Proof Load (t)	Weight Per M (Kg)
		A	B	C			
IS5.060.5	6	6	18	9.0	750 Kg	1.88	0.80
IS5.080.5	8	8	24	12.0	1.25	3.12	1.40
IS5.100.5	10	10	30	14.0	2.00	5.00	2.20
IS5.130.5	13	13	39	19.0	3.20	8.00	3.80
IS5.160.5	16	16	48	24.0	5.00	12.50	5.70

AISI 316 Stainless Steel Short Link Chain

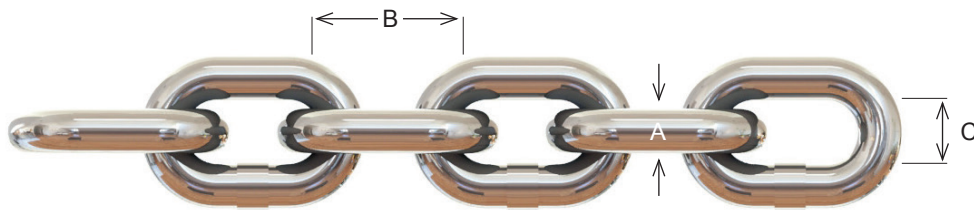
Test: Batch Tested & Certified

Manufactured predominantly from 316L stainless steel material, this chain is manufactured on automatic chain making machines. All sizes of chain are calibrated during manufacture, then proof load tested at the end of the process. All chain is embossed at every 20th link or 1m intervals with a four digit batch number for purposes of traceability.

Predominantly used in non-safety critical applications, in areas of extreme corrosion, such as salt water environment, waste water treatment or food processing applications or within the industrial, agricultural / marine markets.

Chain diameter range: 3mm – 20mm (larger sizes available upon request). Finish: solution annealed for additional corrosion resistance and tumble polished.

Bespoke assemblies can be manufactured on application. Supplied in full drum lengths or cut to specific customer requirements.



Material: AISI 316 Stainless Steel

Part Code	Chain Size (mm)	Dimensions (mm)			Service Load (t)	M.B.L. (t)	Metres Per Crate	Weight Per M (Kg)
		A	B	C				
IS1.030.5	3	3	16	4.2	N/A	350 Kg	1000	0.16
IS1.060.5	6	6	18	9.0	450 Kg	1.8	1000	0.75
IS1.080.5	8	8	24	12.0	800 Kg	3.2	700	1.40
IS1.100.5	10	10	30	14.0	1.25	5.0	500	2.20
IS1.100.D766	10	10	28	14.0	1.25	5.0	500	2.30
IS1.120.5	12	12	36	18.0	1.80	7.2	320	3.20
IS1.140.5	14	14	41	20.0	2.50	10.0	250	4.25
IS1.160.5	16	16	45	24.0	3.00	12.0	100	5.60
IS1.200.5	20	20	60	30.0	4.00	16.0	50	8.70

Chain

AISI 316 Stainless Steel Long Link Chain

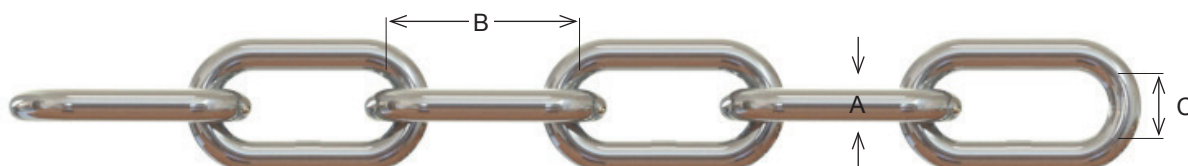
Test: Batch Tested & Certified

Manufactured predominantly from 316L stainless steel material, this chain is manufactured on semi-automatic chain making machines. All sizes of chain are proof load tested at the end of the manufacturing process. All chain is embossed at every 20th link or 1m intervals with a four digit batch number for purposes of traceability.

Predominantly used in non-safety critical applications, in areas of extreme corrosion, such as salt water environment, waste water treatment or food processing applications or within the industrial, agricultural / marine markets.

Chain diameter range: 3mm – 16mm (larger sizes available upon request). Finish: solution annealed for additional corrosion resistance and tumble polished.

Bespoke assemblies can be manufactured on application. Supplied in full drum lengths or cut to specific customer requirements (larger sizes available on request).



Material: AISI 316 Stainless Steel

Part Code	Chain Size (mm)	Dimensions (mm)			Service Load (t) not to be used for lifting	M.B.L. (t)	Metres Per Drum	Weight Per M (Kg)
		A	B	C				
IL1.030.5	3	3	26	6	100 Kg	400 Kg	1000	0.14
IL1.040.5	4	4	32	7	150 Kg	650 Kg	1000	0.27
IL1.060.5	6	6	42	12	320 Kg	1.6	500	0.63
IL1.080.5	8	8	52	16	650 Kg	3.2	350	1.10
IL1.100.5	10	10	65	20	1.00	5.0	250	1.75
IL1.120.5	12	12	78	22	1.25	6.3	150	2.50
IL1.160.5	16	16	100	25	3.00	14.0	100	4.45

Grade 3 Hand Chain

Finish: Bright Zinc Plated

Manufactured on semi-automatic chain making machines. All sizes of chain are calibrated during manufacturing process. Predominantly used as hand chain for manual operation of roller shutter doors.

This chain is available in three different pitches to suit most common sizes of hand chain wheels supplied by roller shutter door manufacturers.

Supplied in full drum quantities, 50m bundles or cut to specific customer requirements.

Part Code	Chain Size (mm)	Dimensions (mm) Ø x I/L x I/W	Weight Per M (Kg)	Metres Per Drums	Metres per Bundle	Weight Per 50M (Kg)
6.054.ACM	5.4	5.4 x 23.60 x 8.3	0.6	1000	50	30.0
6.054.ROB	5.4	5.4 x 19.95 x 7.5	0.6	1000	50	30.0
6.054.ROL	5.4	5.4 x 30.00 x 9.2	0.6	1000	50	30.0

Grade U2 - U3 Stud Link Anchor Chain - Common Link

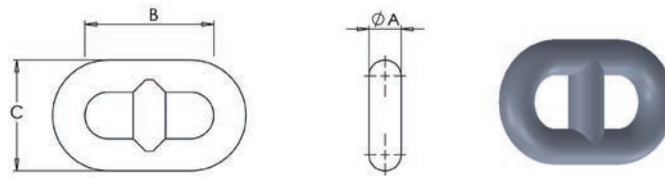
Manufactured from low carbon alloy steel material, this chain is manufactured on automatic chain making machines with flash butt welded joints. All sizes of U3 chain are heat treated and proof load tested at the end of the manufacturing process. Generally supplied in 27.5m lengths, each length is marked with a unique identification number on the end link for purposes of traceability.

Predominantly used as ships' anchor chain or in permanent mooring systems or as a ground chain within a mooring system.

Chain diameter range: 14mm – 60mm, generally available in black bitumen coating, although hot dip galvanized finish is also available (larger sizes available upon request).

Classification: L.R.S; B.V; A.B.S. (other classification available upon request).

Bespoke assemblies can be manufactured on application. Supplied in standard 27.5m shot lengths or to specific customer requirements.



Part Code	Chain Size (mm) A	Dimensions (mm)		Dims over 5 Links		Weight Per M (Kg)	U2		U3	
		B	C	Min. (mm)	Max. (mm)		Proof Force (kN)	Break Force (kN)	Proof Force (kN)	Break Force (kN)
1.140.STUD	14	56	50	308	316	4.4	82	116	116	165
1.160.STUD	16	64	58	352	361	5.6	107	150	150	216
1.175.STUD	17.5	70	63	385	395	6.8	127	180	180	256
1.190.STUD	19	76	68	418	428	8.1	150	211	211	301
1.205.STUD	20.5	82	74	451	462	9.4	175	245	245	350
1.220.STUD	22	88	79	484	496	10.8	200	280	280	401
1.240.STUD	24	96	86	528	541	12.9	237	332	332	476
1.260.STUD	26	104	94	572	586	15.1	278	390	390	556
1.280.STUD	28	112	101	616	631	17.5	321	449	449	642
1.300.STUD	30	120	108	660	677	19.9	368	514	514	735
1.320.STUD	32	128	115	704	722	22.2	417	583	583	833
1.340.STUD	34	136	122	748	767	25.4	468	655	655	937
1.360.STUD	36	144	130	792	812	29.0	523	732	732	1050
1.380.STUD	38	152	137	836	857	32.3	581	812	812	1160
1.400.STUD	40	160	144	880	902	35.8	640	896	896	1280
1.420.STUD	42	168	151	924	947	39.4	703	981	981	1400
1.440.STUD	44	176	158	968	992	43.0	769	1080	1080	1550
1.460.STUD	46	184	166	1012	1037	47.0	837	1170	1170	1680
1.480.STUD	48	192	173	1056	1082	51.0	908	1280	1280	1810
1.500.STUD	50	200	180	1100	1128	55.0	981	1370	1370	1960
1.520.STUD	52	208	187	1144	1173	59.0	1060	1480	1480	2110
1.540.STUD	54	216	194	1188	1218	64.0	1140	1600	1600	2270
1.560.STUD	56	224	202	1232	1263	68.0	1220	1710	1710	2450
1.580.STUD	58	232	209	1276	1308	73.0	1300	1810	1810	2600
1.600.STUD	60	240	216	1320	1353	79.0	1380	1950	1950	2770

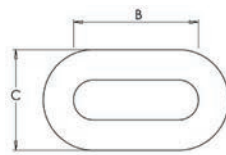
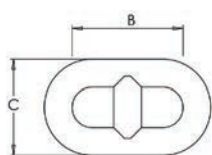
Chain Fittings

Grade U2 - U3 Stud Link Anchor Chain - Enlarged / End Links

Enlarged links and end links are used as intermediate links and end links for stud link anchor chain to enable the attachment of associated fittings such as forelock shackles and swivels. These are index sized to be compatible with each size of stud link anchor chain. The material and heat treatment should be the same as that of the stud link anchor chain that they are fitted to.

Classification: L.R.S; B.V; A.B.S. (other classification available upon request).

Chain diameter range: 14mm – 60mm, generally available in black bitumen coating, although hot dip galvanized finish is also available (larger sizes available upon request). All loadings are compatible with common links on page 15.



Enlarged Link

To Suit Part Code	Chain Size (mm)	Dimensions (mm)			Weight Each (Kg)
		A	B	C	
1.140.STUD	14	15	62	55	0.32
1.160.STUD	16	18	70	63	0.50
1.175.STUD	17.5	19	76	68	0.74
1.190.STUD	19	20.5	82	74	0.88
1.205.STUD	20.5	22	88	79	1.10
1.220.STUD	22	24	96	86	1.25
1.240.STUD	24	26	104	94	1.70
1.260.STUD	26	28	112	101	2.15
1.280.STUD	28	30	120	108	2.80
1.300.STUD	30	34	136	122	3.20
1.320.STUD	32	36	144	130	3.90
1.340.STUD	34	38	152	137	4.70
1.360.STUD	36	40	160	144	5.50
1.380.STUD	38	42	168	151	6.10
1.400.STUD	40	44	176	158	7.10
1.420.STUD	42	46	184	166	8.40
1.440.STUD	44	48	192	173	10.00
1.460.STUD	46	50	200	180	11.50
1.480.STUD	48	54	216	194	13.10
1.500.STUD	50	56	224	202	15.00
1.520.STUD	52	58	232	209	17.00
1.540.STUD	54	60	240	216	19.00
1.560.STUD	56	62	248	223	21.00
1.580.STUD	58	64	256	230	23.00
1.600.STUD	60	66	264	238	25.00

End Link

To Suit Part Code	Chain Size (mm)	Dimensions (mm)			Weight Each (Kg)
		A	B	C	
1.140.STUD	14	17	61	56	0.36
1.160.STUD	16	19	70	64	0.51
1.175.STUD	17.5	20.5	76	70	0.68
1.190.STUD	19	22	83	76	0.89
1.205.STUD	20.5	24	89	82	1.13
1.220.STUD	22	26	96	88	1.28
1.240.STUD	24	28	104	96	1.77
1.260.STUD	26	32	113	104	2.20
1.280.STUD	28	34	122	112	2.90
1.300.STUD	30	36	131	120	3.30
1.320.STUD	32	38	139	128	4.00
1.340.STUD	34	40	148	136	5.00
1.360.STUD	36	44	157	144	5.90
1.380.STUD	38	46	165	152	6.80
1.400.STUD	40	48	174	160	8.60
1.420.STUD	42	50	183	168	9.60
1.440.STUD	44	52	191	176	11.20
1.460.STUD	46	56	200	184	13.00
1.480.STUD	48	58	209	192	15.00
1.500.STUD	50	60	218	200	17.00
1.520.STUD	52	62	226	208	20.00
1.540.STUD	54	64	235	216	22.00
1.560.STUD	56	68	244	224	23.00
1.580.STUD	58	70	252	232	25.00
1.600.STUD	60	73	261	240	27.00

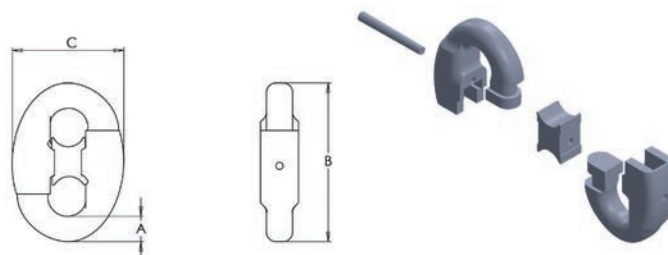
Chain Fittings

Grade U2 - U3 Stud Link Anchor Chain - Kenter Joining Shackle

Kenter joining shackles are used as a means of connection for stud link anchor chain ending in a common link. Manufactured from heavy duty forged steel, the material and heat treatment should be the same as that of the stud link anchor chain that they are fitted to. Classification: L.R.S; B.V; A.B.S. (other classification available upon request).

Chain diameter range: 14mm – 60mm, generally available in black bitumen coating, although hot dip galvanized finish is also available (larger sizes available upon request).

All loadings are compatible with common links on page 15.



Part Code	Chain Size (mm)	Dimensions (mm)			Weight Each (Kg)
		A	B	C	
201.43.14	14	14	84	59	0.5
201.43.16	16	16	96	67	0.6
201.43.17.5	17.5	18	105	73	0.8
201.43.19	19	19	114	79	1.0
201.43.20.5	20.5	21	123	86	1.6
201.43.22	22	22	132	92	1.6
201.43.24	24	24	144	100	2.0
201.43.26	26	26	156	109	2.7
201.43.28	28	28	168	117	3.3
201.43.30	30	30	180	125	3.9
201.43.32	32	32	192	134	4.6
201.43.34	34	34	204	142	5.8
201.43.36	36	36	216	150	6.6
201.43.38	38	38	228	159	7.8
201.43.40	40	40	240	167	9.8
201.43.42	42	42	252	176	10.6
201.43.44	44	44	264	184	12.0
201.43.46	46	46	276	192	14.0
201.43.48	48	48	288	201	15.5
201.43.50	50	50	300	209	17.5
201.43.52	52	52	312	217	20.0
201.43.54	54	54	324	226	22.0
201.43.56	56	56	336	234	26.0
201.43.58	58	58	348	242	30.0
201.43.60	60	60	360	251	31.5

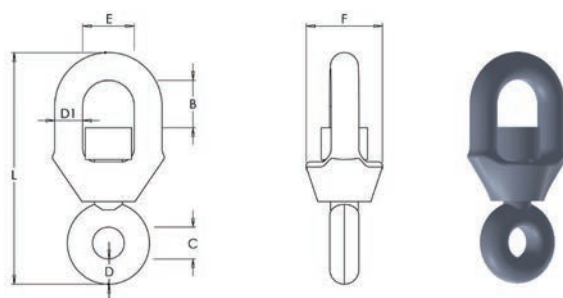
Chain Fittings

Grade U2 - U3 Stud Link Anchor Chain - Chain Swivel

Chain swivels are associated fittings for use within stud link anchor chain assemblies, such as a swivel forerunner, for connecting the stud link anchor chain to an anchor or within a navigation buoy mooring bridle system. These are index sized to be compatible with each size of stud link anchor chain. The material and heat treatment should be the same as that of the stud link anchor chain that they are fitted to.

Classification: L.R.S; B.V; A.B.S. (other classification available upon request).

Chain diameter range: 14mm – 60mm, generally available in black bitumen coating, although hot dip galvanized finish is also available (larger sizes available upon request). All loadings are compatible with common links on page 15.



