

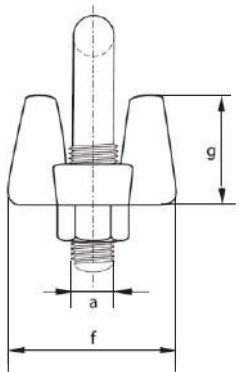
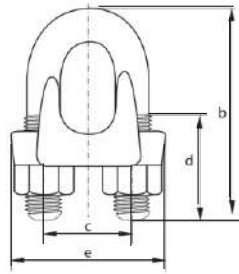


Ableforge wire rope clips

generally to EN 13411-5 Type B

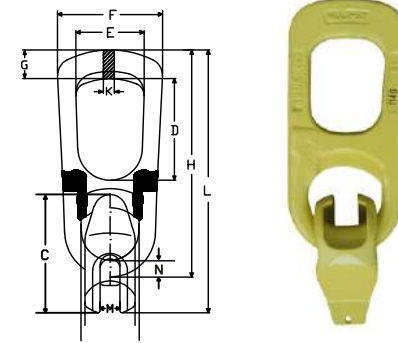
Material : Bridge : drop forged high tensile steel SAE 1045
 U-bolt : SAE 1015
 Standard : EN 13411-5 Type B
 Formerly U.S. Federal Specification FF-C-450D
 Finish : Hot dipped galvanized
 U-bolt and/or nuts for diameter bow 5, 6, 8 and 10mm are electro galvanized
 Certification : 2.1

Product code	Diameter wire rope	Diameter	length bow	width inside	length thread	Length base	thickness base	height base	Weight per 100 pcs
	mm	a mm	b mm	c mm	d mm	e mm	f mm	g mm	kg
WRC 004	4	5	24	12	11	24	21	10	2
WRC 005	5	6	31	15	13	29	24	13	4
WRC 007	7	8	34	19	13	37	30	8	8
WRC 008	8	10	45	22	19	43	33	19	13
WRC 010	10	11	49	26	19	49	42	25	19
WRC 011	11	12	60	30	25	58	46	26	33
WRC 013	13	13	61	30	25	58	48	31	34
WRC 015	15	14	72	33	32	63	52	31	45
WRC 016	16	14	74	33	32	64	54	36	45
WRC 020	20	16	86	38	37	72	57	38	68
WRC 022	22	19	98	45	41	80	62	40	108
WRC 026	26	19	108	48	46	88	67	47	113
WRC 030	30	19	117	51	51	91	73	48	140
WRC 034	34	22	130	59	54	105	79	56	207
WRC 036	36	22	140	60	59	108	79	58	234
WRC 040	40	22	147	66	60	112	85	64	254
WRC 042	42	25	161	70	67	121	92	67	329
WRC 046	46	29	174	78	70	134	97	76	441
WRC 052	52	32	195	86	78	150	113	85	603
WRC 058	58	32	213	98	81	162	116	100	707
WRC 065	65	32	227	105	87	168	119	113	806



Markings
 All tested clips come standard with the following markings:
 1. Manufacturer's mark
 2. Batch mark
 3. Size in Inches

