

Shackles & Rigging Screws

- Dee and Bow
- Arctic
- Aquaculture
- ROV
- Stainless Steel



GUNNEBO
Industries

Shackle

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WARNING:

Failure to read, understand and comply with the following instructions, working load limits and specifications in this publication may result in serious injury or damage to property.

Feel Confident in Every Situation

Our lifting systems are valued for their long durability and high quality. Whether the working environment is hot or cold, our systems assure lifting operations with high safety and functionality.

Gunnebo Industries shackles are made from a range of steel qualities, including acid proof stainless steel and high grade alloy steel to comply with the most stringent specifications. Our workshops comprise all facilities and systems for the manufacturing and control of a top quality product. This includes tool design, an advanced tool shop, forging, heat treatment, machining, hot dip galvanizing and quality control.

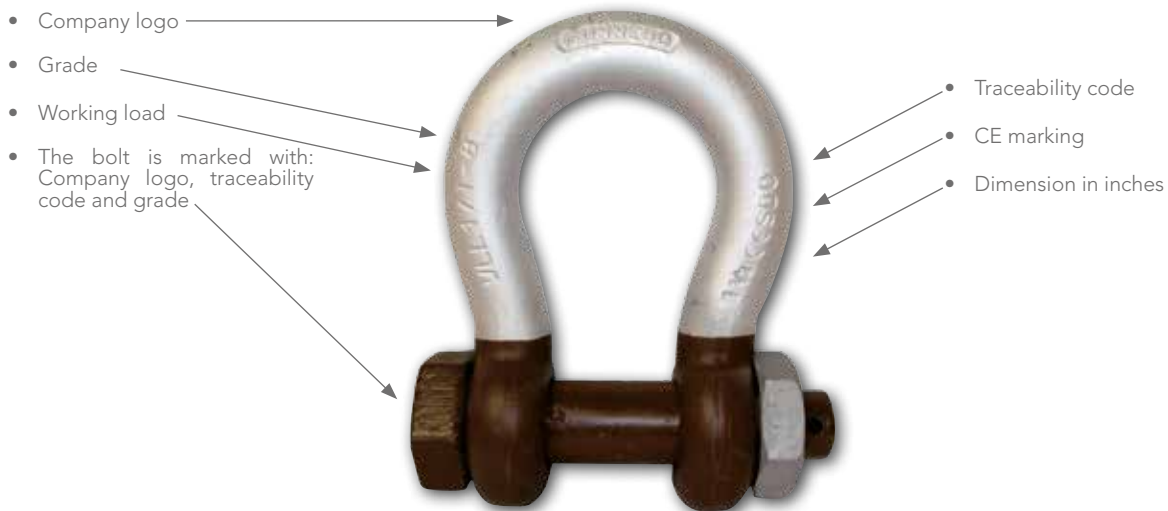
We offer a range of DNV 2.7-1 Type approved lifting shackles for offshore containers, developed for the tough conditions of the offshore industry, where safety must be of the highest priority at all times. The heat treatment of these products ensures the proper ductility and strength to sustain shock loads which may be imposed when the container is lifted from the deck of a vessel.

Furthermore we offer Standard shackles, Super lifting shackles with increased working load limit, ROV shackles, Heavy duty shackles, Wide-Body shackles, Mooring shackles, Stainless Steel shackles etc.

Make sure you have the original

- High quality shackles acc. EN 13889 and U.S. Fed.Spec RR-C. 271 (grade A and grade B)
- Consistent product quality
- Long experience of shackle production using modern manufacturing methods
- Local availability of expertise from Gunnebo Industries subsidiary or distributors

To ensure you have a genuine Gunnebo Industries Shackle, it should be marked as below:



Product documentation

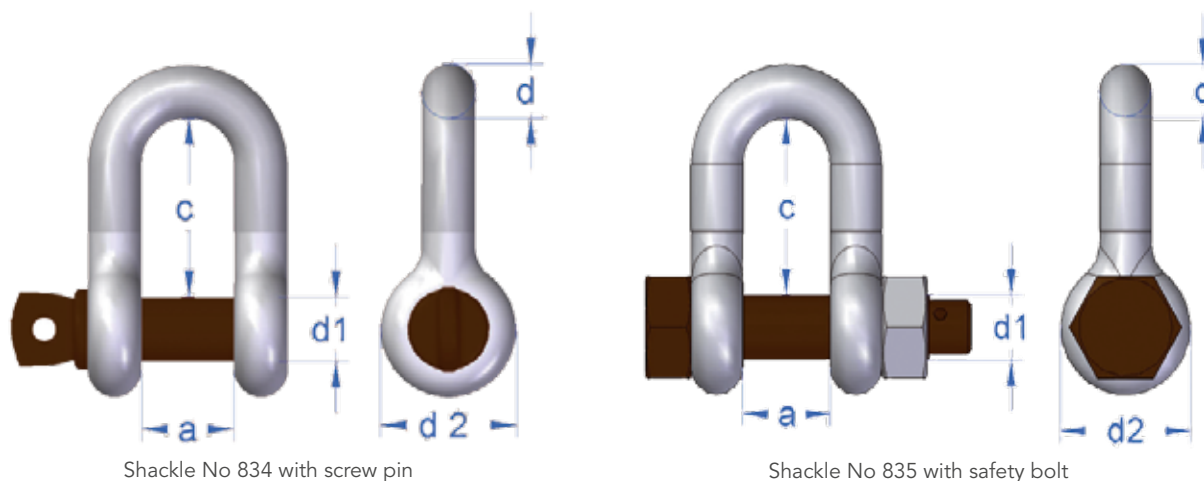
Upon request at time of order, load rated products can be supplied with the following documents:

- Works certificate acc. EN 10204 - 2.1
- Sample certificate of raw material acc. EN 10204 - 3.1
- Test certificate
- Traceable raw material / inspection certificate acc. EN 10204 - 3.1
- Third party proof load documentation



Dee Shackle No 834 and No 835

- Standard: DNV 2.7-1 Type Approved, EN 13889 and U.S Fed. Spec. RR-C-271
 Material: High Tensile Carbon Steel, Quenched and tempered, Grade 6
 Finish: All parts hot dip galvanized, pin brown painted on top of galv.
 Safety factor: 6:1
 Documentation: Test certificate and traceable raw material / inspection certificate acc. EN 10204 - 3.1.
 Sizes from 2 - 55 tonnes can be supplied with DNV 2.7-1 Type Approval Certification.
 Temperature: -20°C to 200°C