To Suit Part Code	Chain Size (mm)	Dimensions (mm)							Weight (Kg)
		B	C	D	D1	E	F	L	
231.09.22	22	36	31	24	26	51	75	213	3.55
231.09.24	24	40	34	26	29	56	82	233	4.42
231.09.26	26	43	36	29	31	60	88	252	5.50
231.09.28	28	46	39	31	34	65	95	272	7.80
231.09.30	30	50	42	33	36	69	102	291	8.60
231.09.32	32	53	45	35	38	74	109	310	10.30
231.09.34	34	56	48	37	41	78	116	330	12.90
231.09.36	36	59	50	40	43	83	122	349	15.30
231.09.38	38	63	53	42	46	87	129	369	17.50
231.09.40	40	66	56	44	48	100	136	388	19.90

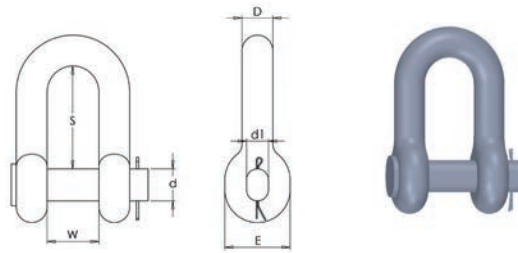
Chain Fittings

Grade U2 - U3 Stud Link Anchor Chain - Forelock Shackle

Forelock shackles are associated fittings for use within stud link anchor chain as a means for connecting the stud link anchor chain to an associated fitting, termination point or in a navigation buoy mooring bridle system. These are index sized to be compatible with each size of stud link anchor chain. The material and heat treatment should be the same as that of the stud link anchor chain that they are fitted to.

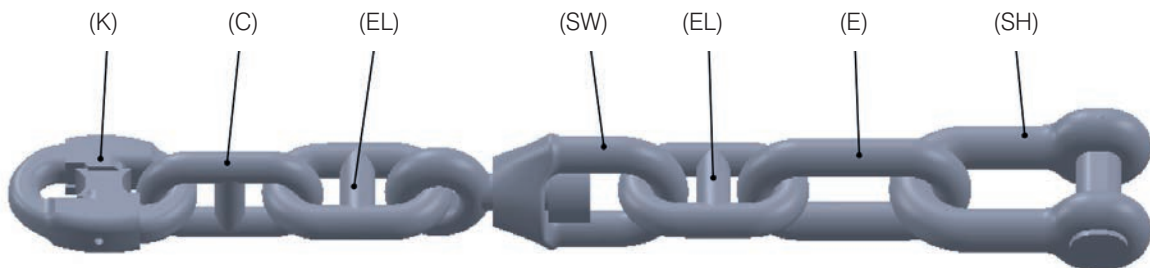
Classification: L.R.S; B.V; A.B.S. (other classification available upon request).

Chain diameter range: 14mm – 60mm, generally available in black bitumen coating, although hot dip galvanized finish is also available (larger sizes available upon request).



To Suit Part Code	Chain Size (mm)	Dimensions (mm)						Proof Force (kN)	Minimum Break Force (kN)	Weight (Kg)
		D	d	d1	S	E	W			
201.27.22	22	31	39	31	104	68	53	200	280	4.40
201.27.24	24	34	43	34	114	74	57	237	332	5.72
201.27.26	26	37	46	37	123	81	61	278	389	7.48
201.27.28	28	39	51	39	132	87	68	321	449	9.24
201.27.30	30	42	54	42	142	93	72	368	514	11.00
201.27.32	32	45	57	45	151	99	76	417	583	12.87
201.27.34	34	48	62	48	160	105	80	468	655	15.73
201.27.36	36	50	65	50	170	112	87	523	732	18.70
201.27.38	38	53	69	53	180	118	92	581	812	21.89
201.27.40	40	56	72	56	189	124	96	640	895	25.30

Grade U2 - U3 Stud Link Anchor Chain - Swivel Assembly



A common way to connect stud link chain to the anchor is by way of a swivel assembly allowing the anchor to rotate without twisting the chain itself. The most popular means being the swivel forerunner assembly. This is generally made up from the following components:

- Kenter Shackle (K)
- Common Link (C)
- Enlarged Link (EL)
- Swivel (SW)
- Enlarged Link (EL)
- End Link (E)
- Anchor Shackle (SH)

The material and heat treatment should be the same as that of the stud link anchor chain that they are fitted to.

Classification: L.R.S; B.V; A.B.S. (other classification available upon request).

Chain diameter range: 14mm – 60mm, generally available in black bitumen coating, although hot dip galvanized finish is also available (larger sizes and alternative configurations are available upon request).

Chain

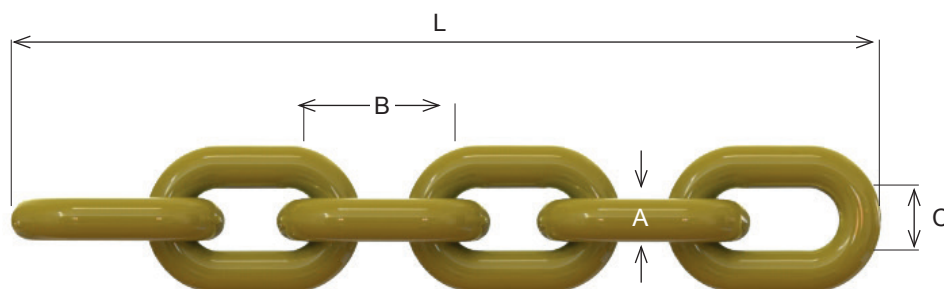
Grade 8 Short Link Case Hardened Security Chain

Manufactured from high quality alloy steel, this chain is manufactured on automatic chain making machines with flash butt welded joints. The chain is further heat treated to give an addition surface hardness to resist attack by assorted cutting tools.

The finish is a bright zinc plating with a yellow passivate top coating.

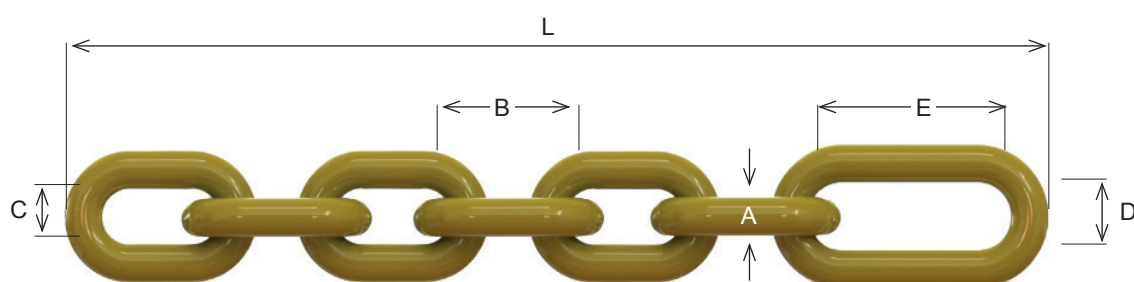
Chain diameter range: 8mm – 20mm (larger sizes and mid / long link options available upon request).

Standard assemblies are available with an enlarged link fitted at one end to better facilitate the securing of a padlock. Other bespoke assemblies can be manufactured on application. Supplied in lengths of 10m – 35m dependent on chain diameter or cut to specific customer requirements.



Finish: Bright Zinc Plated - Yellow Passivate

Part Code	Chain Size (mm)	Dimensions (mm)			Case Depth (inches)	Max Length L (m)	Weight Per M (Kg)
		A	B	C			
ASS.080	8	8	24	12	0.010 - 0.015	35	1.40
ASS.100	10	10	30	14	0.020 - 0.025	25	2.20
ASS.130	13	13	39	18	0.040	25	3.80
ASS.160	16	16	48	24	0.040	15	5.60
ASS.200	20	20	60	30	0.040	10	8.50



Fitted with Enlarged End Link One End

Finish: Bright Zinc Plated - Yellow Passivate

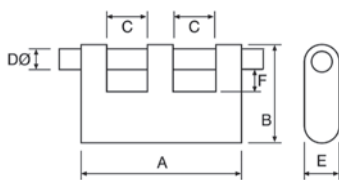
Part Code	Chain Size (mm)	Dimensions (mm)					Case Depth (inches)	Max Length L (m)	Weight Per M (Kg)
		A	B	C	D	E			
BSF.080.EL_M	8	8	24	12	15	40	0.010 - 0.015	35	1.40
BSF.100.EL_M	10	10	30	14	17	52	0.020 - 0.025	25	2.20
BSF.130.EL_M	13	13	39	18	19	65	0.040	25	3.80
BSF.160.EL_M	16	16	48	24	24	100	0.040	15	5.60
BSF.200.EL_M	20	20	60	30	25	100	0.040	10	8.50

High Security Armoured Padlocks

Thanks to the high-quality materials used, the exclusive shape that makes them practically impossible to grip with burglary tools and the maximum security mechanism, these armoured padlocks are the ideal solution for securing shutters, doors and gates, plant and machinery etc. The versions with two independent dead-bolts can be easily and perfectly combined with our range of Security Chains.

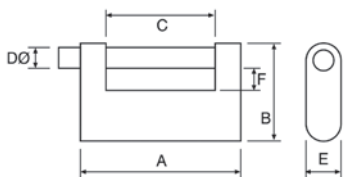
- **Body:** solid forged brass one-piece body padlock.
- **Main armour:** 3mm (items ASS.130.L and ASS.100.L), 2.5mm (ASS.080.L) thick case-hardened, tempered, copper, nickel and chrome plated steel main armour.
- **Side armours:** 1.5mm (items ASS.130.L and ASS.100.L), 1mm (ASS.080.L) thick case-hardened, tempered, copper, nickel and chrome plated steel side armours.
- **Dead-bolt** (for items ASS.080.L and ASS.100.L): case-hardened, tempered, copper, nickel and chrome plated steel rotating resistant to attack dead-bolt. **Grip with programmed breakage dead-bolt head** (items ASS.130.L), to prevent the dead-bolt from being pulled-out. **Pull-resistant with inserted head** in items ASS.080.L and ASS.100.L.
- **Safety plug:** 7 pin plug, pull-resistant, with case-hardened, tempered, copper, nickel and chrome plated steel anti-drill plate (items ASS.100.L and ASS.130.L).
- **Keys:** supplied with 3 x top security profile nickel-plated brass keys.
- **Mechanism:**
 - o ball type locking;
 - o key retaining (items ASS.130.L);
 - o brass pins;
 - o mushroom brass counter pins, pick-resistant;
 - o AISI 316 stainless steel latches;
 - o AISI 316 stainless steel or phosphor bronze spring pins (items ASS.080.L and ASS.100.L);
 - o AISI 316 stainless steel latch spring/s.

Two Independent Dead-Bolts



Part Code	Chain Size (mm)	Dimensions (mm)						Weight Each (Kg)
		A	B	C	D	E	F	
ASS.080.L	8	78	51	10	10	23	10	0.6
ASS.100.L	10	86	62	11	12	29	12	0.9

Single Independent Dead-Bolt



Part Code	Chain Size (mm)	Dimensions (mm)						Weight Each (Kg)
		A	B	C	D	E	F	
ASS.130.L	13	86	72	36	12	29	20	0.8

Blue Polyester Web Slewing

To suit chains on previous page.

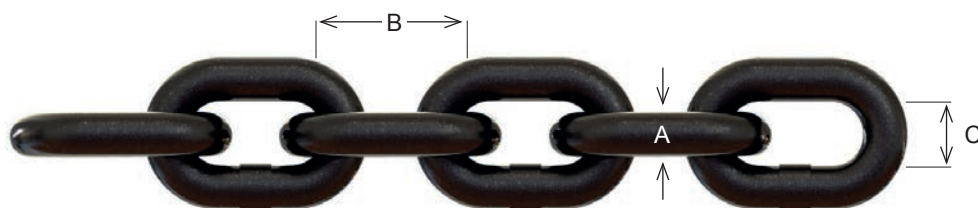
Part Code	Lay Flat Width (mm)
ASS.100.S	65



Chain

Grade 8 Fishing Chain and Components

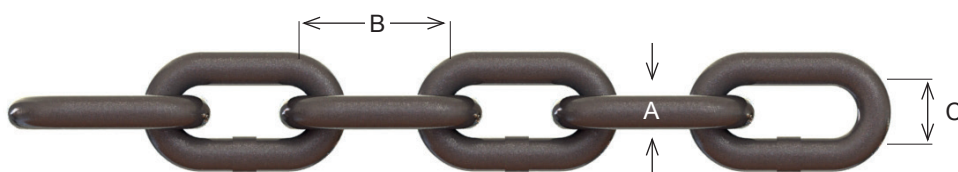
Manufactured from high quality low carbon alloy steel, this chain is manufactured on automatic chain making machines with flash butt welded joints. The chain is heat treated to meet its required loadings. All sizes of chain are proof load tested at the end of the manufacturing process. All chain is embossed at every 20th Link or 1m intervals with a batch number for purposes of traceability. Chain diameter range: 9mm – 22mm (other sizes available upon request). Chain supplied in full drum lengths or cut to specific customer requirements.



Grade 8 Short Link Chain

Finish: Black Painted

Part Code	Chain Size (mm)	Dimensions (mm)			M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C			
MB8.100	10	10	30	15.0	12.8	250	2.20
MB8.130	13	13	39	19.5	21.7	150	3.80
MB8.160	16	16	48	24.0	32.8	100	5.60
MB8.200	20	20	60	30.0	51.3	50	8.50



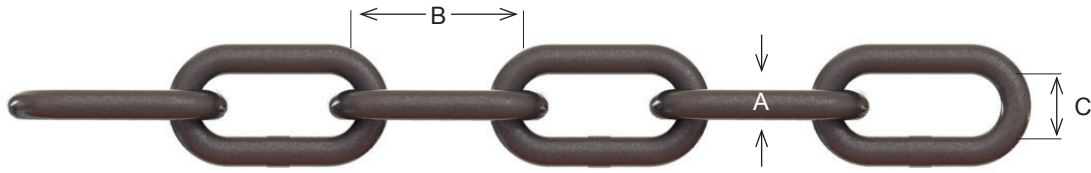
Grade 8+ Mid Link Chain

Finish: Black Painted

William Hackett branded Grade 8+ mid link chain is specially manufactured for use in critical applications within the trawl and offers increased breaking strength and wear resistance over the standard Grade 8 chain with shock loading and ductility also improved.

Part Code	Chain Size (mm)	Dimensions (mm)			M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C			
AM9.100	10	10	40	14.0	13.6	250	2.00
AM9.130	13	13	52	18.0	23.0	500 (Crate)	3.40
AM9.160	16	16	64	22.4	34.8	300 (Crate)	5.10
AM9.200	20	20	79	28.0	54.4	300 (Crate)	7.20
AM9.220	22	22	86	30.8	62.7	60	9.60

Grade 8 Fishing Chain and Components



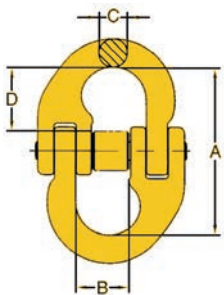
Grade 8 Long Link Chain

Finish: Yellow Painted

Part Code	Chain Size (mm)	Dimensions (mm)			M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C			
AL1.090	9	9.2	54	14.5	10.9	300	1.40
AL1.110	11	11.2	63	18.0	16.2	200	2.30
AL1.130	13	13.0	80	24.0	21.9	150	3.00
AL1.160	16	16.0	100	24.0	33.2	110	4.40
AL1.200	20	20.0	96	27.0	51.8	60	7.40

Grade 8 Component Connector

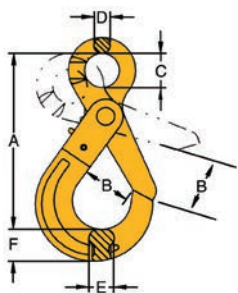
Finish: Yellow Painted



Part Code	Chain Size (mm)	Dimensions (mm)				M.B.L. (t)	Weight Each (Kg)	Qty. Box
		A	B	C	D			
8-015-10	10	68	25	11	26	12.6	0.30	50
8-015-13	13	91	30	16	35	21.2	0.70	35
8-015-16	16	100	36	19	38	32.0	1.10	20
8-015-20	20	122	42	22	46	50.0	1.70	10
8-015-22	22	152	49	24	59	60.0	3.00	6
8-015-26	26	162	55	30	62	84.8	4.60	3
8-015-32	32	202	69	36	79	126.0	8.60	2

Grade 8 Eye Type Self Locking Hook

Finish: Yellow Painted



Part Code	Chain Size (mm)	Dimensions (mm)						M.B.L. (t)	Weight Each (Kg)	Qty. Box
		A	B	C	D	E	F			
8-025-10	10	167	44	32	13	26	30	12.6	1.40	12
8-025-13	13	207	52	40	16	30	39	21.2	2.90	6
8-025-16	16	252	60	52	21	36	49	32.0	5.70	4
8-025-20	20	282	90	64	23	48	62	50.0	8.50	2
8-025-22	22	319	80	70	24	49	63	60.0	12.50	2
8-025-26	26	343	99	80	25	56	69	84.8	14.50	1
8-025-28	28	401	120	90	28	63	81	99.2	24.90	1

Calibrated Chain for Anchor Windlasses

When you buy a calibrated chain for your new boat or when you need to replace your existing anchor chain, it's important to know what chain suits your windlass for the best fit. The majority of windlasses require chain in accordance with either DIN 766 or ISO 4565. DIN 766 (DIN = German Institute for Standardization), this standard is for calibrated and tested chains using Grade 3 material. ISO 4565 (International Organisation for Standardisation) or EN 24565 or BS 7160, these are all the same standard which covers anchor chains for small crafts.

The majority of these chains are manufactured from Grade 3 (30) material which is a mild steel chain based on BS 6405:1984, although William Hackett offer more sizes in Grade 4 (40) material offering better ductility and a higher minimum breaking load.



A combination of wire diameter, link outside width and most importantly the chain pitch (inside link length) must be consistent throughout the length of the chain to ensure the best fit in the gypsy.