Product code	Diameter wire rope	Diameter	length bow	width inside	length thread	Length base	thickness base	height base	Weight per 100 pcs
	inch	a inch	b inch	c inch	d inch	e inch	f inch	g inch	lbs
WRC 004	1/8	3/16	15/16	15/32	7/16	15/16	13/16	13/32	4.4
WRC 005	3/16	1/4	1 7/32	19/32	1/2	1 5/32	15/16	1/2	8.8
WRC 007	1/4	5/16	1 11/32	3/4	1/2	1 15/32	1 3/16	23/32	17.6
WRC 008	5/16	13/32	1 25/32	7/8	3/4	1 11/16	1 5/16	3/4	28.7
WRC 010	3/8	7/16	1 15/16	1 1/32	3/4	1 15/16	1 21/32	31/32	42
WRC 011	7/16	15/32	2 3/8	1 3/16	31/32	2 9/32	1 13/16	1 1/32	73
WRC 013	1/2	1/2	2 13/32	1 3/16	31/32	2 9/32	1 7/8	1 7/32	75
WRC 015	9/16	9/16	2 27/32	1 5/16	1 1/4	2 19/32	1 1/16	1 7/32	99
WRC 016	5/8	9/16	2 29/32	1 5/16	1 1/4	2 17/32	2 1/8	1 13/32	99
WRC 020	3/4	5/8	3 3/8	1 1/2	1 15/32	2 27/32	2 1/4	1 1/2	150
WRC 022	7/8	3/4	3 27/32	1 25/32	1 5/8	3 5/32	2 7/16	1 9/16	238
WRC 026	1	3/4	4 1/4	1 7/8	1 13/16	3 15/32	2 5/8	1 7/8	249
WRC 030	1 1/8	3/4	4 19/32	2	2	3 19/32	2 7/8	1 7/8	309
WRC 034	1 1/4	7/8	5 1/8	2 5/16	2 1/8	4 1/8	3 1/8	2 7/32	456
WRC 036	1 3/8	7/8	5 1/2	2 3/8	2 5/16	4 1/4	3 1/8	2 9/32	516
WRC 040	1 1/2	7/8	5 25/32	2 19/32	2 3/8	4 13/32	3 11/32	2 17/32	560
WRC 042	1 5/8	31/32	6 11/32	2 3/4	2 5/8	4 3/4	3 5/8	2 5/8	725
WRC 046	1 3/4	1 5/32	6 27/32	3 1/16	2 3/4	5 9/32	3 13/16	3	972
WRC 052	2	1 1/4	7 11/16	3 3/8	3 1/16	5 29/32	4 7/16	3 11/32	1329
WRC 058	2 1/4	1 1/4	8 3/8	3 27/32	3 3/16	6 3/8	4 9/16	3 15/16	1559
WRC 065	2 1/2	1 1/4	8 15/16	4 1/8	3 7/16	6 5/8	4 11/16	4 7/16	1777



Regularly Check Table		
WLL(T)	M max(mm)	N min(mm)
1.3	13	5.5
2.5	18	5.5
5	25	8
10	32	12
20	46	18
32	58	24

ABLE Mushroom Clutch should be checked regularly as per the Regularly Check Table.

WARNING ANCHOR AND CLUTCH MUST BE MATCHED.

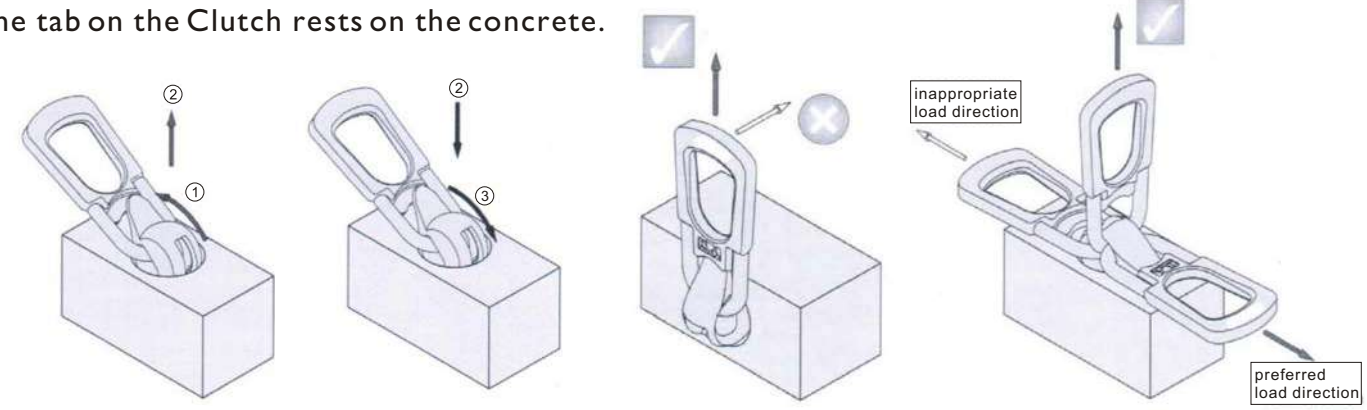
ABLE Mushroom Clutch are a versatile lifting product for lifting pre-cast concrete products such as construction panels, pipes, columns etc.