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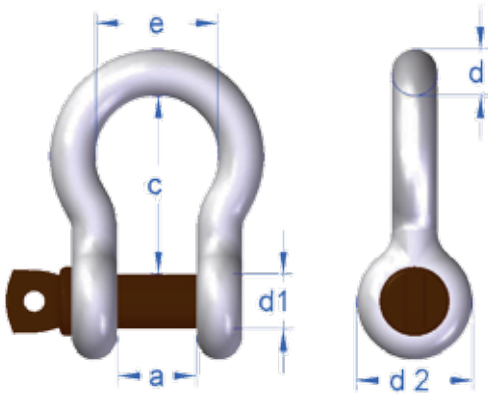
Art. no. Screw pin	Art. no. Safety bolt	WLL tonnes 6:1	Dim. d1	d Trade size		Inner width a*	Inner length c*	Eye outer d2	Screw pin kgs	Safety bolt kgs
				mm	inch					
A083405	-	0.33	6	5	3/16"	10	22	13	0.02	-
A083406	-	0.5	8	7	1/4"	12	25	12	0.06	-
A083408	-	0.75	10	9	5/16"	13.5	27	16	0.11	-
A083409	-	1.0	11	10	3/8"	17	31	20	0.15	-
A083411	-	1.5	13	11	7/16"	18.5	37	22	0.21	-
A083413	A083513	2.0	16	13	1/2"	21	41	33	0.25	0.30
A083416	A083516	3.25	19	16	5/8"	27	51	40	0.55	0.60
A083419	A083519	4.75	22	19	3/4"	31	60	47	1.00	1.10
A083422	A083522	6.5	25	22	7/8"	37	71	52	1.30	1.50
A083425	A083525	8.5	28	25	1"	43	81	60	1.90	2.20
A083428	A083528	9.5	32	28	1 1/8"	46	90	64	2.80	3.10
A083432	A083532	12.0	35	32	1 1/4"	52	100	72	3.60	4.20
A083435	A083535	13.5	38	35	1 3/8"	57	111	74	4.60	5.60
A083438	A083538	17.0	42	38	1 1/2"	60	122	84	6.50	7.50
A083445	A083545	25.0	50	45	1 3/4"	74	149	105	11.50	13.00
A083452	A083552	35.0	57	50	2"	83	171	112	16.00	18.00
-	A083564	55.0	70	65	2 1/2"	105	203	145	-	39.00

* Forging tolerance: +/- 5% on inside width/length.

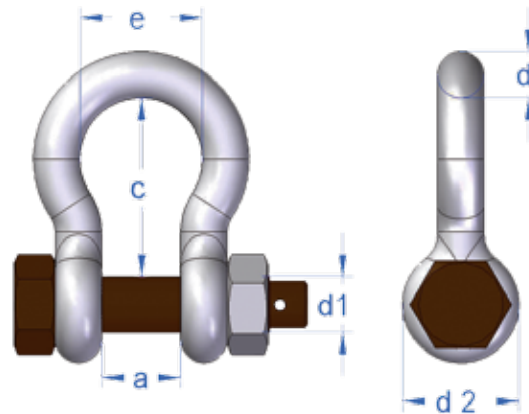
Split pin included

Bow Shackle No 854 and No 855

Standard: DNV 2.7-1 Type Approved, EN 13889 and U.S Fed. Spec. RR-C-271
 Material: High Tensile Carbon Steel, Quenched and tempered, Grade 6
 Finish: All parts hot dip galvanized, brown painted bolts on top of galv.
 Safety factor: 6:1
 Documentation: Test certificate and traceable raw material / inspection certificate acc. EN-10204 - 3.1.
 Sizes from 2 - 85 tonnes can be supplied with DNV 2.7-1 Type Approval Certification.
 Temperature: -20°C to 200°C



Shackle No 854 with screw pin



Shackle No 855 with safety bolt

Art. no. Screw pin	Art. no. Safety bolt	WLL tonnes 6:1	Dim. d1	d Trade size		inner width a*	inner length c*	Bow width e	Eye outer d2	Screw pin kgs	Safety bolt kgs
				mm	inch						
A085405	-	0,33	6	5	3/16"	10	22	16	13	0.02	-
A085406	A085506	0.5	8	6	1/4"	12	29	20	16	0.06	0.07
A085408	A085508	0.75	10	8	5/16"	13	32	21	20	0.11	0.13
A085409	A085509	1.0	11	9	3/8"	16	36	26	22	0.15	0.17
A085411	A085511	1.5	13	11	7/16"	18	43	29	26	0.21	0.25
A085413	A085513	2.0	16	13	1/2"	21	47	33	33	0.37	0.42
A085416	A085516	3.25	19	16	5/8"	27	60	42	40	0.65	0.70
A085419	A085519	4.75	22	19	3/4"	31	71	49	47	1.10	1.20
A085422	A085522	6.5	25	22	7/8"	37	84	60	52	1.50	1.70
A085425	A085525	8.5	28	25	1"	43	95	68	60	2.21	1.50
A085428	A085528	9.5	32	28	1 1/8"	46	108	74	64	3.10	3.40
A085432	A085532	12.0	35	32	1 1/4"	52	119	83	72	4.20	4.80
A085435	A085535	13.5	38	35	1 3/8"	57	132	89	74	6.00	7.00
A085438	A085538	17.0	42	38	1 1/2"	60	146	98	84	8.00	9.00
A085445	A085545	25.0	50	45	1 3/4"	74	178	127	105	13.50	15.00
A085452	A085552	35.0	57	50	2"	83	197	138	112	19.00	21.00
-	A085556	42.5	65	57	2 1/4"	95	222	160	132	-	28.50
A085464	A085564	55.0	70	65	2 1/2"	105	255	185	145	38.00	39.00
-	A085576	85.0	83	75	3"	127	330	190	165	-	62.00
-	**A085589	120 (5:1)	95	95	3 3/4"	146	400	235	208	-	110.00

* Forging tolerance: +/- 5% on inside width/length.
 ** Safety factor 5:1

Split pin included

Arctic Shackle No 856

Bow shackle with safety bolt

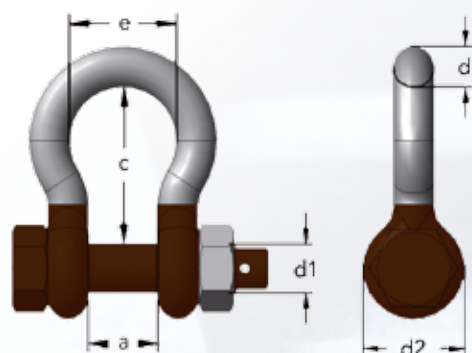
Unique Benefits with The Arctic Shackle

Adverse weather and rough sea conditions in combination with extremely low temperatures, as often encountered in the North Sea for instance, places tough requirements on the products used. Gunnebo Industries has a range of shackles specially designed for these conditions. The Arctic Shackle is type approved to DnV 2.7-1 Offshore containers and meets the impact requirements of 42 J at -40°C .