To produce a calibrated chain the manufacturer would normally weld the chain shorter than required. It would then be subjected to a further process of calibration. This process pulls each link to a constant length within a tolerance.

William Hackett have been supplying calibrated chains to the marine industry for many years, and work very closely with major gypsy and windlass suppliers to give a wide range of different calibrations.

Within our quality system we have a very detailed procedure for chain manufacture. Depending on size and pitch, our standard will be based upon a recognised international standard like BS 6405 or BS ISO 4565 but our tolerances are narrower and we also specify higher test loads. To produce to these standards, we ensure that the best material preparation is carried out, the quality of the weld also has to

be good and the calibration tolerances adhered to. For this we specify that our calibrated chain is manufactured on high quality, fully automatic chain making machines.

All of our calibrated chain is supplied with a certificate of conformity and test. This confirms that the chain has been subjected to a proof load and our in-house batch testing ensures that the chain can withstand the minimum breaking load.

As part of our quality assurance system ISO 9001:2008, all our chains are inspected and tested to ensure that they meet our requirements. Our specifications are designed to exceed the minimum specified in the standards.

It is important that anchor chain is not only strong enough but has an even calibration throughout, this will ensure that the chain will run smoothly on the gypsy and be strong enough to withstand the anchoring loads it will be exposed to.

Calibration variants:

Chain Dia. (mm)	Chain Pitch over 11 Links	
	ISO 4565	DIN 766
6	198mm +/- 2%	203.5mm +0.9/-0.5
7	N/A	242mm +1.1/-0.5
8	264mm +/- 2%	264mm +1.2/-0.6
10	330mm +/- 2%	308mm +1.4/-0.7
12	396mm +/- 2%	N/A
13	N/A	396mm +1.7/-0.9
14	N/A	451mm +2.0/-1.0
16	N/A	495mm +2.2/1.1

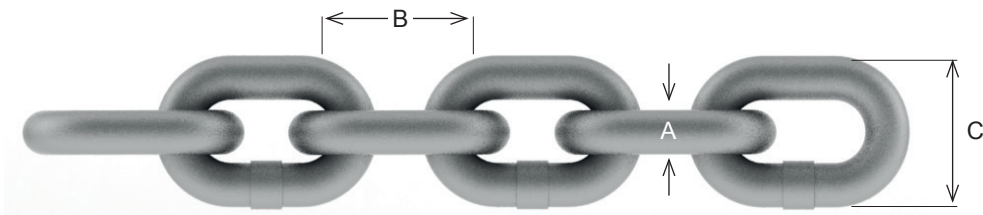
Pitch variants:

Chain Dia. (mm)	Relevant Standard	
	ISO 4565	DIN 766
6	18mm	18.5mm
7	N/A	22mm
8	24mm	24mm
10	30mm	28mm
12	36mm	N/A
13	N/A	36mm
14	N/A	41mm
16	N/A	45mm

Calibrated Chain for Anchor Windlasses

Grade 3 / 4 Calibrated Short Link Chain

Material: Mild Steel / High Tensile Carbon Steel. Finish: Hot Dip Galvanized



Part Code	Grade	A	B	C	Compatibility		Weight Per M (Kg)	Proof Force (kN)	Minimum Breaking Force (kN)
		Chain Size (mm)	Pitch (mm)	Max. outer width (mm)	ISO 4565	DIN 766			
2.060.G30	3	6	18.5	21.6	✓	✓	0.80	10.00	18.0
2.060.G40	4	6	18.5	21.6	✓	✓	0.80	10.00	20.0
2.070.G30	3	7	22.0	23.8	x	✓	1.15	16.00	25.0
2.070.G40	4	7	22.0	23.8	x	✓	1.15	16.00	30.0
2.080.G30	3	8	24.0	28.8	✓	✓	1.40	20.00	32.0
2.080.G40	4	8	24.0	28.8	✓	✓	1.40	20.00	40.0
2.100.G30	3	10	30.0	36.0	✓	x	2.25	32.00	50.0
2.100.G40	4	10	30.0	36.0	✓	x	2.25	32.00	63.0
2.100.D766	4	10	28.0	36.0	x	✓	2.20	32.00	63.0
2.120.G30	3	12	36.0	43.2	✓	x	3.25	35.00	71.0
2.130.G30	3	13	39.0	47.0	x	✓	3.90	50.00	80.0
2.140.G30	3	14	41.0	50.0	x	✓	4.40	63.00	100.0
2.160.G30	3	16	45.0	58.0	x	✓	5.80	80.00	125.0

Grade 4 Calibrated Stainless Steel Short Link Chain

Material: AISI 316 / 316L Stainless Steel. Finish: Polished

Part Code	A	B	C	Compatibility		Weight Per M (Kg)	Proof Force (kN)	Minimum Breaking Force (kN)
	Chain Size (mm)	Pitch (mm)	Max. outer width (mm)	ISO 4565	DIN 766			
IS1.060.5	6	18.5	21.6	✓	✓	0.8	11.00	22.0
IS1.080.5	8	24.0	28.8	✓	✓	1.4	20.00	40.0
IS1.100.5	10	30.0	36.0	✓	x	2.2	32.00	63.0
IS1.100.D766	10	28.0	36.0	x	✓	2.2	32.00	63.0
IS1.120.5	12	36.0	43.2	✓	x	3.2	47.5	95.0
IS1.140.5	14	41.0	50.0	x	✓	4.4	63.00	100.0
IS1.160.5	16	45.0	58.0	x	✓	5.8	80.00	125.0

Grade 5 Calibrated Stainless Steel Short Link Chain

Material: AISI 316L / 1.4404 Stainless Steel. Finish: Polished

Part Code	A	B	C	Compatibility		Weight Per M (Kg)	Proof Force (kN)	Minimum Breaking Force (kN)
	Chain Size (mm)	Pitch (mm)	Max. outer width (mm)	ISO 4565	DIN 766			
IS5.060.5	6	18.5	21.6	✓	✓	0.8	18.43	30.0
IS5.070.5	7	21.0	23.8	x	✓	1.1	24.51	40.0
IS1.080.5	8	24.0	28.8	✓	✓	1.4	30.64	50.0
IS1.100.5	10	30.0	36.0	✓	x	2.2	49.00	80.0

Calibrated Chain for Anchor Windlasses

Quality Chain can be recognised by the following:

- The material diameter is consistent throughout. However, you might find some material reduction around the bends. This is normal. As most links are cold bent, some chain bending machines will also leave a 'tooling' mark on the back of each link.
- The ends of the links should be a consistent radius and the sides straight and parallel.
- There is normally a slight raised collar around the weld. When the link is welded and the upset pressure is applied, you will get an amount of excess metal. The chain machine will have a trimming mechanism that will remove this excess metal and leave a slightly raised collar. If the trimming setting is badly adjusted you may see gouges in this area.
- All calibrated chain supplied by William Hackett has a batch number marked approximately every 20th link, this ensures that we can maintain our traceability once the chain has been put into service.



For anchor chain the calibration is very important. A consistent pitch throughout the length of chain enables the chains to run smoothly on the gypsy. If the chain jumps it might be because the chain isn't correctly calibrated to suit the gypsy. All our chains are checked for consistency in calibration. We use a range of simple measuring tools to check that the calibration is consistent and we can also run them on our range of windlasses.

Enlarged End Links / Rope Splicing / Anchor Packs

As an addition to supplying calibrated chain in standard lengths with plain ends, we also offer the facility to fit enlarged end links to better facilitate the anchor shackle (see below table).

We also have the ability to splice 3-strand nylon rope, in any length required, or supply a complete 'anchor pack' consisting of: anchor, anchor shackle, calibrated short link chain, 3-strand nylon rope.

All of these options are available on request.

Enlarged Links to suit Grade 3/4 Chain

Chain Size (mm)	Link Dia. (mm)	Internal Length (mm)	Internal Width (mm)
6.0	8	38	20
7.0	9	48	20
8.0	9	48	20
9.5 / 10.0	12	63	22
12.0	14	50	25
13.0	16	64	24
14.0	16	64	24
16.0	20	76	28

Enlarged Links to suit Stainless Steel Chain

Chain Size (mm)	Link Dia. (mm)	Internal Length (mm)	Internal Width (mm)
6.0	8	38	19
7.0	9	38	19
8.0	9	38	19
10.0	13	54	25
12.0	13	54	25
14.0	16	70	35
16.0	18	70	35



Mooring Chain and Assemblies

Today the range and variety of chains and fittings, used in mooring/marine applications, is probably wider than ever before and to compound the selection problem, almost all components are available in various grades. Different strengths for otherwise identical items are achieved through the use of different steels and heat treatments, some more suited to the marine environments than others.

Grades

Chain and fittings are manufactured in different strength grades for specific applications, and the strongest component is not necessarily the best for the job in hand. It could be unsuitable for galvanising, or made from a steel which corrodes more rapidly and it may be disproportionately expensive. As will be seen later, weight is as important as strength in moorings and the lowest and cheapest strength grade usually offers the best combination of properties. Internationally, there are standards covering chains and most fittings and these recognise the following grades:

Grade 3 (L)

This is the lowest grade with components made from mild steel without heat treatment.

Grade 4 (M)

Normally manufactured from low carbon steels and heat treated, this is the lowest grade recommended for lifting applications.

Grade 8 (T)

The highest strength in normal use; components are usually made from alloy steels and hardened and tempered.

With the exception of stud link chain cable, chains are generally supplied in the grades detailed above. Stud link chain is normally supplied in grades U1 (mild steel), U2 (high tensile) and U3 (heat treated alloy steel) as specified by Lloyd's Register of Shipping.

Chains

Short Link Chain



Internationally, this is accepted as chain with a link of outside dimensions not exceeding 5 times the material diameter in length and 3.5 times in width – e.g. 10mm chain cannot have links larger than 50mm x 35mm outside dimensions. Excluding stud link chain, short link chain, size for size, is the strongest, heaviest and most flexible of chains, and as such is the best choice for mooring and anchoring. Unfortunately the links are too short to accept shackles of reasonable size, necessitating the fitting of large end links. In effect, short link chain needs to be assembled into a 'bespoke' mooring assembly. William Hackett have the ability to do this by means of an 'all-welded' assembly negating the need for joining components such as shackles.

Mid Link Chain



These chains have a link of outside dimensions not exceeding approximately 6 times the material diameter in length and 3.6 times in width – e.g. 10mm chain, generally would not have links larger than 60mm x 36mm outside dimensions. Mid link chains are a good compromise, as they offer most of the benefits of short link with the advantage that they will accept like sized shackles without the need for special end links.

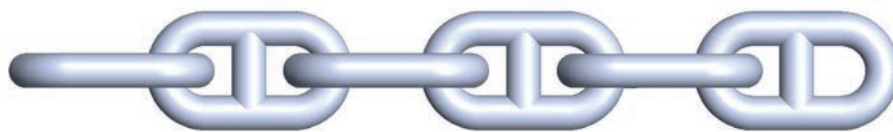
Long Link Chain



These chains have a link of outside dimensions not exceeding approximately 8 times the material diameter in length and 4 times in width – e.g. 10mm chain, generally would not have links larger than 80mm x 40mm outside dimensions. Long link chains are also a popular choice for mooring applications, as they offer greater internal dimensions to facilitate a wider range of associated fittings without the need for special end links. They also offer a lighter weight to ultimate breaking strength ratio, which can often be an issue when choosing the correct mooring buoy.

Mooring Chain and Assemblies

Stud Link Anchor Chain



Originally studs were added to chain to stiffen the links, preventing them from severely deforming when overloaded. They have an added advantage in that they prevent chain from knotting up when twisted, thus avoiding problems when the chain is retrieved with a windlass. Most chain of this type is used on larger vessels, off-shore mooring systems or used as a 'ground chain' for a mooring system.

Other Components

There is a wide range of other components which could be used in a mooring system and it is important to ensure that those used are of equivalent strength to the chain. Using components which will fit a chain, with no regard for relative strengths, is all too common. As an example, given similar materials, a conventional shackle which will fit directly into short link chain can, at best, be only about half the strength of the chain. Compatibility of materials is vital too – the problems of dissimilar materials and electrolysis are only too well known, where a reaction occurs leading to excessive and rapid corrosion.

Shackles

There are three main types of shackle in common use and a wide range of pin designs.

Dee and Bow Shackle



By far the most popular shackle types are dee and bow shackles to BS 3032, screw pin, although similar shackles to US Federal Specification are also commonly used as a means of connection. Care needs to be taken when choosing shackles to these standards as there are many poor quality imitations currently in the market place. These can range from incorrect material used, lack of correct heat treatment and poor manufacturing / machining processes leading to inferior quality products and ultimately potential failure in service.

Kenter Shackle



The Kenter shackle is really a mechanical connecting link solely designed for joining two lengths of stud link chain.

Forelock Shackle



The forelock shackle is normally used for more specific larger mooring applications and each size is designed to be used with a specific size of chain, generally stud link chain or larger open link chain. The pin is generally oval and is secured by a split pin where the pin protrudes through the body of the shackle itself.

Swivels



There are various designs of swivel available and the user should ensure that the one chosen will accept the correct size shackle or shackle pin or, of course, unless incorporated into an all-welded assembly that William Hackett have the capability to do.

Rings, links and other fittings

The range and variety of fittings which may be used in a mooring and anchoring system is far too wide to cover comprehensively. Rings, egg links, bridle plates, slip hooks, stoppers, eyebolts, ringbolts – all have their places. Suffice to say that compatibility in materials, strengths and dimensions is essential.

Mooring Chain and Assemblies

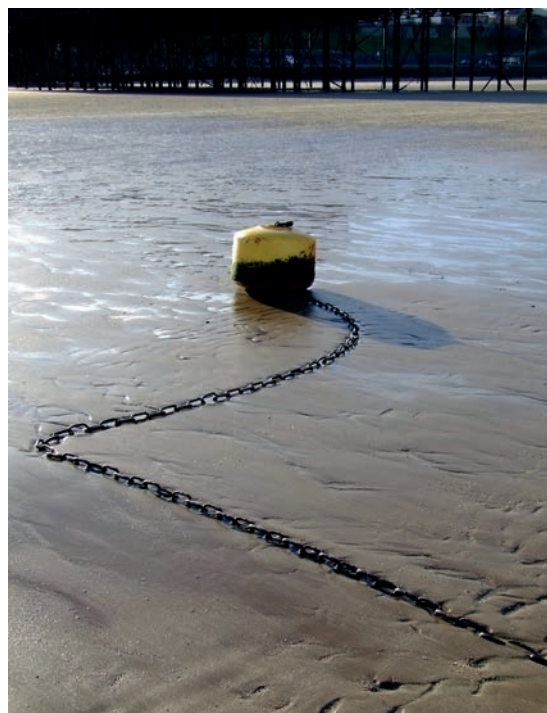
Laying a Mooring

When any type of permanent mooring is assembled, there are a few basic rules to bear in mind. Unless the mooring is a complete all-welded assembly, shackles or some other form of mechanical connectors will have to be used. These are almost invariably weaker, size for size, than the chain and although in a well designed system, loads should be modest, it makes good sense if all components are of roughly comparable strength. Therefore shackles (and swivels) should be chosen which are at least one size larger than the chain. Rings, often used between bridle and pendant, need to be substantially larger to achieve equivalent strengths. Shackle pins are another problem area. Screw pin shackles are by far the most popular but the threads can corrode more rapidly and the pins work loose. There is no easy solution, but at the least, all shackle pins should be very securely moused (wired). A thick solid wire should be used for mousing and never wire rope, where deterioration is rapid and possibly hidden from view.

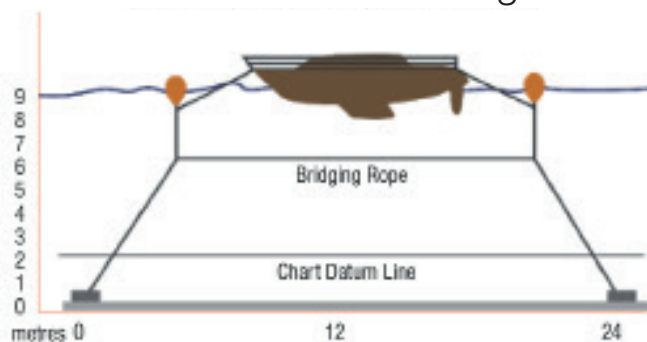
Before finalising your choice of mooring position with your local authority or club, consult your local mooring contractor as to whether the area is safe for your vessel and that the mooring chain, shackles and swivels are adequate in relation to the size of your vessel, the prevailing conditions and that there is sufficient depth of water.

Before purchasing mooring tackle, please take into consideration the following points:

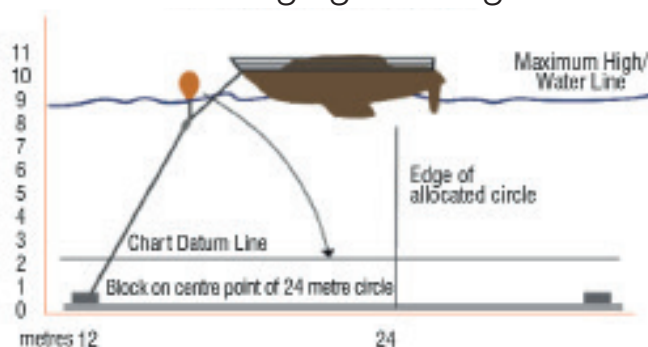
- Mooring chain must have been manufactured for the purpose of mooring use, i.e. low carbon steel and must be guaranteed as such.
- We recommend that genuine BS 3032 shackles, manufactured from low carbon steel, are used for securing chain. Commercial shackles, although new, may be unsuitable because of poor thread and manufacturing processes.
- Modern, loose laid three strand rope (soft rope) must not be used as a bridle on a swinging mooring because it may unlay.