- Marked with workload limit, serial number and ABLE branded.
- Made from G80 alloy steel with a safety factor of 5 to 1.
- Conforms to AS3850, Test Certificates available with each unit.

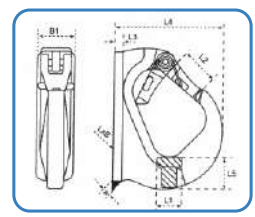
Product code	WLL tonne	Wt. kg	C mm	D mm	DIMENSIONS				
					E mm	F mm	H mm	M mm	L mm
MC01	1.3	0.89	80.4	70.5	45	73	157	11.5	181
MC02	2.5	1.3	99	85	57	88	190	16	220
MC05	5	3.24	133	88	69	110	233	22	271
MC10	10	10	176	116	83	161	336.5	30	386
MC20	20	20.37	228	133.5	107.5	182	437	42	497
MC32	32	47	325	188	160	272	555	52	760

ABLE MUSHROOM CLUTCH INSTALLATION AND CORRECT LIFT DIRECTION

Rotate the slot in the Clutch into the void and over the head of the Anchor until the tab on the Clutch rests on the concrete.



Model: WH



WELD ON HOOK WH SERIES

Manufactured from treated alloy steel, these Weld-On Hooks are the solution to lifting and spreader beam attachment Problems or for any fixed anchor points. Designed with safety in mind, the hook allows for axial loading and positive locking of the safety latch which incorporates a stainless steel spring. Ensure welding instructions are followed.

WARNING
 Inspection prior to use as per ABLE operating manual

- Welding surfaces must be cleaned thoroughly.
- Welding operations must be continuous.
- Preheat welding surfaces if temperature below 10°C
- Use basic coated electrodes AS 1553.1: E4848 Grade 4-6 AWSA 5.1: E7018-1 or equivalent.

Product Code	Capacity (kg)	Welding Size a (mm)	Dimensions (mm)					Weight (kg)	
			L×B	L1	L2	L3	L4		L5
WH10	1000	4	90×25	17	24	6	76	22	0.40
WH30	3000	5	130×35	24	29	8	105	28	1.45
WH50	5000	5	160×45	30	37	10	132	47	2.50
WH80	8000	7	170×50	40	47	10	138	50	3.85

Applications

Wire rope clips are used on wire rope eye-loop connections or complete loops, end-to-end connections where socketing or splicing is not feasible or when a temporary joint is required.

Range

Ableforge offers a wide range of wire rope clips, specifically standardized models such as EN13411-5 and DIN wire rope clips.

Design

Ableforge wire rope clips are drop forged and have a bridge with grooves to tighten the wire rope properly in the clip; the DIN wire rope clips have a malleable base, without grooves.



Finish

The finish is hot dipped galvanized.

Certification

Specific details of certificate availability can be found on each product page. Please verify your certification requirements with Ableforge at time of order.

Instructions for use

Wire rope clips should be inspected before use to ensure that:

- . all markings are legible;
- . a wire rope clip with the correct dimensions has been selected;
- . the nuts or any other locking system cannot vibrate out of position;
- . the wire rope clip is free from nicks, gouges and cracks;
- . never modify, repair or reshape a wire rope clip by machining, welding, heating or bending as this may affect their performance.

The wire rope clip should be fitted to the wire rope as shown in below figures. The bridge of the wire rope clip should always be placed on the load bearing part of the rope. The U-bolt of the clip should be placed on the rope tail, also known as the dead end of the rope.

Turn back enough wire rope length so that the required minimum number of clips can be installed according to the instructions below.

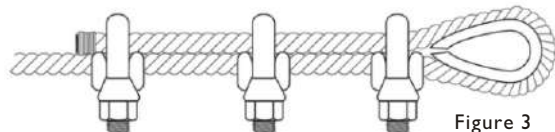
The first clip must be placed one bridge width from the turned-back rope tail or dead end of the rope, according to figure 1. Tighten the nuts to the specified torque.