The Arctic Shackle is a grade 8 shackle with all parts hot dipped galvanized, including the safety bolt, and has the characteristic brown colour marking.



Standard:	DNV 2.7-1, U.S. Fed. Spec. RR.C-271 and EN-13889
Material:	Special Alloy Steel, Quenched and Tempered, Grade 8
Finish:	All parts hot dip galvanized + brown colour marking
Safety factor:	As specified in the table below
Documentation:	Test certificate and traceable raw material / inspection certificate acc. EN-10204 - 3.1 All sizes can be supplied with DNV 2.7-1 Type Approval Certification.
Temperature:	-40°C to 200°C



Art. no.	WLL tonnes	Dim. d1	d Trade size		a	c	d 2	e	Weight kgs	Safety factor
			mm	inch						
A085613	2.0	16	13	1/2"	21	47	33	33	0.42	8.00
A085616	3.25	19	16	5/8"	27	60	40	42	0.7	8.00
A085619	4.75	22	19	3/4"	31	71	47	49	1.2	8.00
A085622	6.5	25	22	7/8"	37	84	52	60	1.7	7.85
A085625	8.5	28	25	1"	43	95	60	68	2.5	7.25
A085628	9.5	32	28	1 1/8"	46	108	64	74	3.4	6.94
A085632	12.0	35	32	1 1/4"	52	119	72	83	4.8	6.40
A085635	13.5	38	35	1 3/8"	57	132	74	89	7	6.10
A085638	17.0	42	38	1 1/2"	60	146	84	98	9	6.00
A085645	25.0	50	45	1 3/4"	74	178	105	127	15	6.00
A085652	35.0	57	50	2"	83	197	119	138	21	6.00
A085664	55.0	70	65	2 1/2"	105	255	145	185	39	6.00
A085676	85.0	83	75	3"	127	330	165	190	62	6.00

Split pin included

Super Shackle No 858

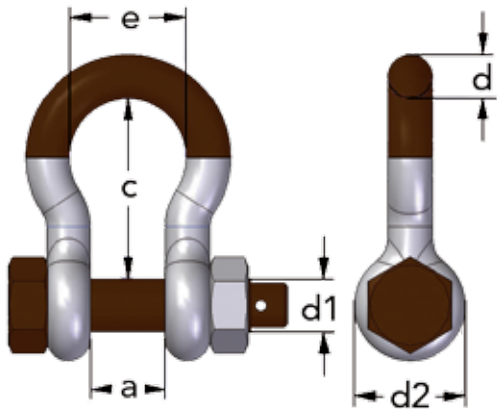
Bow shackle with safety bolt

Unique Benefits with The Super Shackle

In certain situations, a demand for extra Working Load Limit occurs, in others the lifting environment has limited space for the lifting application. Gunnebo Industries has therefore added the Super Shackle to the range, enabling the same Working Load Limit on a 22 mm Super shackle as for a 28 mm Standard shackle.

The Super shackle meets the US Federal Specification RR.C-271. It is a grade 8 shackle and has all parts hot dipped galvanized, including the safety bolt.

- Standard: U.S. Fed. Spec. RR.C-271 Type IVA Class 3, Grade B
- Material: High Tensile Steel. Quenched and Tempered, Grade 8
- Finish: All parts hot dip galvanized + brown colour marking
- Safety factor: 5:1
- Documentation: Test certificate and traceable 3.1 certificate



Art.no	WLL tonnes	Dim. d1	d Trade size		a	c	d2	e	Weight kgs
			mm	inch					
A085813	3.3	16	13	1/2"	21	51	33	33	0.4
A085816	5.0	19	16	5/8"	27	60	40	42	0.7
A085819	7.0	22	19	3/4"	31	71	47	49	1.2
A085822	9.5	25	22	7/8"	37	84	52	60	1.7
A085825	12.5	28	25	1"	43	95	60	68	2.5
A085828	15.0	32	28	1 1/8"	46	108	64	74	3.4
A085832	18.0	35	32	1 1/4"	52	119	72	83	4.8
A085835	21.0	38	35	1 3/8"	57	132	74	89	7
A085838	30.0	42	38	1 1/2"	60	146	84	98	8.8
A085845	40.0	50	45	1 3/4"	74	178	105	127	15
A085857	55.0	57	57	2"	83	197	117	138	22
A085870	85.0	70	70	2 1/2"	105	260	143	180	38
A085883	120.0	83	83	3"	127	329	162	190	70
A085895	150.0	95	95	3 1/2"	144	400	208	238	112

Split pin included

Aquaculture

Because safety is everything

Gunnebo Industries have an in-depth knowledge of the demands aquaculture puts on the products supplied. With over 100 years of experience gained manufacturing shackles and chain for maritime use, which allows us to provide our clients with the highest level of satisfaction, even in the most extreme environments.

Whilst other producers have been focusing on low cost to the detriment of performance, we have focused on quality and improved properties to give best value for money. Products such as our HDG (Hot Dip Galvanized) chain and shackles are designed to satisfy the specific demands from the global fishing industry.

Gunnebo Industries products are the best choice when safety and quality comes first. We have always and will continue to provide the Aquaculture industry with the preferred products available on the market. All of our aquaculture products are independently approved according to Norwegian standard NS 9415. NS 9415 with this being the first national standard for aquaculture mooring systems.

Our continuous focus on quality has been proven by our achievements with the key industry standards:

- Approved acc ISO 9001
- Approved acc ISO 14001
- Product certification acc. NS 9415



Mooring Shackle No 852

Unique Benefits with Mooring Shackle

The Mooring Shackle has a sunken bolt that locks into the shackle to prevent rotation (unintentional loosening of the nut). The sunken bolt also reduces the risk of the shackle interacting with the net. Fatigue resistance is increased by the addition of 25% extra material in the bow (increased life span and safety).