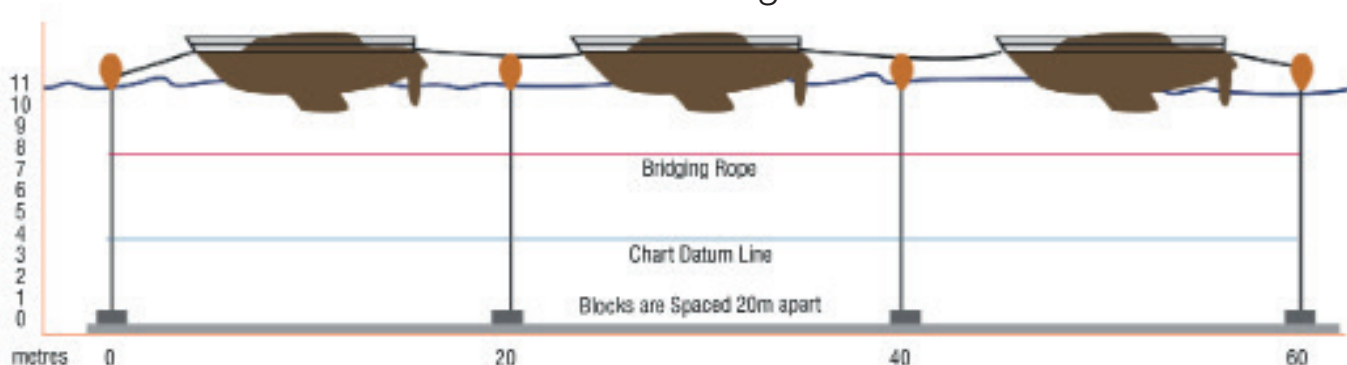
Fore and Aft Mooring



Swinging Mooring



Trot Moorings



Mooring Chain and Assemblies

Maintenance

Although every system of maintenance must be based on regular inspection, the precise procedure to be followed for any mooring depends upon local conditions. If a mooring is exposed to strong tides and rough weather, it will naturally wear more rapidly. Normal wear and tear is not however the only cause of damage to mooring components. Corrosion, erosion and electrolysis can all be responsible for rapid and dramatic removal of metal. Consequently, moorings on new sites need to be carefully monitored until a wear pattern can be established.

If possible, moorings should be lifted for winter storage, or alternatively the riser may be sunk and marked with a buoy. Either of these procedures can double a mooring's effective life. Another useful tip is to position the swivel, which wears quite rapidly, at the top of the riser, where it can be easily inspected in situ. Finally, no time should be lost in making an inspection of a mooring where movement has been detected or is suspected.

Permissible wear

The degree of wear that can be safely permitted before replacement again varies with individual circumstances. A ground chain will often be far larger than strength requirements dictate, as it is bought primarily for its weight. Risers, however have to be supported by a buoy and so tend to be nearer to the minimum acceptable size. As a guide, one should not allow anywhere more than a 15% reduction below the chains material diameter. Remember that the ends of a link (where adjacent links are in contact) wear more rapidly, so particular attention should be given to these areas. Badly rusted chain should never be used, particularly if the surface has been removed to expose the grain of the metal.

Chain versus Rope

Strength

One of the difficulties with rope is that of establishing the correct size for the application. The problem of calculating forces exerted on a mooring have already been emphasized. With chain, provided that there is sufficient scope and weight, these are largely academic, as the catenary curve will absorb whatever loads are likely to be generated. A rope is too light to create this curve however, and one that is too strong will pull the anchor loose before it stretches enough to get any spring action. Conversely, if it is too weak it could stretch to breaking point.

Chafe

Chafing is by far the most common cause of rope failure and it is surprisingly difficult to prevent. Anti-chafing gear is essential wherever the rope is likely to be abraded and frequent careful inspection is imperative. Danger areas are where it passes through a fairlead, where it is connected to a buoy or swivel and, of course, where it can rub on the bottom. With regard to the latter, the only safe way is to make sure that even at low water springs, it never touches the sea bed. This almost invariably means that a length of chain has to be used to connect the rope to the bridle or anchor. As an additional safeguard the chain/rope junction could be buoyed, or the rope could be protected by a plastic sleeve.

Scope

The one critical factor which affects holding power is the angle of the pull on the anchor. However it is achieved, it must be near to horizontal and this is much more difficult to ensure when anchoring with rope. To achieve the desired angle of pull it is common practice to use a length of chain between the anchor and the rope. This has the added advantage of lessening the likelihood of the rope chafing on the bottom, but even with this, greater scope is required. As a rough guide, such an arrangement needs a 5 : 1 minimum scope compared to 3 : 1 for chain. The weight of chain hanging from a boat reduces sheering and its shorter scope demands less swinging room, giving it a distinct advantage over rope in confined harbours.

Connections

Rope also presents some problems in joining it to other components. Even a skilfully executed eye splice will weaken a nylon rope by up to 15%, whereas a badly made one, like most knots, will effectively halve its strength. Other ropes will present other difficulties; some modern synthetic types, for example, are particularly 'slippery' so knots and splices are more suspect. Laid ropes may be spliced to chain quite easily or can be fitted with thimbles to facilitate the use of shackles, but braided or plaited ropes are more difficult to work with.

Conclusions

Chain, of course, has its drawbacks too. It will wear, rust, and is generally awkward, heavy and dirty to handle. In its favour are the facts that it stows easily, worn sections can be easily replaced, and it offers the overriding benefit of distributed weight. Finally, it does not deteriorate in sunlight, so maintenance can be safely limited to a periodic visual inspection. All things considered, chain surely remains superior for this application.



Mooring Chain and Assemblies

Product Quality

Excluding wear, chains break in service for one of four reasons: poor quality, brittle material, misuse or excessive loads being applied. Quality is the responsibility of the original manufacturer and can only be assured by careful control of the manufacturing processes and by thorough testing of the finished product. Virtually all chain is sold with an EC Declaration of Conformity or manufacturer's certificate stating that a certain proof load has been applied, but this alone is not enough. Most grades of chain should not break until subjected to a load of at least double the proof load. By then the chain will have stretched and this combination of high breaking load, with stretching, ensures good resistance to shock loads. At William Hackett, we take samples for destruction tests as a regular part of our ongoing quality assurance process.

The second cause of chain fracture is brittle material, which is by no means uncommon. One cause of brittleness must be emphasised, however, as it is of particular relevance to the marine user. Galvanizing an alloy chain can, unless carried out with expert knowledge, render it useless and liable to fracture and fail without prior warning.

The problem of chain breaking through excessive loads is easily avoided. The importance of scope and weight in moorings has already been stressed. Sufficient shock absorption from the catenary curve is essential and for both security and economy, it makes sense to use the heaviest and longest chain that is practical.



Corrosion and Abrasion

It is all too common for marine chains to erode very rapidly, although this is rarely due solely to corrosion. In certain conditions electrolytic action can remove material at an alarming rate. Semi-colloidal suspensions of sand and silt will cause chain links to literally grind themselves away. Severe turbulence can actually sandblast the chain and will aerate the top layers of water creating a scrubbing action to shorten chain life. Local waters may be contaminated by effluents with similar effect. In some instances electrolytic action can be somewhat reduced by fitting sacrificial anodes to moorings, but the other problems remain. All that can be done is to select materials which experience and research suggests are those most suitable, and this alone can substantially increase chain life.

Conclusions

Considering all these factors, it is obvious that the best compromise is a mild steel chain manufactured from steel in which the carbon and manganese contents have been kept as low as possible. Acceptable steels should contain no more than 0.3% carbon and 1.5% manganese and the lower the better. This range permits the use of grade 40 higher tensile steel chains for specific applications or where mild steel is not available.

Mooring Chain and Assemblies



Chain Assemblies

Grade M (4) Chain Assemblies to EN 818-5:1999

Alternative sizes and configurations available on request

Grade M (Grade 4) chain slings still have a prominent position within the lifting industry. Their ideal use are in areas of extreme temperature or acidic conditions, such as foundries, galvanizing plants etc., where it is not permissible to use Grade 8/10 chain slings. Although within these extreme conditions, the working load limit (W.L.L.) should be reduced accordingly. William Hackett has the ability to manufacture chain slings to customer's individual requirements, conforming to current standards and legislation.

Collar Sling fitted with Reeveable Links at each end

Test: Individually Tested and Certified



Chain Size (mm)	W.L.L. (t)	Dimensions (mm)				E.W.L. (m) L
		A	B	C	D	
7	750 kg	12	70	35	8	TBC
10	1.60	16	100	50	12	TBC
13	2.65	22	145	80	16	TBC
16	4.00	27	180	85	20	TBC
20	6.30	32	200	100	24	TBC

Endless and Multi-Leg Chain Slings Finish: Self Colour / Galvanized

Test: Individually Tested and Certified

Chain Size (mm)	Working Load Limit (t) (multi leg included angle from 0-45°)			
	Endless	Single Leg	Double Leg	Three/Four Leg
6	750 Kg	500 Kg	700 Kg	1.0
7	1.1	750 Kg	1.0	1.5
8	1.5	1.0	1.4	2.1
10	2.4	1.6	2.2	3.25
13	4.0	2.65	3.7	5.5
16	6.0	4.0	5.6	8.4
20	9.4	6.3	8.8	13.2



High Temperature Conditions

Temperature of Sling	Reduced W.L.L. of Sling (S.W.L.)	Permanent Reduction of W.L.L.
Up to 300°C	Normal W.L.L.	No permanent reduction
* 300°C to 350°C	85% of Normal W.L.L.	No permanent reduction
* 350°C to 400°C	75% of Normal W.L.L.	No permanent reduction
* 400°C to 475°C	50% of Normal W.L.L.	No permanent reduction
Over 475°C	Not recommended, refer to manufacturer	

**If the slings are accidentally exposed to temperatures in excess of the maximum permissible temperatures above, they should be withdrawn from service and referred to a Competent person and/or the manufacturer.*

Acidic Conditions

Chain slings of Grade 4 or Grade M may be used in such an environment subject to the following precautions:

- The safe working load (S.W.L.) of such a sling should not be greater than 50% of the working load limit (W.L.L.)
- The sling should be thoroughly washed in clean water immediately after use
- The sling should be given a thorough examination by a competent person prior to use each day

Chain Assemblies

Swing Chain Assemblies - conforming to BS EN 1176

Finish: Sheradized / Galvanized / Stainless Steel

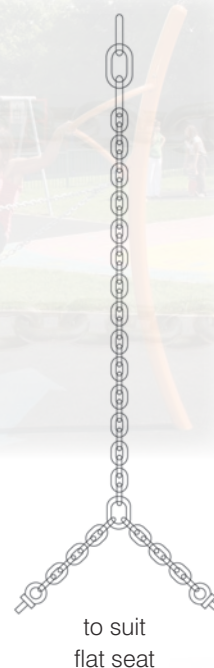
Manufactured to individual customer requirements at our Cradley factory and all conforming to BS EN 1176.

Our swing chains and associated products are used by the majority of playground and leisure original equipment manufacturers within the UK, from there, many of our products are exported worldwide.

With the adaptability of our workforce and plant, we can manufacture bespoke assemblies to customer requirements in both mild steel and stainless steel. Alternative sizes, bespoke assemblies and other finishes are available upon request.

Swing chain assemblies are manufactured to suit all swing frames, commonly 1.8m, 2.4m and 3m cross bar heights (6ft, 8ft and 10ft) other sizes are available on request.

Swing chain assemblies are available in either sheradized or galvanized finish or alternatively manufactured to customer requirements. See pages 46 to 50 for our range of swing chain components.

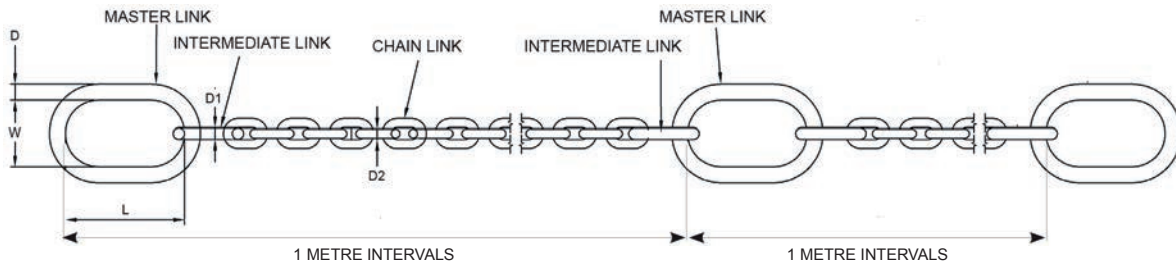


Chain Assemblies

Pump Lifting Chains

Test: Individually Tested and Certified

Manufactured at our Cradley factory. Fitted with index lifting points at each end and at 1 metre centres. All items are supplied tested and complete with relevant certification - see our shackle section for list of compatible shackles. Larger sizes and alternative lifting centres / configurations are available upon request.



Material: AISI 316/316L Stainless Steel Finish: Polished

Part Code	Chain (mm) D2	Dimensions (mm)					W.L.L. (t)	Metre Per Drum	Weight Per M (Kg)
		D1	D	L	W	L (approx.)			
PI.040	6	8	11	110	50	1000	400 Kg	500	0.90
PI.063	7	8	14	110	50	1000	630 Kg	400	1.12
PI.100	10	11	19	135	75	1000	1.0	200	2.50
PI.150	12	12	16	140	75	1000	1.5	100	3.95
PI.200	14	16	18	135	75	1000	2.0	100	5.00
PI.300	16	16	22	140	75	1000	3.0	50	6.90
PI.400	20	20	27	140	75	1000	4.0	50	11.50

Material: Grade 4 High Tensile Finish: Hot Dipped Galvanized

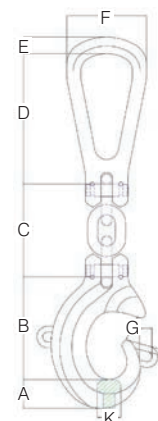
Part Code	Chain (mm) D2	Dimensions (mm)					W.L.L. (t)	Metre Per Drum	Weight Per M (Kg)
		D1	D	L	W	L (approx.)			
P2.030	6	8	10	110	50	1000	300 Kg	500	1.10
P2.050	7	9	13	110	50	1000	500 Kg	250	1.76
P2.100	10	11	18	135	75	1000	1.0	100	2.90
P2.200	13	13	20	140	75	1000	2.0	100	4.40
P2.300	16	16	24	140	75	1000	3.0	100	6.70
P2.450	20	20	27	140	75	1000	4.5	50	9.31
P2.600	26	26	35	200	100	1000	6.0	50	17.50



Grade 8 Single Leg Lifting Hook Location System (Blue Rope)

Lifting Hook Location System, formerly known as the "Blue Rope" system, consists of a Gr. 8 clevis C hook with additional line location points one end and a Gr. 8 clevis reeveable egg link the other end. Also included are 3 links of Gr. 8 chain suitable to lift the capacity required. This system is devised to enable the safe retrieval of submersible equipment from wet wells and similar locations. A number of utility companies prefer this system to a traditional chain system if the pump is in a shallow well. Alternative variations available on request.