The second clip must be placed immediately against the thimble. Take care that the correct tightening of the clip does not damage the outer wires of the wire rope (figure 2). Tighten the nuts firmly but not yet to the specified torque.



The following clips should be placed on the wire rope between the first and second clip in such a way that they are separated by at least 1.1/2 times the clip-width with a maximum of 3 times the clip-width, according to figure 3.



Apply light tension on the rope and tighten all nuts evenly, alternating until reaching the specified torque.

After assembly and before the rope is taken into service, the nuts must be tightened further to the prescribed torque. After the load has been applied to the assembly for the first time, the torque value must be checked and corrected if necessary. Re-tightening of the nuts must be done at 10,000 cycles (heavy usage), 20,000 cycles (moderate usage) or 50,000 cycles (light usage). If cycles are unknown, a competent person could fix a time period, e.g. every 3 months, 6 months, annually.

The torque values and the minimum number of clips to be applied for a particular rope size are given in the following tables.

Product code	Diameter wire rope		min. no of clips required	length of rope to turn back mm	torque value	
	inch	mm			Nm	Ft.Lbs
WRC 004	1/8	3-4	2	85	6.1	4.5
WRC 005	3/16	5	2	95	10.2	7.5
WRC 007	1/4	6-7	2	120	20.3	15
WRC 008	5/16	8	3	133	40.7	30
WRC 010	3/8	9-10	3	165	61	45
WRC 011	7/16	11-12	3	178	88	65
WRC 013	1/2	13	3	292	88	65
WRC 015	9/16	14-15	3	305	129	95
WRC 016	5/8	16	3	305	129	95
WRC 020	3/4	18-20	4	460	176	130
WRC 022	7/8	22	4	480	305	225
WRC 026	1	24-26	5	660	305	225
WRC 030	1 1/8	28-30	6	860	305	225
WRC 034	1 1/4	32-34	7	1120	488	360
WRC 036	1 3/8	36	7	1120	488	360
WRC 040	1 1/2	38-40	8	1370	488	360
WRC 042	1 5/8	41-42	8	1470	583	430
WRC 046	1 3/4	44-46	8	1550	800	590
WRC 052	2	48-52	8	1800	1017	750
WRC 058	2 1/4	56-58	8	1850	1017	750
WRC 065	2 1/2	62-65	9	2130	1017	750

Table 1, Ableforge wire rope clips generally to EN 13411-5 Type B, required number and torque value

Diameter wire rope mm	min. no of clips required	torque value	
		Nm	Ft.Lbs
5	3	2	1.5
6.5	3	3.5	2.6
8	4	6	4.4
10	4	9	6.6
12	4	20	14.8
13	4	33	24.3
14	4	33	24.3
16	4	49	36
19	5	68	50
22	5	107	79
26	5	147	108
30	6	212	156
34	6	296	218
40	6	363	268

Table 2, Wire rope clips generally to EN 13411-5 Type A, required number and torque value

The efficiency of a wire rope termination made with wire rope clips depends on the correct placement of the clips on the rope and on correct fitting and tightening of the clips. With inadequately tightened nuts or with an insufficient number of wire rope clips the rope end may slide through the clips during use.

The fitting of the clips on the ropes may be affected by various circumstances, such as:

- . the nut may be tight on the thread, yet not tight against the bridge;
- . contamination of the thread by dirt, oil or corrosion products, which may prevent correct tightening of the nut.

Forged wire rope clips provide greater bearing surface and more consistent strength than malleable cast iron clips.

Suitable applications of wire rope clips to EN 13411-5 standards include suspending static loads and single use lifting operations which have been assessed by a competent person taking into account appropriate safety factors.

Wire rope clips should not be used in following applications:

- . hoist ropes in mines;
- . rope drives for cranes in steel works and rolling mills;
- . permanent fastening of ropes in other rope drives;
- . rope terminations for load suspension devices in the operation of lifting appliances, except in the case of lifting tackles where these are produced for a special application and used only once.

Wire rope clips must be regularly inspected in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. which may lead to deformation and alteration of the material structure.

Inspection should take place at least every six months and more frequently when the products are used in severe operating conditions.