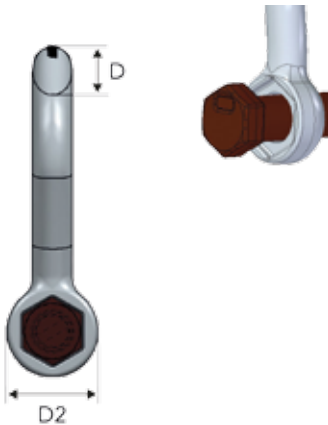
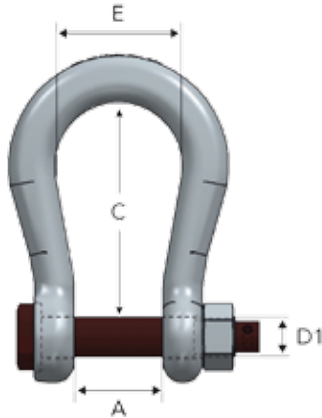
The shackle has a spacious bow for connecting thimbles, rope and mooring/connecting plates.

Standard: Third party approved acc. to relevant Norwegian aquaculture standards

Material: High Tensile Steel. Quenched and Tempered, Grade 6

Finish: All parts hot dip galvanized + brown colour marking

Plastic clip provided as standard safety pin for 28T - 90T,
Stainless steel A4 split pins provided as standard for 110T and 150T

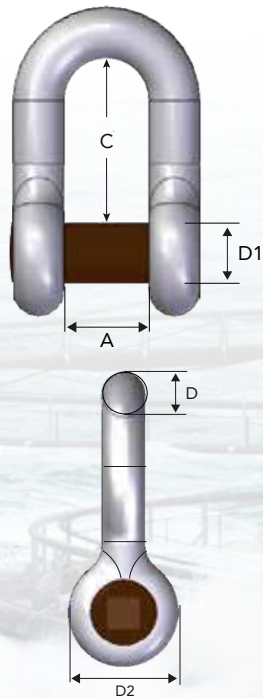


Art.no	MBL tonnes	D Trade size		A	C	E	D2	D1
		mm	inch					
A085219	28	19	3/4"	44	100	58	48	22
*A085222	40	22	7/8"	52	125	68	52	25
*A085228	60	28	1 1/8"	62	150	89	64	28
*A085232	90	32	1 1/4"	82	170	98	72	32
A085242	110	42	1 5/8"	112	200	150	90	45
A085245	150	45	1 3/4"	126	248	175	105	50

* These sizes come with a sunken hexagon bolt head that will greatly reduce the risk of the bolt unscrewing in service as well as making the fitting easier for the user.

Customized securing options

- Clips (28T to 40T) - Yellow
- Clips (60T to 90T) - Green
- Plastic covered seizing wire
- Plastic covered steel wire
- Stainless steel cotter pin



Countersunk Shackle No 830

Standard: Third party approved acc. to relevant Norwegian aquaculture standards

Material: High Tensile Steel. Quenched and Tempered, Grade 6

Finish: All parts hot dip galvanized + brown colour marking

Art.no	Art.no*	WLL tonnes	Dim. D		A	C	D1	D2
			mm	inch				
A083013	A083013DP	2.0	13	1/2"	21	41	16	33
A083016	A083016DP	3.25	16	5/8"	27	51	19	40
A083019	A083019DP	4.75	19	3/4"	31	60	22	48
A083022	A083022DP	6.5	22	7/8"	37	71	25	52
A083025	A083025DP	8.5	25	1"	43	81	28	60

* Countersunk Shackles can also be supplied with a secondary securing for Double Protection (DP), for mooring applications.

NEW

Long link Chain LLZ - see chapter 5



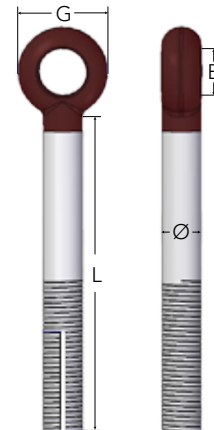
Mooring bolt - Eye Bolt No 8250

Standard: Third party approved acc. to relevant Norwegian aquaculture standards

Material: High Tensile Steel. Quenched and Tempered, Grade 6

Finish: All parts hot dip galvanized + brown colour marking

Art.no	MBL tonnes	Dim Ø x L	G	E
A825032	40	Ø32 x 400	72	37
A825038	60	Ø38 x 500	84	44
A825045	80	Ø45 x 600	105	47



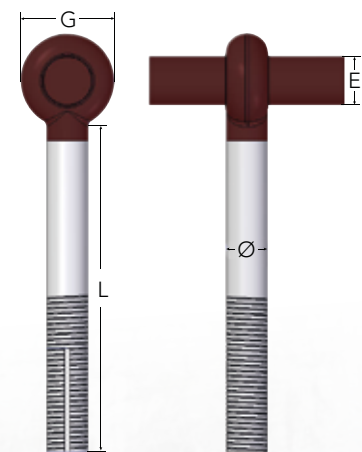
Mooring bolt - T-bolt No 8252

Standard: Third party approved acc. to relevant Norwegian aquaculture standards

Material: High Tensile Steel. Quenched and Tempered, Grade 6

Finish: All parts hot dip galvanized + brown colour marking

Art.no	MBL tonnes	Dim Ø x L	G	E
A825232	40	Ø32 x 400	72	35
A825235	50	Ø35 x 400	76	38
A825238	60	Ø38 x 500	84	42
A825245	80	Ø45 x 600	105	45
A825250	100	Ø50 x 700	110	50



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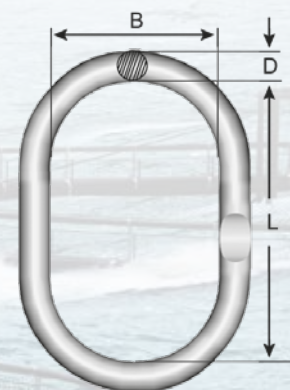
Galvanized Master Link

Standard: Third party approved acc. to relevant Norwegian aquaculture standards

Material: High Tensile Steel. Quenched and Tempered, Grade 6

Finish: All parts hot dip galvanized

Art.no	MBL tonnes	Dim Ø - D	B	L
A825922	40	Ø22	95	160
A825928	60	Ø28	110	190
A825934	80	Ø34	140	240
A825940	110	Ø40	150	250