Chain Size (mm)	W.L.L. (t)	Dimensions (mm)							
		A	B	C	D	E	F	G	K
10	1.0	26	105	90	125	18	80	26	24
13	3.0	34	138	117	168	22	108	34	32
16	5.0	45	170	144	198	26	124	38	37



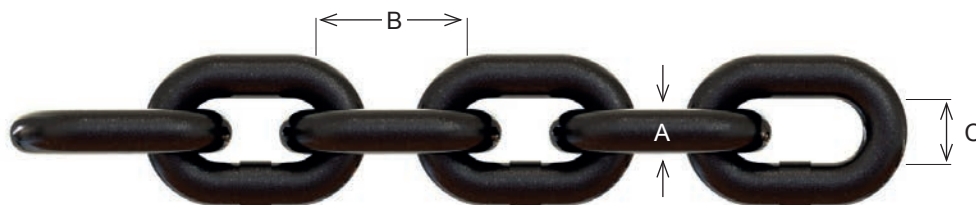
Lashing Equipment - BS EN 12195-3

Ratchet Loadbinder



Part Code	To suit Chain Size (mm)	Lashing Capacity (kN)	Weight (Kg)	Box Qty.
MB8.080.R	8	40	5.1	5
MB8.100.R	10	63	5.3	5
MB8.130.R	13	100	7.8	4
MB8.160.R	16	160	10.0	2

Grade 8 Chain BS EN 818-2



Part Code	Size (mm)	Lashing Capacity (kN)	Dimensions (mm)			Weight Per M (Kg)
			A	B	C	
MB8.080	8	40	8	24	12	1.40
MB8.100	10	63	10	30	15	2.20
MB8.130	13	100	13	39	19	3.80
MB8.160	16	160	16	48	24	5.60

Grade 8 Clevis Grab Hook



Part Code	Size (mm)	Lashing Capacity (kN)
MB8.080.GH	8	40
MB8.100.GH	10	63
MB8.130.GH	13	100
MB8.160.GH	16	160

Component Connector



Part Code	Size (mm)	Lashing Capacity (kN)
8-015-07	8	40
8-015-10	10	63
8-015-13	13	100
8-015-16	16	160

Grade 8 Clevis Sling Hook



Part Code	Size (mm)	Lashing Capacity (kN)
MB8.080.SH	8	40
MB8.100.SH	10	63
MB8.130.SH	13	100
MB8.160.SH	16	160

Weld On Lifting Point



Part Code	W.L.L. (t)	Lashing Capacity (kN)
8-057-1T	1.0	20
8-057-3T	3.0	60
8-057-5T	5.0	98

Lashing Equipment - Commercial

Commercial Ratchet Loadbinder



Part Code	To suit Chain Size (mm)	M.B.L. (t)	Weight (Kg)	Box Qty.
MB1.095.R	8 - 10	8.6	4.1	5
MB1.130.R	10 - 13	15	5.5	5
MB1.160.R	13 - 16	21	7.1	4

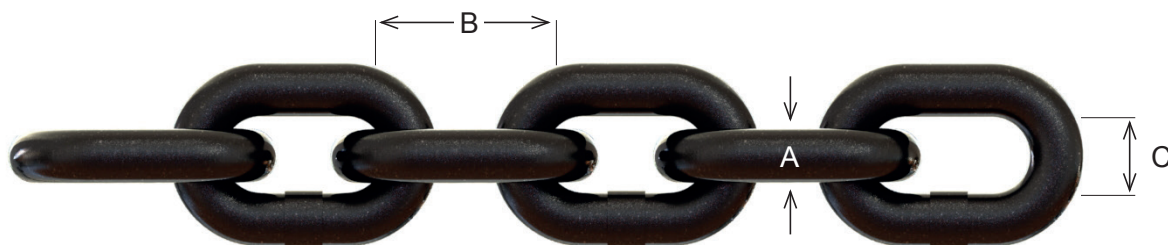
Drop Forged Over-Centre Loadbinder



Part Code	To suit Chain Size (mm)	M.B.L. (t)	Weight (Kg)	Box Qty.
MB1.095.F	8 - 10	8.6	3.8	5

Grade 30 Short Link Chain

Finish: Self Colour Test: Batch Tested and Certified



Part Code	Size (mm)	Dimensions (mm)			M.B.L. (t)	Metre Per Drum	Weight Per M (Kg)
		A	B	C			
1.080.G40	8	8	24	12	4.0	350	1.40
1.100.G40	10	10	30	14	6.0	250	2.20
1.120.G30	12	12	36	16	7.0	150	3.20
1.160.G30	16	16	45	22	12.5	100	5.60

Shackles — BS 3032: 1958

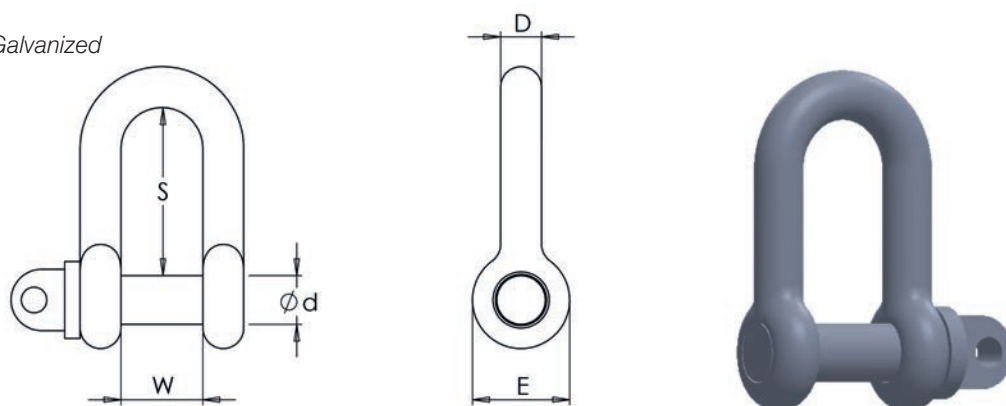
This popular shackle is used throughout various industries in the UK and beyond. Predominantly used in the industrial and construction markets as a load rated lifting shackle, they are also very prevalent in marine mooring applications. As you can see from the date the standard was first introduced, they have been around for many years. By far the most popular shackle types are Dee and Bow shackles with a screw pin (type A pin), although safety pin (type E pin) versions are also available. Care needs to be taken when choosing shackles to this standard as there are many poor quality imitations currently in the market place. The faults can range from incorrect material used, lack of or incorrect heat treatment and poor manufacturing / machining processes leading to inferior quality products.

Having invested heavily in tooling, William Hackett has begun to manufacture, under licence, a core of these sizes, with sole distribution rights in the UK & Ireland. Through this manufacturing link we are able to control the material, manufacturing and all other quality control processes that give us a high quality finished product. All shackles manufactured by William Hackett comply completely with BS 3032: 1958, including correct material specification and heat treatment. The shackles that we manufacture are marked with an asterisk (*) below.

Material: BS 970 150M19

Finish: Self Colour / Hot Dipped Galvanized

Test: Batch Tested and Certified



Large Dee Shackle BS 3032: 1958 - Table 2 - Type A Pin

Part Code		W.L.L. (ton)	Dimensions (inch)					Weight each (Kg)
Self Colour	Galvanized		D	d	W	S	E	
201.04.06	202.04.06	0.25	1/4	3/8	1/2	1	3/4	0.06
201.04.10*	202.04.10*	0.50	3/8	1/2	3/4	1.1/2	1	0.16
201.04.12*	202.04.12*	0.75	1/2	5/8	1.1/8	2.1/8	1.1/4	0.35
201.04.16*	202.04.16*	1.50	5/8	3/4	1.1/4	2.1/2	1.1/2	0.63
201.04.20*	202.04.20*	2.00	3/4	7/8	1.1/2	2.7/8	1.3/4	1.00
201.04.22*	202.04.22*	3.00	7/8	1	1.3/4	3.1/4	2	1.54
201.04.25*	202.04.25*	3.75	1	1.1/8	2	3.3/4	2.1/4	2.21
201.04.28*	202.04.28*	5.00	1.1/8	1.1/4	2.1/8	4.1/8	2.1/2	3.11
201.04.32	202.04.32	6.00	1.1/4	1.3/8	2.3/8	4.1/2	2.3/4	4.33
201.04.35	202.04.35	7.00	1.3/8	1.1/2	2.5/8	5	3	5.33

Small Dee Shackle BS 3032: 1958 - Table 1 - Type A Pin

Part Code		W.L.L. (ton)	Dimensions (inch)					Weight each (Kg)
Self Colour	Galvanized		D	d	W	S	E	
201.06.12	202.06.12	1.00	1/2	5/8	7/8	1.7/8	1.1/4	0.33
201.06.16	202.06.16	1.75	5/8	3/4	1	2.1/4	1.1/2	0.61
201.06.20	202.06.20	2.50	3/4	7/8	1.1/4	2.3/4	1.3/4	0.93
201.06.22	202.06.22	3.50	7/8	1	1.3/8	3.1/4	2	1.50
201.06.25	202.06.25	4.50	1	1.1/8	1.1/2	3.5/8	2.1/4	2.15

Other sizes available on request

Shackles — BS 3032: 1958

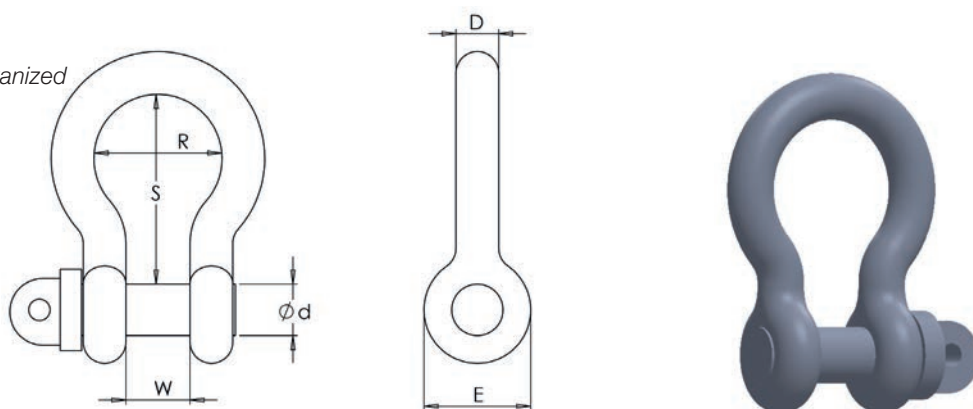
This popular shackle is used throughout various industries in the UK and beyond. Predominantly used in the industrial and construction markets as a load rated lifting shackle, they are also very prevalent in marine mooring applications. As you can see from the date the standard was first introduced, they have been around for many years. By far the most popular shackle types are Dee and Bow shackles with a screw pin (type A pin), although safety pin (type E pin) versions are also available. Care needs to be taken when choosing shackles to this standard as there are many poor quality imitations currently in the market place. The faults can range from incorrect material used, lack of or incorrect heat treatment and poor manufacturing / machining processes leading to inferior quality products.

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Material: BS 970 150M19

Finish: Self Colour / Hot Dipped Galvanized

Test: Batch Tested and Certified



Large Bow Shackle BS 3032: 1958 - Table 3 - Type A Pin

Part Code		W.L.L. (ton)	Dimensions (inch)						Weight each (Kg)
Self Colour	Galvanized		D	d	W	S	R	E	
201.05.10	202.05.10	0.45	3/8	1/2	5/8	1.5/8	1	1	0.18
201.05.12*	202.05.12*	0.75	1/2	5/8	7/8	2.1/8	1.1/4	1.1/4	0.34
201.05.16*	202.05.16*	1.25	5/8	3/4	1.1/8	2.3/4	1.5/8	1.1/2	0.65
201.05.20*	202.05.20*	2.00	3/4	7/8	1.3/8	3.3/8	2	1.3/4	1.08
201.05.22*	202.05.22*	2.75	7/8	1	1.5/8	3.7/8	2.1/4	2	1.80
201.05.25	202.05.25	3.75	1	1.1/8	1.3/4	4.1/4	2.1/2	2.1/4	2.46
201.05.28	202.05.28	4.75	1.1/8	1.1/4	2	4.7/8	2.7/8	2.1/2	3.47
201.05.32	202.05.32	5.75	1.1/4	1.3/8	2.1/4	5.3/8	3.1/4	2.3/4	4.56
201.05.35	202.05.35	7.25	1.3/8	1.1/2	2.1/2	6	3.1/2	3	6.07

Small Bow Shackle BS 3032: 1958 - Table 4 - Type A Pin

Part Code		W.L.L. (ton)	Dimensions (inch)						Weight each (Kg)
Self Colour	Galvanized		D	d	W	S	R	E	
201.07.12	202.07.12	1.00	1/2	5/8	7/8	2	1.1/8	1.1/4	0.34
201.07.16	202.07.16	1.50	5/8	3/4	1.1/8	2.1/2	1.1/2	1.1/2	0.62
201.07.20	202.07.20	2.00	3/4	7/8	1.3/8	3	1.3/4	1.3/4	1.05
201.07.22	202.07.22	3.00	7/8	1	1.1/2	3.1/2	2	2	1.63
201.07.25	202.07.25	4.00	1	1.1/8	1.3/4	4	2.3/8	2.1/4	2.28

Other sizes available on request

Shackles — EN 13889: 2003

Predominantly used in the offshore, industrial and construction markets as a load rated lifting shackle, alloy steel shackles are also used in marine mooring applications. By far the most popular shackle types are the shackles with a screw pin, although safety pin versions are also available. Care needs to be taken when choosing shackles to this standard as there are many poor quality imitations currently in the market place. The faults can range from incorrect material used, lack of or incorrect heat treatment and poor manufacturing / machining processes leading to inferior quality.

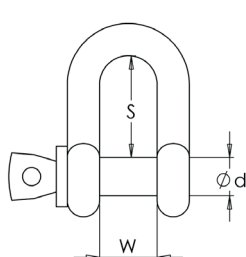
Alloy Dee Shackle - Screw Pin - EN 13889: 2003 and meets performance requirements of U.S. Federal Specification RR-C-271

Material: Grade 6, quenched and tempered

Safety factor: 6 : 1

Test: Batch Tested and Certified

Finish: Hot Dip Galvanized



Part Code	W.L.L. (t)	Dimensions (mm)					Weight each (Kg)
		D	d	W	S	E	
202.10.06	500 Kg	7.0	8	12.0	22	16.5	0.05
202.10.08	750 Kg	9.0	10	13.5	26	20.0	0.09
202.10.10	1.00	10.0	11	17.0	32	22.5	0.14
202.10.11	1.50	11.0	13	19.0	37	26.5	0.19
202.10.12	2.00	13.5	16	22.0	43	34.0	0.32
202.10.16	3.25	16.0	19	27.0	51	40.0	0.54
202.10.20	4.75	19.0	22	31.0	59	46.0	0.87
202.10.22	6.50	22.0	25	36.0	73	52.0	1.34
202.10.25	8.50	25.0	28	43.0	85	59.0	2.08
202.10.28	9.50	28.0	32	47.0	90	66.0	2.77

Larger sizes available on request. Economy version also available

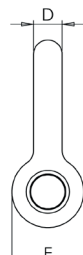
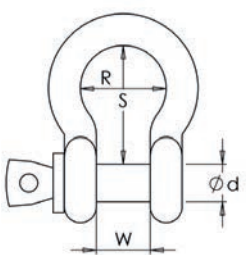
Alloy Bow Shackle - Screw Pin - EN 13889: 2003 and meets performance requirements of U.S. Federal Specification RR-C-271

Material: Grade 6, quenched and tempered

Safety factor: 6 : 1

Test: Batch Tested and Certified

Finish: Hot Dip Galvanized



Part Code	W.L.L. (t)	Dimensions (mm)						Weight each (Kg)
		D	d	W	S	R	E	
202.11.06	500 Kg	7.0	8	12.0	29.0	20	16.5	0.05
202.11.08	750 Kg	9.0	10	13.5	32.0	22	20	0.10
202.11.10	1.00	10.0	11	17.0	36.5	26	22.5	0.14
202.11.11	1.50	11.0	13	19.0	43.0	29	26.5	0.19
202.11.12	2.00	13.5	16	22.0	51.0	32	34	0.36
202.11.16	3.25	16.0	19	27.0	64.0	43	40	0.63
202.11.20	4.75	19.0	22	31.0	76.0	51	46	1.01
202.11.22	6.50	22.0	25	36.0	83.0	58	52	1.50
202.11.25	8.50	25.0	28	43.0	95.0	68	59	2.21
202.11.28	9.50	28.0	32	47.0	108.0	75	66	3.16

Larger sizes available on request. Economy version also available

Shackles — EN 13889: 2003

Predominantly used in the offshore, industrial and construction markets as a load rated lifting shackle, alloy steel shackles are also used in marine mooring applications. By far the most popular shackle types are the shackles with a screw pin, although safety pin versions are also available. Care needs to be taken when choosing shackles to this standard as there are many poor quality imitations currently in the market place. The faults can range from incorrect material used, lack of or incorrect heat treatment and poor manufacturing / machining processes leading to inferior quality.

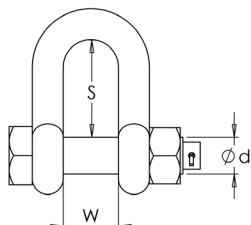
Alloy Dee Shackle - Safety Pin - EN 13889: 2003 and meets performance requirements of U.S. Federal Specification RR-C-271

Material: Grade 6, quenched and tempered

Safety factor: 6 : 1

Test: Batch Tested and Certified

Finish: Hot Dip Galvanized



Part Code	WLL (t)	Dimensions (mm)					Weight each (Kg)
		D	d	W	S	E	
202.14.12	2.00	13.5	16	22	43	34	0.39
202.14.16	3.25	16.0	19	27	51	40	0.67
202.14.20	4.75	19.0	22	31	59	46	1.08
202.14.22	6.50	22.0	25	36	73	52	1.66
202.14.25	8.50	25.0	28	43	85	59	2.46
202.14.28	9.50	28.0	32	47	90	66	3.40

Larger sizes available on request. Economy version also available

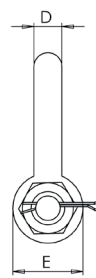
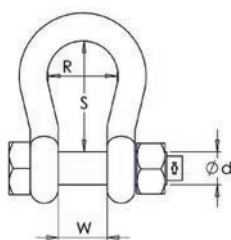
Alloy Bow Shackle - Safety Pin - EN 13889: 2003 and meets performance requirements of U.S. Federal Specification RR-C-271

Material: Grade 6, quenched and tempered

Safety factor: 6 : 1

Test: Batch Tested and Certified

Finish: Hot Dip Galvanized



Part Code	WLL (t)	Dimensions (mm)						Weight each (Kg)
		D	d	W	S	R	E	
202.15.06	500 Kg	7.0	8	12.0	29.0	20	16.5	0.06
202.15.08	750 Kg	9.0	10	13.5	32.0	22	20.0	0.11
202.15.10	1.00	10.0	11	17.0	36.5	26	22.5	0.16
202.15.11	1.50	11.0	13	19.0	43.0	29	26.5	0.22
202.15.12	2.00	13.5	16	22.0	51.0	32	34.0	0.42
202.15.16	3.25	16.0	19	27.0	64.0	43	40.0	0.74
202.15.20	4.75	19.0	22	31.0	76.0	51	46.0	1.18
202.15.22	6.50	22.0	25	36.0	83.0	58	52.0	1.77
202.15.25	8.50	25.0	28	43.0	95.0	68	59.0	2.58
202.15.28	9.50	28.0	32	47.0	108.0	75	66.0	3.66

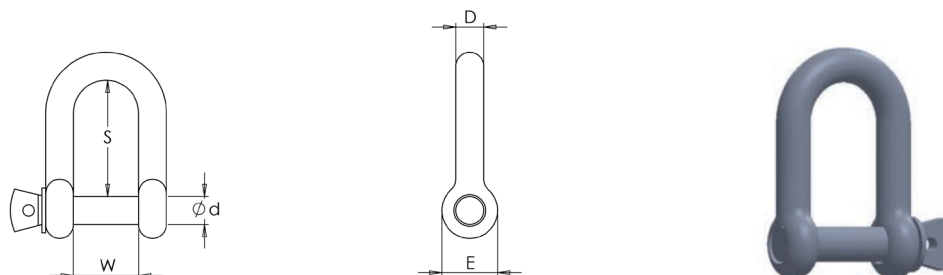
Larger sizes available on request. Economy version also available

Shackles — Commercial - Mild Steel

As the name suggests, these shackles are a cost effective alternative to the other shackles from our comprehensive range. They are predominantly used in the marine and agricultural markets and it is important to note that these shackles are untested and manufactured from a base mild steel material. They are given a commercial electro-galvanized coating with limited corrosion protection. Commercial shackles are easily identified by the pin and body material being manufactured from the same diameter and should **not** be used for safety critical or lifting applications.