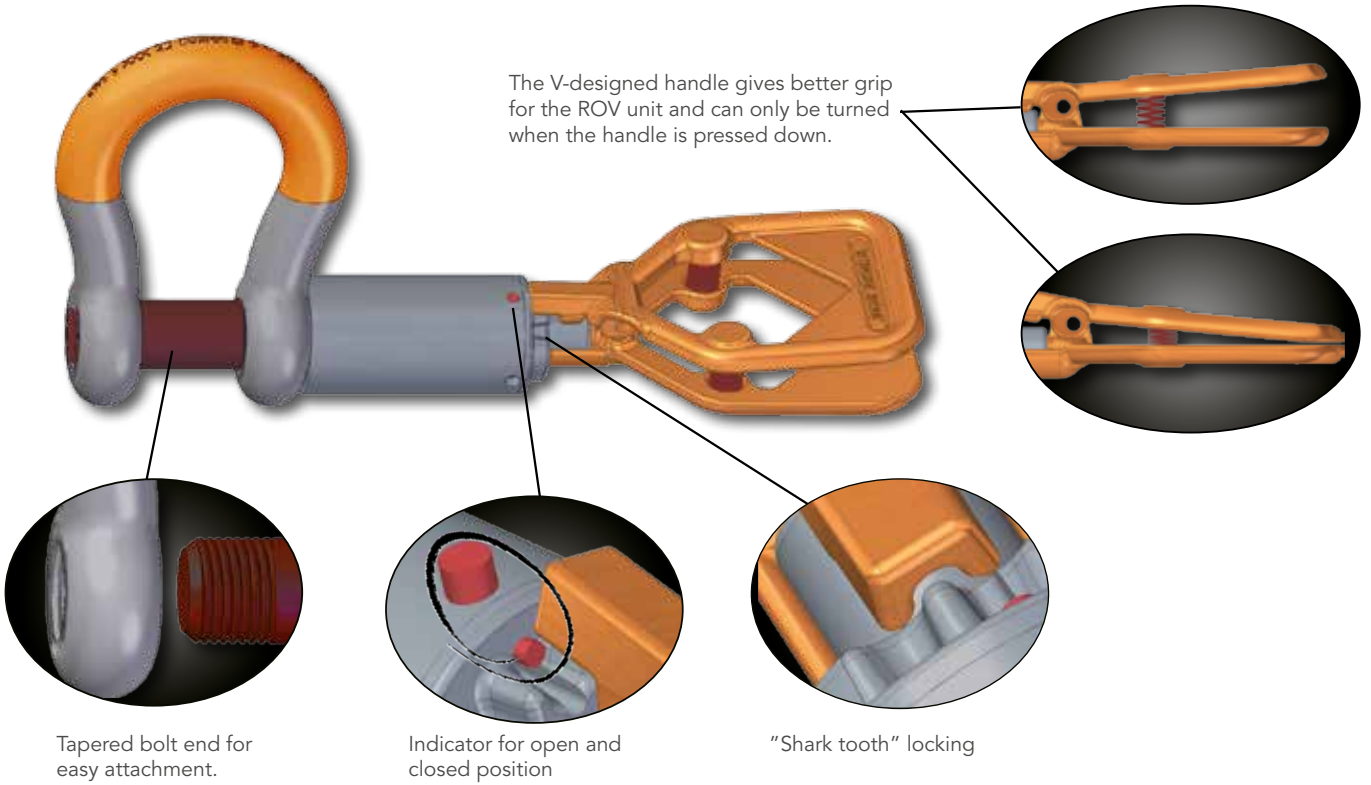


ROV Shackles

The ROV Retrieve Shackle is designed for smooth and easy use in retrieving and releasing subsea lifting and rigging operations. It has no loose parts, in closed or opened position, and there is therefore no need for wires or monkey fists that will risk snagging or getting in the way.

The high visibility handles are close-die forged and has double safety functions - shark tooth locking with indicator that will show if the shackle is in open or locked position as well as the spring loaded handle. The handle is the same size, regardless of size of shackle.

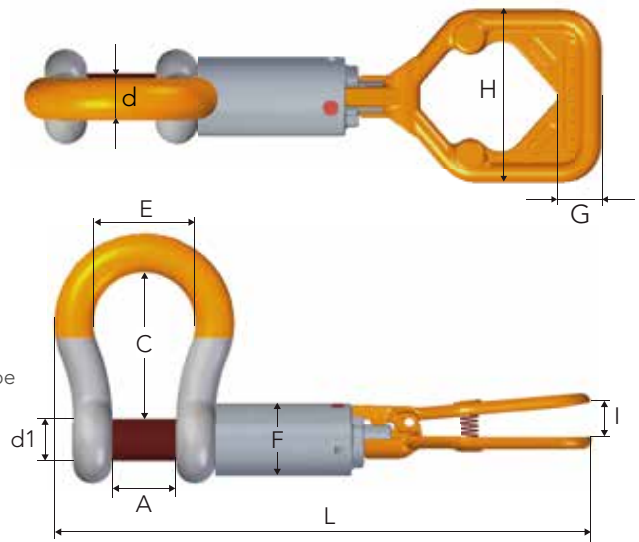
The ROV Retrieve Shackle no. 861 is an easy to operate shackle, saving valuable time and money.



ROV Retrieve Shackle No 861

All shackles have unique marking

- Standard: Dim. according to EN 13889
- Material: High Tensile Steel, Quenched and Tempered
- Finish: All load bearing parts hot dip galvanized
- Safety factor: 6:1
- Documentation: Test certificate and traceable 3.1 certificate can be supplied on request
- Temperature: -40 °C to 200 °C



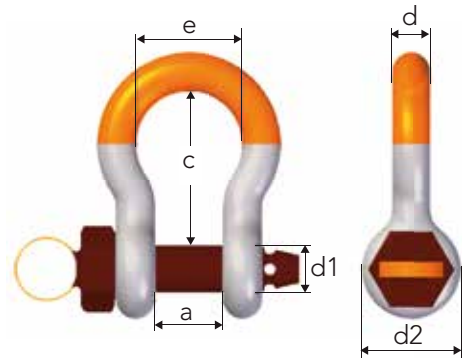
Art. no	WLL tonnes	d1	d	A	C	E	F	L	I	H	G	Weight kg
A086132	12.0	35	32	52	119	83	60	460	31	132	33	8.0
A086138	17.0	42	38	60	146	98	63.5	501	31	132	33	10.5
A086145	25.0	50	45	74	178	127	70	565	31	132	33	16.5
A086152	35.0	57	50	83	197	138	76	604	31	132	33	20.5
A086164	55.0	70	65	105	255	185	88	712	31	132	33	42.0

ROV Shackle No 860

Threaded bolt with one locking pin

Standard:	Dim. according to EN 13889
Material:	High Tensile Steel, Quenched and Tempered
Finish:	All load bearing parts hot dip galvanized
Safety factor:	6:1
Documentation:	Test certificate and traceable 3.1 certificate can be supplied on request
Temperature:	-40 °C to 200 °C

Art. no.	WLL tonnes	d1	d	a	c	d2	e	Weight kgs
A086028	9.5	32	28	46	108	64	74	3.4
A086032	12.0	35	32	52	119	72	83	5.0
A086038	17.0	42	38	60	146	84	98	7.8
A086045	25.0	50	45	74	178	105	127	13.9
A086052	35.0	57	50	83	197	127	138	17.0
A086064	55.0	70	65	105	255	152	185	37.0



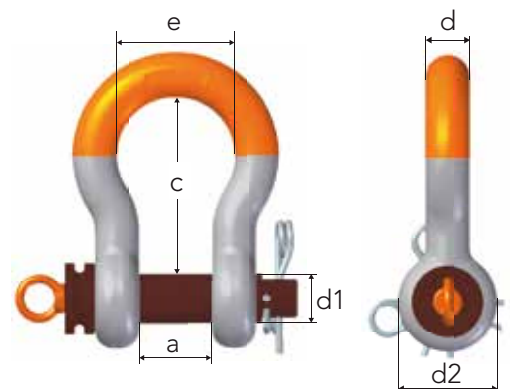
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ROV Release Shackle No 863

Equipped with bolt and 2 locking pins

Standard:	Dim. according to EN 13889
Material:	High Tensile Steel, Quenched and Tempered
Finish:	All load bearing parts hot dip galvanized
Safety factor:	5:1
Documentation:	Test certificate and traceable 3.1 certificate can be supplied on request
Temperature:	-40 °C to 200 °C

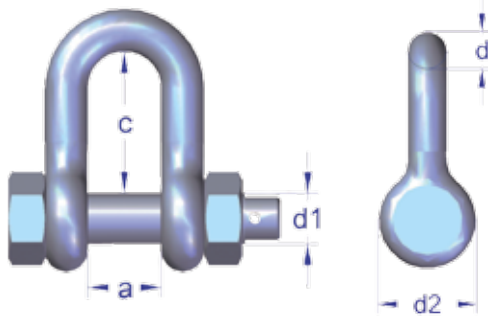
Art. no.	WLL tonnes	d1	d	a	c	d2	e	Weight kgs
A086322	6.5	25	22	37	84	52	58	1.6
A086328	9.5	32	28	46	108	64	74	3.4
A086332	12.0	35	32	52	119	72	83	5.0
A086338	17.0	42	38	60	146	84	98	7.8
A086345	25.0	50	45	74	178	105	127	13.9
A086352	35.0	57	50	83	197	127	138	17.0
A086364	55.0	70	65	105	255	152	185	37.0



Stainless Steel Shackle No 735

Dee shackle with safety bolt

Material: AISI 316
 Finish: Highly Polished
 Safety factor: 6:1
 Documentation: Test certificate and traceable 3.1 certificate can be supplied



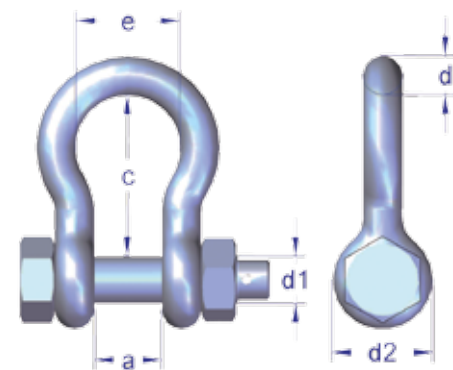
Art. no.	WLL tonnes	d1	d	a	c	d2	Weight kgs
A073510	0.6	10	10	20	38	20	0.2
A073512	0.9	12	12	26	50	24	0.3
A073516	1.5	16	13	24	52	33	0.4
A073520	2.5	19	16	28	65	40	0.7
A073522	3.0	22	19	31	60	48	1.5
A073524	4.5	25	22	37	71	52	1.3
A073533	7.5	32	28	46	90	64	3.0
A073536	10.0	35	32	52	100	72	4.1

Split pin included

Stainless Steel Shackle No 755

Bow shackle with safety bolt

Material: AISI 316
 Finish: Highly Polished
 Safety factor: 6:1
 Documentation: Test certificate and traceable 3.1 certificate can be supplied



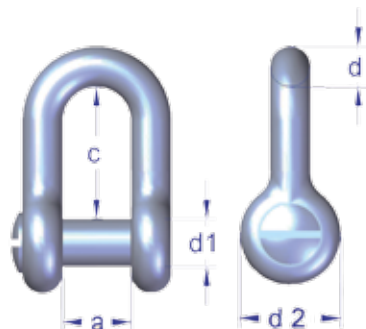
Art. no.	WLL tonnes	d1	d	a	c	e	d2	Weight kgs
A075510	0.6	10	10	20	36	27	20	0.2
A075512	0.9	12	12	25	47	37	26	0.3
A075516	1.5	16	13	25	47	33	33	0.4
A075520	2.5	20	16	28	60	42	40	0.8
A075522	3.0	22	19	31	71	51	48	1.3
A075524	4.5	25	22	37	84	58	52	1.7
A075533	7.5	32	28	46	108	74	64	3.4
A075536	10.0	35	32	52	119	83	72	5.2

Split pin included

Stainless Steel Shackle No 732

Dee shackle with countersunk pin

Material: AISI 316
 Finish: Highly Polished
 Safety factor: 6:1
 Documentation: Test certificate



Art. No.	WLL tonnes	Dim. d1 mm	d1	d	a	(c)	d2	Weight kgs
A073216	2.0	M16	16	13	24	52	32	0.3
A073217	2.0	M16	16	16	32	64	32	0.3
A073220	3.0	M20	20	16	28	65	40	0.6
A073222	3.0	M22	22	19	31	60	46	1.4

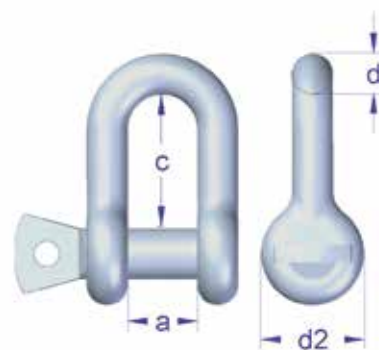
Stainless Steel Shackle No 730

Dee shackle with screw pin

Material: AISI 316

Art. no.	MBL tonnes	Dim. d1 mm	d	a	c	d2	Weight kgs
A073004		M4	4	8	15	9	0.01
A073005	1.2	M5	5	10	17	10	0.01
A073006	1.8	M6	6	12	24	12	0.03
A073008	2.8	M8	8	16	30	16	0.06
A073010	4.3	M10	10	20	38	20	0.1
A073012	6.5	M12	12	26	50	24	0.2
A073016	12.0	M16	13	24	52	33	0.3
A073020	16.0	M20	16	28	65	40	0.6
A073022	20.0	M22	19	30	72	48	0.9