Commercial Dee Shackle

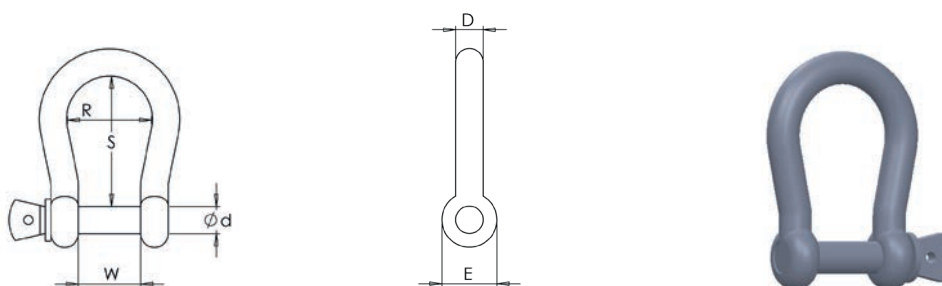
Material: Grade 3 Mild Steel
Finish: Electro-Galvanized
Test: Untested



Part Code	Dimensions (mm)					Weight per 100 (Kg)
	D	d	W	E	S	
202.01.06	6	6	12	12	24	2.5
202.01.08	8	8	16	16	32	5.5
202.01.10	10	10	20	20	40	10.0
202.01.12	12	12	24	24	48	18.5
202.01.16	16	16	32	32	64	43.0
202.01.20	20	20	38	38	76	72.0
202.01.22	22	22	44	44	88	118.0
202.01.25	25	25	50	50	100	157.0

Commercial Bow Shackle

Material: Grade 3 Mild Steel
Finish: Electro-Galvanized
Test: Untested



Part Code	Dimensions (mm)						Weight per 100 (Kg)
	D	d	W	E	S	R	
202.02.06	6	6	12	12	24	18	2.5
202.02.08	8	8	16	16	32	24	6.0
202.02.10	10	10	20	20	40	30	10.5
202.02.12	12	12	24	24	48	36	18.5
202.02.16	16	16	32	32	64	48	47.5
202.02.20	20	20	38	40	80	57	79.0
202.02.22	22	22	44	44	88	66	116.0
202.02.25	25	25	50	50	100	75	171.0

Shackles — Commercial - Stainless Steel

As the name suggests, these shackles are a cost effective alternative to the other shackles from our comprehensive range. They are predominantly used in the marine market and it is important to note that these shackles are untested and manufactured from a base stainless steel material.

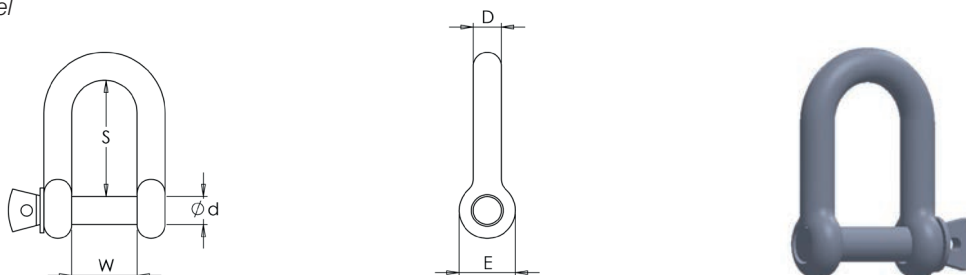
Commercial shackles are easily identified by the pin and body material being manufactured from the same diameter and should **not** be used for safety critical or lifting applications.

Commercial Dee Shackle

Material: Grade AISI 316 Stainless Steel

Finish: Polished

Test: Untested



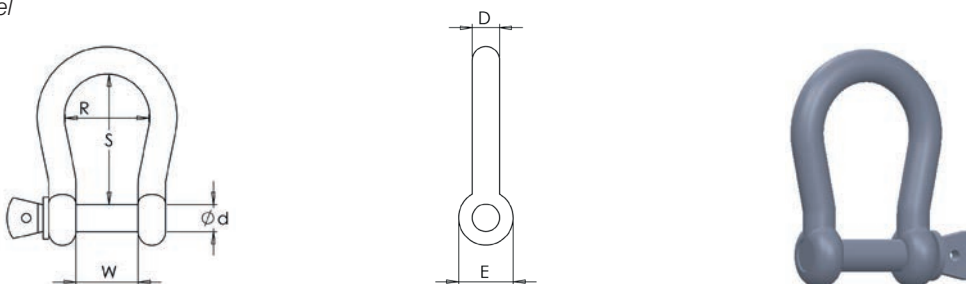
Part Code	Dimensions (mm)					Weight per 100 (Kg)
	D	d	W	E	S	
201.16.06	6	6	12	12	24	2.4
201.16.08	8	8	16	16	32	5.6
201.16.10	10	10	20	20	40	13.0
201.16.12	12	12	24	24	48	20.0
201.16.16	16	16	32	32	64	48.0
201.16.20	20	20	38	38	76	84.0

Commercial Bow Shackle

Material: Grade AISI 316 Stainless Steel

Finish: Polished

Test: Untested



Part Code	Dimensions (mm)						Weight per 100 (Kg)
	D	d	W	E	S	R	
201.17.06	6	6	12	12	24	18	2.8
201.17.08	8	8	16	16	32	24	6.4
201.17.10	10	10	20	20	40	30	15.0
201.17.12	12	12	24	24	48	36	22.0
201.17.16	16	16	32	32	64	48	55.0
201.17.20	20	20	40	40	80	60	97.0

Shackles — Stainless Steel - Tested

Manufactured specifically for William Hackett, these load rated stainless steel Dee shackles are supplied in three different options, screw pin, safety pin and safety pin with captive locking pin (to captivate the shackle to another item of lifting equipment most commonly used in the utility / waste water sectors).

Load rated stainless steel shackles are predominantly used in areas of high corrosion, such as the water utility / chemical / oil & gas sectors as well as food processing plants.

AISI 316L Stainless Steel Safety Pin Dee Shackle c/w Captivating Locking Pin

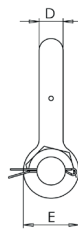
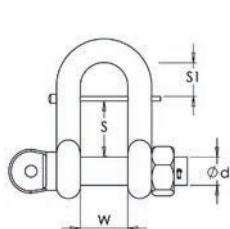
Material: AISI 316L Stainless Steel

Markings: W.L.L. - Size -

Batch Number - Material Grade

Test: Batch Tested and Certified

Finish: Polished



Part Code	W.L.L. (t)	Dimensions (mm)					E	Weight each (Kg)
		D	d	W	S	S1		
201.46.10	1.00	9.5	12	20	25	15	27	0.25
201.46.16	2.00	16.0	19	32	40	22	40	0.75
201.46.20	3.20	19.0	22	38	45	28	46	1.12
201.46.22	5.00	22.0	25	44	55	29	52	1.67

AISI 316L Stainless Steel Safety Pin Dee Shackle

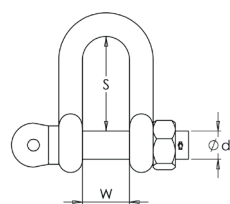
Material: AISI 316L Stainless Steel

Markings: W.L.L. - Size -

Batch Number - Material Grade

Test: Batch Tested and Certified

Finish: Polished



Part Code	W.L.L. (t)	Dimensions (mm)					E	Weight each (Kg)
		D	d	W	S			
201.47.10	1.00	9.5	12	20	42		27	0.25
201.47.16	2.00	16.0	20	32	65		40	0.75
201.47.20	3.20	19.0	22	38	77		46	1.12
201.47.22	5.00	22.0	25	44	88		52	1.67
201.47.25	6.30	25.0	28	53	105		58	2.50

AISI 316L Stainless Steel Screw Pin Dee Shackle

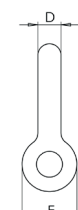
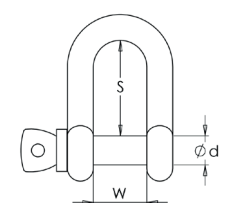
Material: AISI 316L Stainless Steel

Markings: W.L.L. - Size -

Batch Number - Material Grade

Test: Batch Tested and Certified

Finish: Polished



Part Code	W.L.L. (t)	Dimensions (mm)					E	Weight each (Kg)
		D	d	W	S			
201.48.10	1.00	9.5	12	20	42		27	0.16
201.48.16	2.00	16.0	20	32	65		40	0.68
201.48.20	3.20	19.0	22	38	77		46	1.03
201.48.22	5.00	22.0	25	44	88		52	1.54
201.48.25	6.30	25.0	28	53	105		58	2.26

Shackles — Stainless Steel - Tested

Alternative load rated stainless steel Dee and Bow shackles fitted with safety pin.

Load rated stainless steel shackles are predominantly used in areas of high corrosion, such as the water utility / chemical / oil & gas sectors as well as food processing plants.

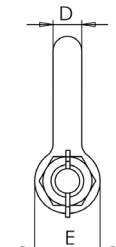
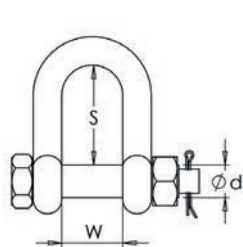
AISI 316L Stainless Steel Safety Pin Dee Shackle

Material: AISI 316L Stainless Steel

Markings: W.L.L. - Batch Number

Test: Batch Tested and Certified

Finish: Polished



Part Code	W.L.L. (t)	Dimensions (mm)					Weight each (Kg)
		D	d	W	S	E	
201.20.08	500 Kg	8.0	8	16	32	16	0.08
201.20.10	800 Kg	9.5	10	19	38	20	0.14
201.20.11	1.00	11.0	12	22	44	24	0.21
201.20.13	1.25	12.7	12	26	52	24	0.33
201.20.14	1.80	14.3	16	29	58	32	0.58
201.20.16	2.80	16.0	20	32	64	40	0.76
201.20.19	3.30	19.0	22	38	76	44	1.18
201.20.25	5.00	25.4	27	50	100	54	2.60

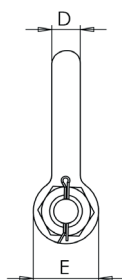
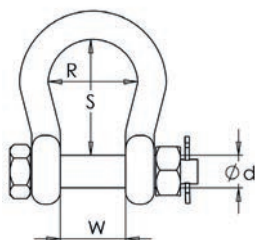
AISI 316L Stainless Steel Safety Pin Bow Shackle

Material: AISI 316L Stainless Steel

Markings: W.L.L. - Batch Number

Test: Batch Tested and Certified

Finish: Polished



Part Code	W.L.L. (t)	Dimensions (mm)					Weight each (Kg)
		D	d	W	R	S	
201.21.10	600 Kg	9.5	10	19	28	38	0.15
201.21.11	800 Kg	11.0	12	22	33	46	0.22
201.21.13	1.00	12.7	12	26	38	52	0.35
201.21.14	1.50	14.3	16	29	43	60	0.64
201.21.16	2.50	16.0	20	32	50	68	0.81
201.21.19	3.00	19.0	22	38	58	76	1.25
201.21.22	4.00	22.0	24	44	66	88	1.82

Nyloc Locking Nuts available on all Safety Pin Shackles as option upon request.

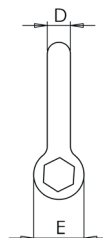
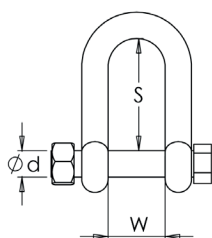
Swing Chain Components conforming to BS EN 1176

Assorted hardware specially designed and manufactured for William Hackett for use in the playground and leisure industry, conforming to BS EN 1176. The majority of items are drop forged and machined. Where possible, all products are marked with a batch number for traceability purposes.

Screw Pin Dee Shackle - Machined Pin and All-Metal Lock Nut

Material: Mild Steel

Finish: Electro-galvanized



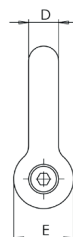
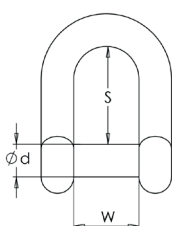
Part Code	Dimensions (mm)					Weight / 100 (Kg)
	D	Ød	W	S	E	
206.S04.12	12	12.00	26	50	25	27.5
206.S05.12*	12	12.65	27	50	25	27.5
206.S06.12	12	12.65	25	48	25	27.5

* fitted with stainless steel bolt and nut

Stainless Steel Screw Pin Dee Shackle - Countersunk Pin

Material AISI 316 Stainless Steel

Finish: Polished

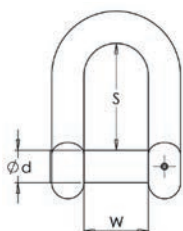


Part Code	Dimensions (mm)					Weight / 100 (Kg)
	D	Ød	W	S	E	
201.42.06	6	6	12	24	12	2.5
201.42.08	8	8	16	32	16	5.5
201.42.10	10	10	20	40	20	10.0
201.42.12	12	12	24	48	24	18.0

Tamper Proof Stainless Steel Screw Pin Dee Shackle - Countersunk Pin - Drilled and supplied with Seloc Retaining Pin

Material AISI 316 Stainless Steel

Finish: Polished



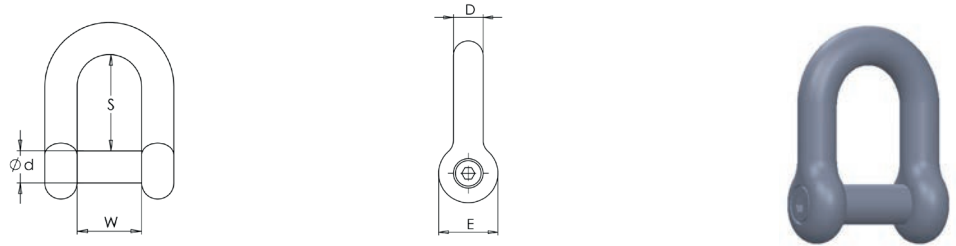
Part Code	Dimensions (mm)					Weight / 100 (Kg)
	D	Ød	W	S	E	
201.42.10.DR	10	10	20	40	20	10.0

Swing Chain Components conforming to BS EN 1176

Screw Pin Dee Shackle - Countersunk Pin

Material: Mild Steel

Finish: Bright Zinc Plated

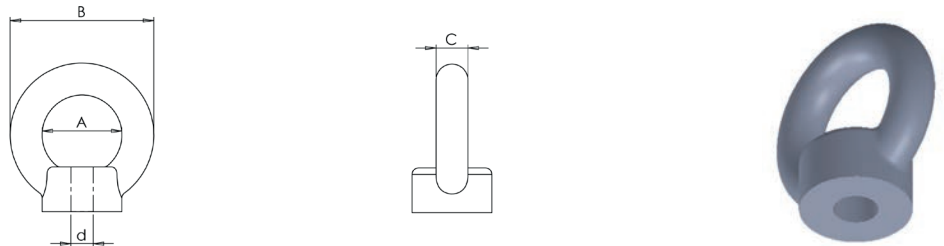


Part Code	Dimensions (mm)					Weight / 100 (Kg)
	D	Ød	W	S	E	
202.24.06	6	6	12	24	12	2.5
202.24.08	8	8	16	32	16	5.5
202.24.10	10	10	20	40	20	10.0
202.24.12	12	12	24	48	24	18.0

Swing Pattern Eyenut - Specially machined from DIN 582 M10 forging

Material: Mild Steel

Finish: Bright Zinc Plated

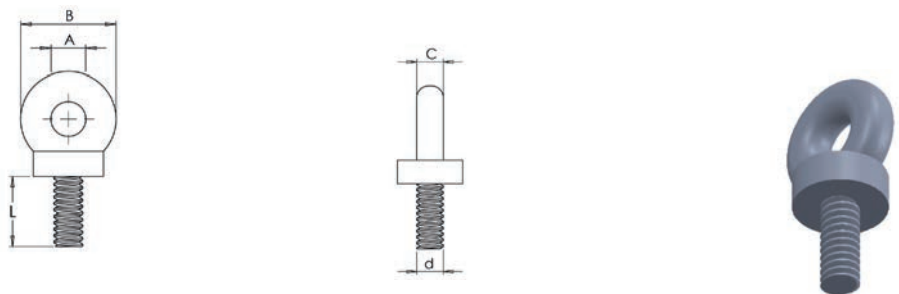


Part Code	Dimensions (mm)				Weight / 100 (Kg)
	d	A	B	C	
192.S01.12	M12	25	45	10	9.4

Swing Pattern Collar Eyebolt

Material: Mild Steel

Finish: Sheradized



Part Code	Dimensions (mm)					Weight / 100 (Kg)
	d	A	B	C	L	
183.S01.10.23	M10	11	30	9.5	23	6.5
183.S01.10.38	M10	11	30	9.5	38	7.5

Swing Chain Components conforming to BS EN 1176

Swing Pattern Eyebolt - Fully Threaded

Material: Mild Steel

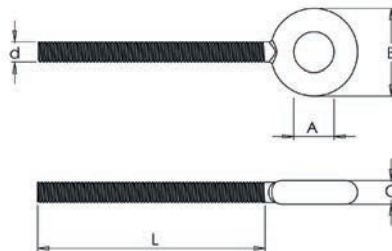
Finish: Hot Dip Galvanized



Part Code	Dimensions (mm)					Weight / 100 (Kg)
	d	A	B	C	L	
182.S02.10.20	M10	12.5	32.5	10.0	20	6.5
182.S07.10.30	M10	14.5	27.0	6.5	30	3.6
182.S07.10.40	M10	14.5	27.0	6.5	40	4.0

Material: Mild Steel

Finish: Hot Dip Galvanized



Part Code	Dimensions (mm)					Weight / 100 (Kg)
	d	A	B	C	L	
182.S06.12.100	M12	24	51	13.5	100	26.0
182.S06.12.115	M12	24	51	13.5	115	27.0
182.S06.12.130	M12	24	51	13.5	130	28.0
182.S06.12.140	M12	24	51	13.5	140	29.0
182.S06.12.150	M12	24	51	13.5	150	30.0
182.S06.12.200	M12	24	51	13.5	200	35.0

Material: AISI 316 Stainless Steel

Finish: Polished



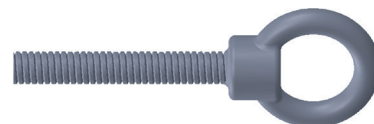
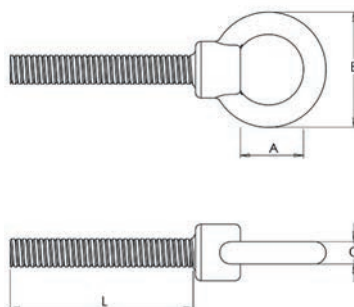
Part Code	Dimensions (mm)					Weight / 100 (Kg)
	d	A	B	C	L	
181.S04.10.17	M10	14	30	8.0	17	3.4
181.S04.10.20	M10	14	30	8.0	20	3.9
181.S04.10.55	M10	14	30	8.0	55	5.7

Swing Chain Components conforming to BS EN 1176

Swing Pattern Eyebolt - Cast Eye, Fully Threaded

Material: AISI 316 Stainless Steel

Finish: Polished

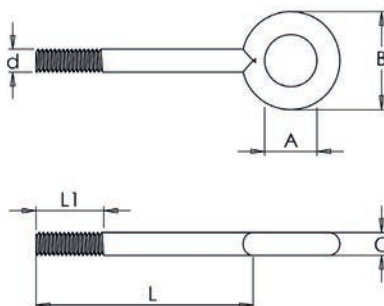


Part Code	Dimensions (mm)					Weight / 100 (Kg)
	d	A	B	C	L	
181.S05.10.40	M10	25	41	8.0	40	8.7
181.S05.10.50	M10	25	41	8.0	50	9.3
181.S05.10.65	M10	25	41	8.0	65	10.1
181.S05.10.80	M10	25	41	8.0	80	10.8
181.S05.10.85	M10	25	41	8.0	85	11.1
181.S05.10.130	M10	25	41	8.0	130	13.3

Swing Pattern Eyebolt - Hand Formed and Welded Eye

Material: AISI 316 Stainless Steel

Finish: Polished



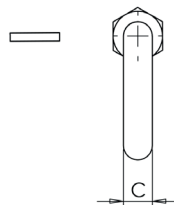
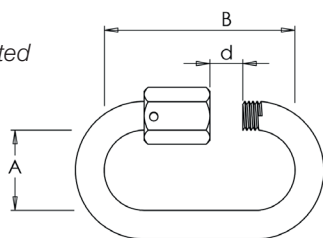
Part Code	Dimensions (mm)						Weight / 100 (Kg)
	d	A	B	C	L	L1	
181.S03.10.85	M10	25	45	10.0	85	40	12.0
181.S03.10.105	M10	25	45	10.0	105	40	13.0
181.S03.12.55	M12	25	49	11.5	55	45	15.0
181.S03.12.88	M12	25	49	11.5	88	40	17.0
181.S03.12.95	M12	25	49	11.5	95	35	18.6
181.S03.12.108	M12	25	49	11.5	108	40	19.0
181.S03.12.128	M12	25	49	11.5	128	40	21.0

Swing Chain Components conforming to BS EN 1176

Tamper Proof Rapid Link - Drilled c/w Seloc Pin

Material: Mild Steel

Finish: Bright Zinc Plated



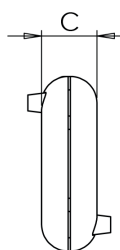
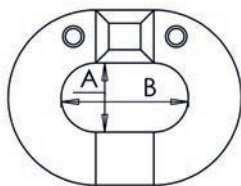
Part Code	Dimensions (mm)				Weight / 100 (Kg)
	a	b	c	d	
146.08.06	14	46	6	7	3.3
146.08.07	16	51	7	8	5.3
146.08.08	17	59	8	10	7.5

Tested version available upon request

Split Connecting Link

Material AISI 316 Stainless Steel

Finish: Polished



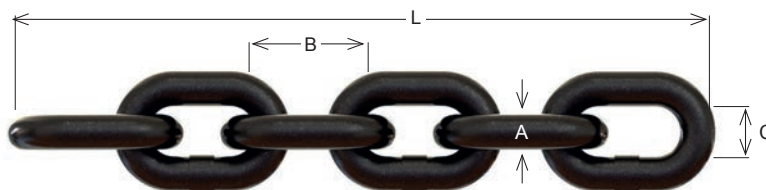
Part Code	Dimensions (mm)			Weight / 100 (Kg)
	A	B	C	
291.01.06	9.5	21.0	6	2.50
291.01.08	10.5	23.5	8	3.50
291.01.10	14.5	28.0	10	6.60
291.01.12	19.0	37.0	12	12.00

Swing Pattern Calibrated Short Link Chain to BS EN 1176

Material: Grade 4 High Tensile

Finish: *Spun Galvanized to ISO 1461

**Sheradized



Part Code	Dimensions (mm)				Weight per M (Kg)
	A	B	C	L	
2.080.SP*	8	23.5	11	25m	1.4
3.080.SP**	8	23.5	11	25m	1.4

Swing Chain and Components

Swing Chain Assemblies and Components - BS EN 1176.

Finish: Sheradized / Galvanized / Stainless Steel

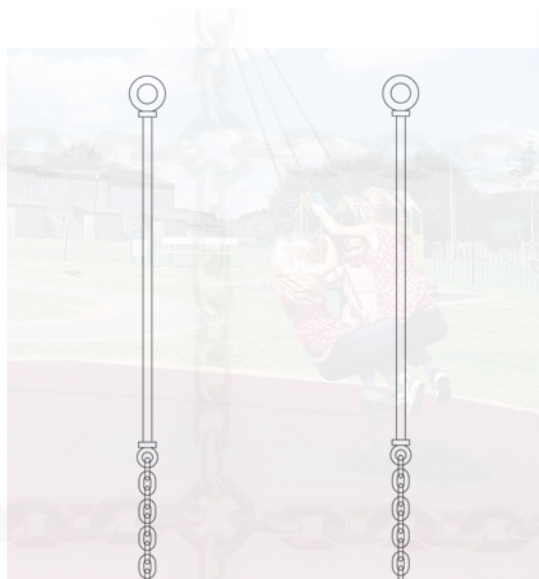
Manufactured to individual customer requirements at our Cradley factory conforming to BS EN 1176.

Our swing chains and associated products are used by the majority of playground and leisure original equipment manufacturers within the UK, from there, many of our products are exported worldwide.

With the adaptability of our workforce and plant, we can manufacture bespoke assemblies to customer requirements in both mild steel and stainless steel. Alternative sizes, bespoke assemblies and other finishes are available upon request.

Swing chain assemblies are manufactured to suit all swing frames, commonly 1.8m, 2.4m and 3m cross bar heights (6ft, 8ft and 10ft) other sizes are available on request.

Swing chain assemblies are available in either sheradized or galvanized finish or alternatively manufactured to customer requirements. See pages 46 to 50 for our range of swing chain components.



anti-wrap to suit
cradle seat

anti-wrap to suit
flat seat



Hardware - Swivels

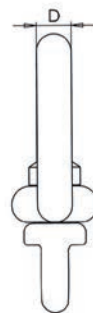
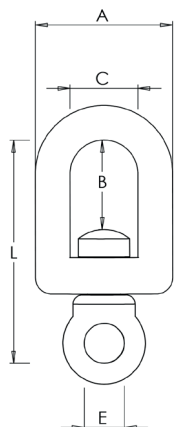
Single Eye Forged Mooring Swivel - Hot Dip Galvanized

Test: Batch Tested and Certified

Markings: M.B.L. - Size - Batch Number

Material: High Tensile/Low Carbon

Finish: Hot Dipped Galvanized



Part Code	M.B.L. (t)	Dimensions (mm)						Weight each (Kg)
		D	A	B	C	E	L	
232.02.13	6.0	13	60	35	36	17	100	0.5
232.02.16	8.0	16	72	43	40	23	125	1.0
232.02.20	12.6	20	83	45	45	26	145	1.5
232.02.22	25.2	22	93	53	49	29	170	2.3

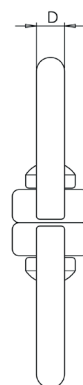
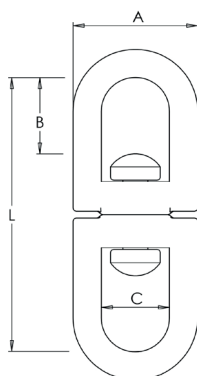
Double Eye Forged Mooring Swivel - Hot Dip Galvanized

Test: Batch Tested and Certified

Markings: M.B.L. - Size - Batch Number

Material: High Tensile/Low Carbon

Finish: Hot Dipped Galvanized



Part Code	M.B.L. (t)	Dimensions (mm)					Weight each (Kg)
		D	A	B	C	L	
232.03.13	6.0	13	60	35	36	135	0.8
232.03.16	8.0	16	72	43	40	165	1.3
232.03.20	12.6	20	83	45	45	185	2.1
232.03.22	25.2	22	93	53	49	215	3.3

Hardware - Swivels, Rings and Hooks

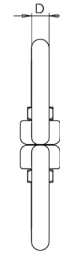
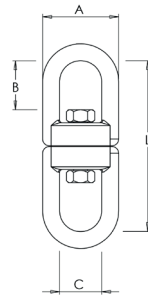
Double Eye Mooring Swivel - AISI 316 Stainless Steel

Test: Batch Tested and Certified

Markings: M.B.L. - Size - Batch Number

Material: AISI 316 Stainless Steel

Finish: Polished



Part Code	M.B.L. (t)	Dimensions (mm)							Weight each (Kg)
		d	B	C	D	E	F	L	
231.04.08	1.2	8	20	20	36	20	8	90	0.15
231.04.10	3.2	10	27	24	44	24	10	115	0.29
231.04.13	4.8	13	35	31	56	31	12	148.5	0.60
231.04.16	6.0	16	46	39	71	39	16	191	1.10
231.04.19	7.2	19	54	39	77	40	20	231	2.25
231.04.22	8.4	22	55	46	90	46	22	254	3.13

Drop Forged Mooring Ring

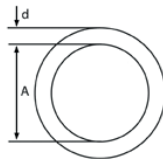
Test: Batch Tested and Certified

Material: High Tensile Steel

Markings: Size - Batch Number

Finish: Self Colour (Galvanized also available)

Other sizes available on request



Part Code	M.B.L. (t)	Dimensions (mm)		Weight each (Kg)
		d	A	
121.01.20.75	10.0	20	75	0.75
121.01.25.100	26.0	25	100	1.80
121.01.28.152	28.0	28	152	2.80

Eye Type Sling Hook

Test: Batch Tested and Certified

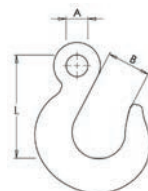
Material: High Tensile Steel

Heat Treatment: Quenched and Tempered

Markings: Batch Number - Size - W.L.L.

Finish: Self Colour

Factor of Safety: 4 : 1



Part Code	W.L.L. (t)	To suit Chain Size (mm)	Dimensions (mm)			Weight each (Kg)
			A	B	L	
111.01.06	750 Kg	6/7	12.5	24	65	0.2
111.01.08	1.00	8	16.0	27	75	0.3
111.01.10	1.60	10	19.0	33	85	0.5
111.01.12	2.65	13	24.0	43	108	1.1
111.01.16	4.00	16	28.0	51	133	1.8
111.01.19	5.50	20	35.0	54	148	2.9

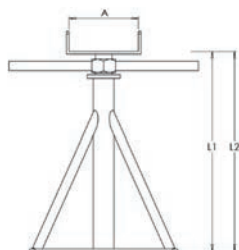
Caravan Restraining Equipment

Electro-galvanized equipment for supporting, securing and restraining static caravans and mobile homes.

Fabricated Axle Stand

Adjustable and designed to support and stabilise the caravan or mobile home, supplied with extra wide stirrup width to suit all types of mobile home or static caravan.

Finish: Electro-Galvanized

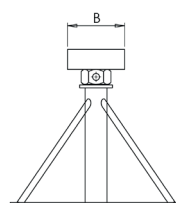
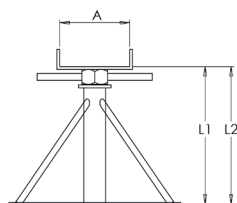


Part Code	Stand Size	Minimum Height (mm) L1	Maximum Height (mm) L2	A (mm)	Weight each (Kg)	Box Quantity
S1001	Small	178	267	125	0.90	30
S1002	Medium	267	381	125	1.86	24
S1003	Large	381	470	125	2.77	20

Fabricated Primary Axle Stand

Heavy duty, adjustable and designed to support main axle of caravan as a safer option to concrete blocks.

Finish: Electro-Galvanized

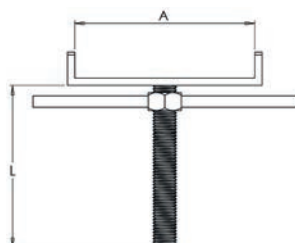


Part Code	Stand Size	Minimum Height (mm) L1	Maximum Height (mm) L2	A (mm)	B (mm)	Weight each (Kg)	Box Quantity
S1004	Primary	240	381	125	100	5.5	8

Axle Stand Tops

Replacement tops for our range of axle stands.

Finish: Electro-Galvanized



Part Code	To suit Stand Size	A (mm)	L (mm)	Weight each (Kg)	Box Quantity
S1001.T	Small	125	110	0.4	50
S1002.T	Medium	125	155	0.6	40
S1003.T	Large	125	205	0.8	20
S1004.T	Primary	125	210	2.3	20

Caravan Restraining Equipment

Grade 3 Long Link Chain

Used as a flexible method for securing and restraining all types of caravan and mobile home. Chain can be supplied in varied lengths to customer's specific requirements.

Finish: Galvanized



Part Code	Chain Size (mm)	M.B.L. (t)	Weight per M (Kg)
2.070.042	7.0	1.9	0.89
2.080.052	8.0	2.0	1.10
2.095.050	9.5	4.0	1.65

Commercial Dee Shackle - Screw Pin

Used as a quick and efficient method for connecting and securing the straining screw to the chain.

Finish: Electro-Galvanized



Part Code	Body Ø (mm)	Pin Ø (mm)	Weight per 100 (Kg)
202.01.08	8	8	5.5
202.01.10	10	10	10.0

Commercial Pattern Straining Screw

Used to ensure optimum tension in chain to ensure stability of caravan or mobile home.