Not certified for lifting



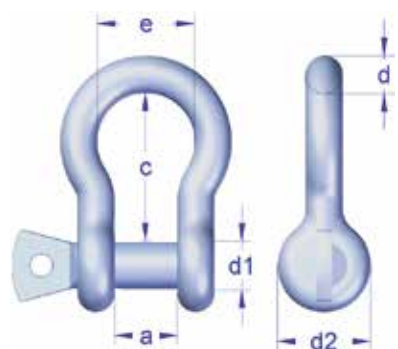
Stainless Steel Shackle No 750

Bow shackle with screw pin

Material: AISI 316

Art. no.	MBL tonnes	Dim. d1 mm	d1	d	a	c	e	d2	Weight kgs
A075004		M4	4.0	4	8	18	13	9	0.01
A075005	1.2	M5	5.0	5	10	18	15	10	0.02
A075006	1.8	M6	6.0	6	12	22	17	12	0.03
A075008	2.8	M8	8.0	8	16	30	23	16	0.07
A075010	4.3	M10	10.0	10	20	36	27	20	0.11
A075012	6.5	M12	12.0	12	25	47	37	26	0.25
A075016	12.0	M16	13.0	13	25	47	33	33	0.33
A075020	16.0	M20	16.0	16	28	60	42	40	0.96
A075022	20.0	M22	19.0	19	31	71	51	48	1.0

Not certified for lifting



Shackle SA

Grade 8

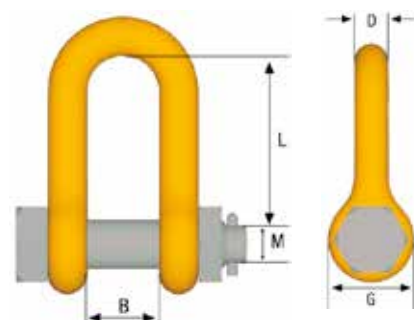
EN 1677-1

Finish: Painted yellow

Material: Alloy steel

Safety factor: 4:1

Art. no.	Code	WLL tonnes	For chain dim. mm	L	B	D	G	M	Weight kgs appr.
Z100706	SA-7/8-8	2.0	7, 8	30	15	8	20	M10	0.1
Z298728	SA-10-8	3.2	10	52	24	13	35	M16	0.4
Z292528	SA-13-8	5.4	13	65	28	16	42	M20	0.7
Z293024	SA-16-8	8.0	16	72	30	18	46	M22	1
Z299622	SA-19-8	11.5	19	86	36	22	55	M27	1.7
Z294122	SA-22-8	15.5	22	94	40	25	62	M30	2.5
Z304328	SA-26-8	21.6	26	116	48	32	75	M39	5.2



Split pin included

Clevis Shackle GSA

Grade 8

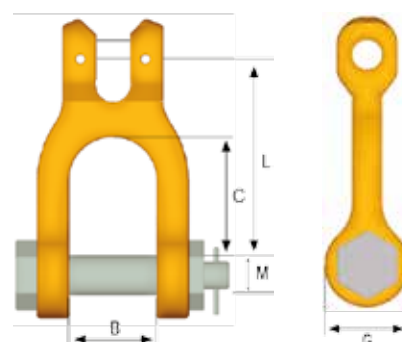
EN 1677-1

Finish: Painted yellow

Material: Alloy steel

Safety factor: 4:1

Art. no.	Code	WLL tonnes	For chain dim. mm	B	C	G	L	M	Weight kgs appr.
Z700882	GSA-7/8-8	2.0	7, 8	32	36	34	60	16	0.4
Z700883	GSA-10-8	3.15	10	34	48	40	80	20	0.8
Z700884	GSA-13-8	5.3	13	50	65	44	98	22	1.4
Z700885	GSA-16-8	8.0	16	60	70	54	114	27	2.4



Split pin included

Alloy Steel Rigging Screw, No 801, 802, 804

Grade 6

Standard: Working load acc. to U.S. Fed. spec. FF-T-791.b
Supplied with closed body from 2,5-17 T, larger dimensions open body.

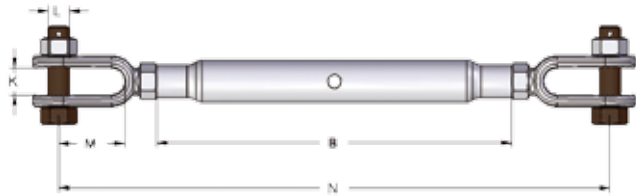
Material: Quenched and tempered alloy steel

Surface treatment: Hot dip galvanized

Safety factor: 5:1

Certificate: Test certificate and traceable 3.1 certificate can be supplied on request.

Tolerances: +/- 5%



Art. no. Jaw/Jaw	Art. no. Jaw/Eye	Art. no. Eye/Eye	Thread M/UNC	WLL tonnes	Take up range mm	B	N	K	L	M	F	G	H	Weight kgs/ea
A801420	A802420	A804420	M 20	2.5	210	270	455	20	16	50	13	21	45	2.3
A801424	A802424	A804424	M 24	5.0	250	340	570	28	22	65	19	28	56	4.6
A801432	A802432	A804432	1.1/4"	7.0	270	370	680	38	28	85	22	35	70	8.0
A801438	A802438	A804438	1.1/2"	10.0	300	420	790	45	32	100	25	40	78	14.0
A801445	A802445	A804445	1.3/4"	13.0	360	500	870	50	39	105	30	45	90	24.0
A801450	A802450	A804450	2"	17.0	450	600	1030	58	45	120	35	45	100	38.0
A801464			*2.1/2"	27.2	534	780	1312	75	57	142				88.0
A801470			*2.3/4"	34.0	576	780	1418	90	70	145				98.0

* Open turnbuckle body without nut and split pin

Rigging Screw No 401, 402 - Hot Dip Galvanized

Design: Jaw-Jaw (jaw-eye and eye-eye on request)

Standard: Acc.to B.S. 4429, closed body - with locking nut

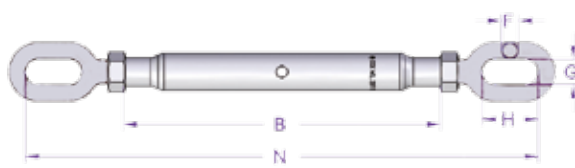
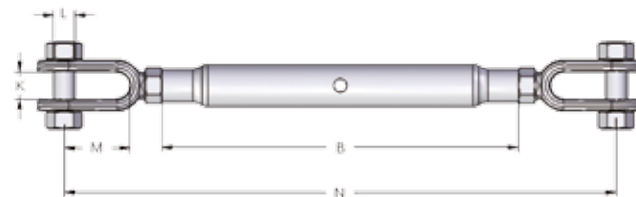
Material: St. 42/St. 52, normalized

Surface treatment: Hot dip galvanized (M6 & M8 zinc plated)

Safety factor: 5:1

Note: The items marked with * below are not for lifting

Tolerances: +/-5%



Art. no. Jaw/ Jaw	Art. no. Jaw/ Eye	Art.no Eye/Eye	Thread M/ UNC	WLL tonnes	Take up range (mm)	B	N	L	M	K	F	G	H	Weight kg/pcs
	*A402406		M 6	-	80	100	175	5	18	8	5	10	10	0.13
	*A402408		M 8	-	85	110	210	6	21	9	6	12	12	0.25
A401510	*A402410	*A404410	M 10	0.5	90	125	225	8	20	9.5	7	13	13	0.3
A401512	*A402412	*A404412	M 12	0.7	155	195	315	10	30	13	10	14	28	0.65
A401516	*A402416	*A404416	M 16	1.2	185	230	380	12	44	18	12	18	45	1.25
A401520	A402420	A404520	M 20	1.5	210	270	450	16	50	20	13	21	45	2.2
A401422	A402422	A404422	M 22	2.2	230	295	500	20	60	25	16	24	50	3.3
A401424	A402424	A404424	M 24	3.2	250	325	555	22	65	28	19	28	56	4.6
A401432	A402432	A404432	1.1/4"	4.8	290	370	680	28	85	38	22	35	70	8.5
A401438	A402438	A404438	1.1/2"	6.0	300	400	760	32	100	45	25	40	90	14.5
A401445	A402450	A404445	1.3/4"	8.5	290	400	760	38	105	50	30	45	90	20.9
A401452	A402452	A404452	2"	11.0	290	400	820	45	120	58	35	45	100	24.0

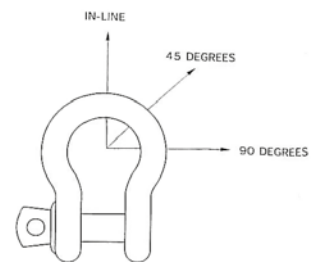
Technical Information

2006/42/EC highlights the responsibility of the manufacturer, distributor and end user of lifting gear. Gunnebo Industries shackles are specified, monitored and documented in compliance with the most stringent requirements for the product concerned. A certified ISO 9001:2008 system is an evidence of our quality standard.

Instructions For Safe Use

1. The user is obliged to keep a valid Test Certificate for any shackle being used in a lifting operation.
2. Before use each shackle should be inspected to ensure that:
 - all markings in the body and the pin of the shackle are legible and in compliance with the relevant Test Certificate.
 - the shackle pin is of the correct type.
 - the body and pin are not distorted or unduly worn.
 - The body and pin are free from nicks, cracks, grooves and corrosion.
 - If there is any doubt with regards to the above criteria being met, the shackle should not be used for a lifting operation.
3. It is important to ensure that the pin is safely locked after assembly. For repeated lifting between inspections of the gear, it is recommended to use a safety bolt type shackle with nut and split-pin - the user must ensure that the split-pin is fitted, to prevent the nut from unscrewing during use.
4. Incorrect seating of a pin may be due to a bent pin, damaged threads or misalignment of the holes. Do not use the shackle under these circumstances, but refer the matter to a competent person (i.e. dealer, manufacturer)
5. Shackles should be fitted to the load in a manner that allows the shackle body to take the load in a true line along its centreline to avoid undue bending stresses which will reduce the load capacity of the shackle. When using shackles in conjunction with multi-leg slings, due consideration should be given to the effect of the angle between the sling legs. When a shackle is used to secure the top block of a set of rope blocks the load on this shackle is increased by the value of the hoisting effect.
6. To avoid eccentric loading of the shackle it is recommended to distribute the load as far as possible over the total length of the pin or to use loose spacers.
7. Never modify, repair or reshape a shackle by welding, heating or bending as this will affect the nominal WLL.
8. Never heat treat a shackle as this may affect the WLL.

Side loads should be avoided as the products are not designed for this purpose. If side loads cannot be avoided, the following reduction factors must be taken into account:

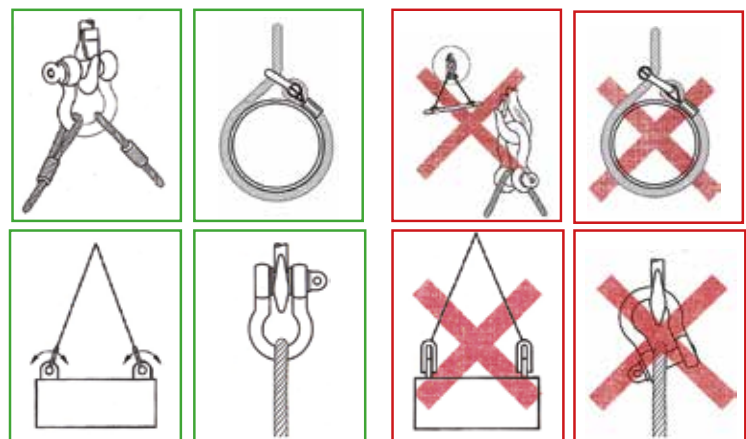


Reduction for side loading

Load angle	New Working Load Limit
0°	100% of original WLL
45°	70% of original WLL
90°	50% of original WLL

Avoid applications where, due to load movement, the shackle pin can rotate

Shackle must be loaded in straight direction



Temperature

If extreme temperature situations are applicable, the following load reductions must be taken into account

Reduction for elevated temperatures

Temperature:	New Working Load Limit
0 - 200 °C	100% of original Working Load Limit
200 - 300 °C	90% of original Working Load Limit
300 - 400 °C	75% of original Working Load Limit
> 400 °C	not allowed