Finish: Galvanized



Part Code	Thread Size (mm)	Type	Weight each (Kg)
152.01.08	8	Hook / Hook	0.20
152.01.10	10	Hook / Hook	0.28
152.02.08	8	Eye / Eye	0.20
152.02.10	10	Eye / Eye	0.28
152.03.08	8	Hook / Eye	0.20
152.03.10	10	Hook / Eye	0.28

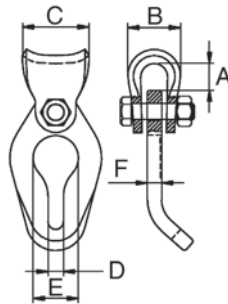
Forestry Equipment

Grade 8 Chain-Rope Connector - manufactured in accordance with EN 1677

Test: Batch Tested and Certified

Finish: Red Painted

F.O.S: 4 : 1



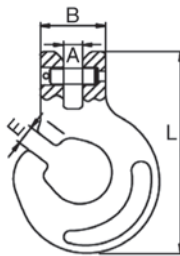
Part Code	W.L.L. (t)	Dimensions (mm)						Weight each (Kg)
		A	B	C	D	E	F	
MB8.080.RC	2.00	20	39	49	11.5	33.5	10.5	0.65
MB8.100.RC	3.15	21	47	57	13.0	40.0	10.5	1.0

Grade 8 Clevis Forest Hook - manufactured in accordance with EN 1677

Test: Batch Tested and Certified

Finish: Red Painted

F.O.S: 4 : 1



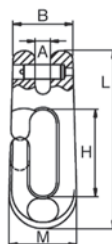
Part Code	W.L.L. (t)	Dimensions (mm)				Weight each (Kg)
		A	B	E	L	
MB8.080.CFH	2.00	9.5	35	10.5	95.5	0.42
MB8.100.CFH	3.15	13.0	44	13.0	137.0	0.92

Grade 8 Clevis Choker Hook - manufactured in accordance with EN 1677

Test: Batch Tested and Certified

Finish: Red Painted

F.O.S: 4 : 1



Part Code	W.L.L. (t)	Dimensions (mm)					Weight each (Kg)
		A	B	H	M	L	
MB8.080.CC	2.0	10.5	41	60	46.5	123	0.68

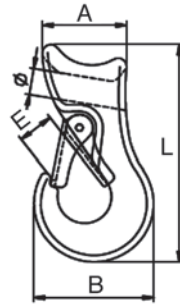
Forestry Equipment

Grade 8 Clevis Sliding Choke Hook - manufactured in accordance with EN 1677

Test: Batch Tested and Certified

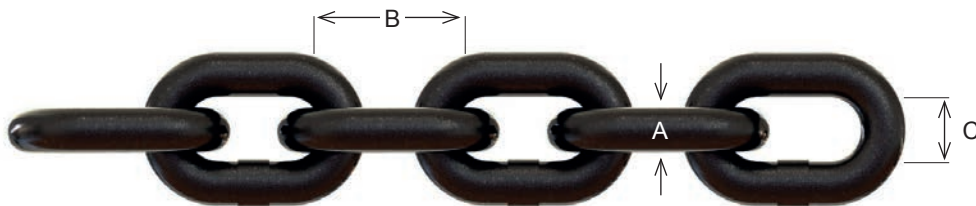
Finish: Red Painted

F.O.S: 4 : 1



Part Code	W.L.L. (t)	Max. Rope Dia. (mm)	Dimensions(mm)				Weight each (Kg)
			A	B	E	L	
MB8.130.SCH	1.6	13	50.0	71	21	132.0	0.68
MB8.160.SCH	2.0	16	63.5	79	23	151.5	1.21
MB8.200.SCH	3.0	20	69.0	103	29	170.0	1.99
MB8.250.SCH	5.0	25	85.7	135	38	213.0	4.18

Grade 8 Short Link Chain



Part Code	Chain Size (mm)	Dimensions (mm)			W.L.L. (t)	Weight Per M (Kg)
		A	B	C		
MB8.080	8	8	24	12	2.00	1.4
MB8.100	10	10	30	15	3.15	2.2

Forestry Equipment

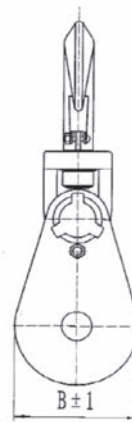
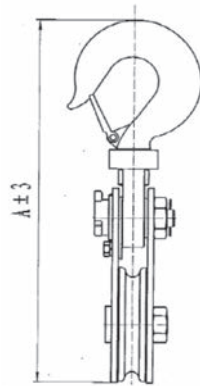
Lightweight Heavy Duty Snatch Block - Hook fitting

Head Fitting: Swivel Hook c/w Latch

Test: Batch Tested and Certified

Finish: Red and Blue Painted

F.O.S: 4 : 1



Part Code	W.L.L. (t)	Rope Diameter (mm)	Dimensions (mm)		Weight each (Kg)
			A	B	
301.01.10	2.0	10	245	76	2.3
301.01.13	4.0	13	366	108	5.7

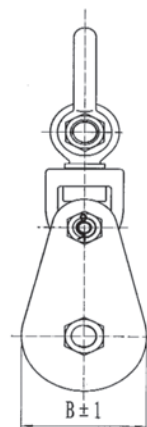
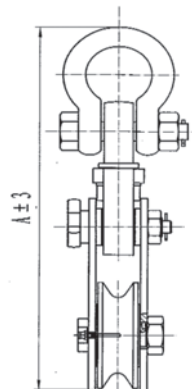
Lightweight Heavy Duty Snatch Block - Shackle fitting

Head Fitting: Swivel Shackle

Test: Batch Tested and Certified

Finish: Red and Blue Painted

F.O.S: 4 : 1



Part Code	W.L.L. (t)	Rope Diameter (mm)	Dimensions (mm)		Weight each (Kg)
			A	B	
301.02.10	2.0	10	245	76	2.3
301.02.13	4.0	13	366	108	5.7

Forestry Equipment

Chain Assemblies and Spare Parts

Pre-assembled Choker Chain Assemblies, supplied in 1.5m and 2m lengths.

8mm chain fitted with Clevis Forest Hook and Clevis Choke Hook or Clevis Forest Hook and 'T' Bar.

10mm chain fitted with Clevis Forest Hook and 'T' Bar.



Other assemblies available on request.

Spare Parts for Chain-Rope Connector Assembly - manufactured in accordance with EN 1677

Test: Batch Tested and Certified

Finish: Red Painted

F.O.S: 4 : 1



Part Code	Chain Size (mm)	Description	Weight each (Kg)
MB8.080.RCP	8	Chain-Rope Connector Plate	0.35
MB8.080.RCS	8	Chain-Rope Connector Slider c/w Bolt	0.30
MB8.100.RCP	10	Chain-Rope Connector Plate	0.55
MB8.100.RCS	10	Chain-Rope Connector Slider c/w Bolt	0.45

Agricultural Equipment

Flail Chains and Components - for side discharge muck spreaders

Howard Range - Case Hardened

Finish: Bright Zinc Plated - Yellow Passivate

Chain Only

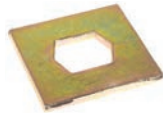
Chain Assembly c/w Head

Part Code	Chain Dia. (inch)	Number Links	Approx. O/Length (mm)
F3F.095.5	3/8"	13	427
F3F.095.5	3/8"	15	512
F9F.095.5	3/8"	19	616
F3F.125.5	1/2"	13	516
F5F.125.5	1/2"	15	592

Part Code	Chain Dia. (inch)	Number Links	Approx. O/Length (mm)	Units per Machine	Machine Type
F3F.095.H	3/8"	13	455	28	SPR100
F5F.095.H	3/8"	15	540	28	SPR150
F9F.095.H	3/8"	19	645	28	SPR250 MKI
F3F.125.H	1/2"	13	548	28	SPR250 MKII
F5F.125.H	1/2"	15	624	28	SPR250 MKII

Spare Parts and Additional Components

Part Code	Description	Units per Machine	Machine Type
637.095.STDC	Standard Head to suit 3/8" chain	28	SPR100 / 150
637.095.HDC	Heavy Head to suit 3/8" - 1/2" chain	28	SPR200 / 250
271.01.11.38	Roll Pin	28	N/A
637.025.SP	100mm x 65mm Sludge Plate	28	SPR100 / 150
637.030.SP	100mm x 76mm Sludge Plate	28	SPR200
637.040.SP	100mm x 100mm Sludge Plate	28	SPR250



Fraser Range - Case Hardened

Finish: Bright Zinc Plated - Yellow Passivate

Chain Only

Chain Assembly c/w Head

Part Code	Chain Dia. (inch)	Number Links	Approx. O/Length (mm)
F3F.125.5	1/2"	13	518
F5F.125.5	1/2"	15	610
F3F.160	5/8"	13	656
F5F.160	5/8"	15	720

Part Code	Chain Dia. (inch)	Number Links	Approx. O/Length (mm)	Units per Machine	Machine Type
F3F.120.FH	1/2"	13	544	22/28/36	MM 450/550/700
F5F.120.FH	1/2"	15	636	36/42	MM 850/1000
F3F.160.FH	5/8"	13	590	28	MM16T
F5F.160.FH	5/8"	15	754	28	MM16T

Spare Parts and Additional Components

Part Code	Description	Units per Machine	Machine Type
637.095.FH	Standard Head to suit 1/2" chain	28	MM 450/550/700/850/1000
637.160.FH	Heavy Head to suit 5/8" chain	28	MM16T
161.01.12.65	Nut and Bolt - Standard head	28	MM 450/550/700/850/1000
161.01.16.80	Nut and bolt - Heavy head	28	MM16T

Agricultural Equipment

Flail Chains and Components - for side discharge muck spreaders

Kidd Range - Case Hardened

Finish: Bright Zinc Plated - Yellow Passivate

Chain Only

Chain Assembly c/w Head

Part Code	Chain Dia. (inch)	Number Links	Approx. O/Length (mm)
F4F.096	3/8"	14	485
F3C.126	1/2"	13	495
F5D.126	1/2"	15	569

Part Code	Chain Dia. (inch)	Number Links	Approx. O/Length (mm)	Machine Type
F4D.096.KMD	3/8"	14	525	600 / 800
F3D.126.KMD	1/2"	13	530	600 / 800
F3D.126.KHD	1/2"	13	566	650
F5D.126.KMD	1/2"	15	604	
F5C.126.KHD	1/2"	15	640	

Spare Parts and Additional Components

Part Code	Description	Machine Type
63A.KLD	Light Duty Head	600 / 800
63A.KMD	Medium Duty Head	600 / 800
63A.KHD	Heavy Duty Head	650
161.01.12.35	Nut and Bolt - Light Duty Head	600 / 800
161.01.12.45	Nut and Bolt - Medium / Heavy Duty head	650



Marshall Range - Case Hardened

Finish: Self Colour

Chain Only

Chain Assembly c/w Head

Part Code	Chain Dia. (inch)	Number Links	Approx. O/Length (mm)
F1C.M55.5	1/2"	11	506
F1C.M70.5	1/2"	11	560
F5C.M85.5	9/16"	15	595

Part Code	Chain Dia. (inch)	Number Links	Approx. O/Length (mm)	Units per Machine	Machine Type
F1C.M55.MLD	1/2"	11	562	20	M55/60
F1C.M55.MHD	1/2"	11	562	8	M55/60
F1C.M70.MLD	1/2"	11	616	20	M70
F1C.M70.MHD	1/2"	11	616	8	M70
F5C.M85.MLD	9/16"	15	650	26/33/32	M85/105/155
F5C.M85.MHD	9/16"	15	650	8/8/8	M85/105/155

Spare Parts and Additional Components

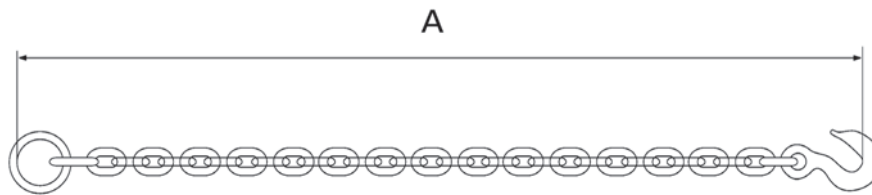
Part Code	Description	Units per Machine	Machine Type
631.MLD	Standard Head	28	M55/60/70/85/105/155
631.MHD	Heavy Head	28	M55/60/70/85/105/155

Agricultural Equipment

Grade 3 Tow Chain

Manufactured in stock sizes or to customer's individual requirements.

Finish: Self Colour



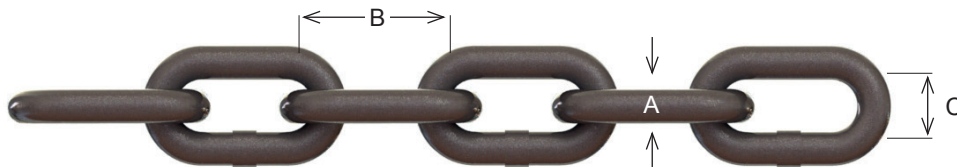
Part Code	Chain Dia. (mm)	Length A (ft)	Towing Capacity (t) not to be used for lifting	Ring size (mm)	Weight Each (Kg)	Additional Weight per ft (Kg)
TM1.095.L10	10	10	2.5	16 x 75	8.0	0.67
TM1.125.L10	12	10	3.5	20 x 75	12.0	0.97
TM1.160.L10	16	10	6.25	25 x 100	21.5	1.77
TM1.190.L10	20	10	10.0	25 x 100	34.5	2.60

The above tow chains can be made from Grade 8 chain and components enabling the sling to have a greater towing capacity. Galvanized finish is available on request.

Rear Discharge Muck Spreader Chain

Calibrated high resistance transmission chain, manufactured from alloy steel and heat treated for optimum tensile strength and wear resistance whilst also allowing for shock absorption. Suits most major rear discharge muck spreaders.

Can be supplied, cut to length, in matched pairs to suit individual customer requirements.



Grade 8 Short Link High Resistance Transmission Chain

Part Code	Chain Size (mm)	Dimensions (mm)			Minimum Breaking Load (t)	Weight Per M (Kg)
		A	B	C		
MB8.130	13	13	39	19	21.2	3.80
MB8.160	16	16	48	24	32.0	5.80
MB8.200	20	20	60	30	50.0	8.50

Grade 8 Mid Link High Resistance Transmission Chain to DIN 22252 Class II

Part Code	Chain Size (mm)	Dimensions (mm)			Proof Force (kN)	Minimum Breaking Force (kN)	Weight Per M (Kg)
		A	B	C			
AM5.140	14	14	50	17	185	246	4.0
AM5.180	18	18	64	21	305	407	6.6
AM5.190	19	19	64.5	22	340	454	7.6
AM5.220	22	22	86	26	456	608	9.5

Agricultural Equipment



Chain Harrows

Our range of chain harrows are manufactured completely at our Cradley factory and are designed to cover all applications from large farms, small holdings and equestrian venues to sports fields.

In order to remain competitive in the world market, we have invested in more efficient machinery and now operate three CNC Robomac automatic wire bending machines to form the parts required for the production of our grass harrows.

Harrowing should be carried out as part of any pasture management programme, in the spring preferably after grazing in conjunction with rolling and before any fertilizer application.

Chain harrows can also be used in arable conditions for seed bed preparation and covering seed after drilling.

When used on sports fields they are very effective at removing and spreading worm casts and ripping out moss.

Chain harrows can be used for levelling all weather race tracks and indoor or outdoor jumping arenas and maneges.

Reasons for harrowing include:

- Pasture renovation; breaking up and levelling heavy soil.
- Removal of dead grass from the base of healthy grass.
- Helping to remove lightly rooted weeds.
- Root aeration; for better water infiltration and growth.
- To work in fertilizer, to both spread and maximize effectiveness.
- Surface levelling in equestrian centres, race tracks, and running tracks.
- Stimulates growth by aerating and tearing out thatch.
- Environmentally friendly grass care.
- Seed bed preparation.
- Excellent for ripping out moss, spreading manure, and levelling mole hills.



Trailed Harrows

Trailed chain harrows include, Heavy Grass, Superflex, Chain & Spike, Concord and Paddock. They are designed to be towed behind tractors or other suitable vehicles.

Trailed chain harrows are available in widths from 4'-0" through to 20'-0". They can be supplied complete with drawbar or sections only.

Universal drawbars are manufactured from heavy duty steel tube complete with chain draft. The drawbars are fitted with a steel attachment bar with welded spacers to allow universal attachment points and are designed to pull the harrows at the correct angle so that the ground is completely covered.



Paddock Harrows

Paddock harrows are designed to cover all applications from small holdings to sports arenas and equestrian centres and are



manufactured from 1/2" diameter high quality high carbon steel which ensures that the harrow is extremely strong with high resistance to wear.

Mounted Harrows

All frame wings have gusset plates welded to the corners to add strength and rigidity to the frame. To make the frames universal, chain links are welded along the front and rear bars so any type of harrow style can be accommodated. Mounted harrows are available in widths of 6'-0" through to 20'-0" wide with a depth of 7'-6", frames of 10'-0" and over have folding wings for ease of transportation.

The smaller frames are rigid and delivered flat packed on pallets. All frames are supplied for self assembly. Mounting brackets are fitted to frames from 12'-0" and over to make retro fitting of the hydraulic folding kit easier.

Folding is a simple one man operation taking only seconds. Hydraulic folding is an optional extra on all folding frames.

Our mounted harrows are designed to pull the harrows at the correct angle so that the ground is completely covered.



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