



# INDUSTRIAL CATALOGUE

[arcuswire.com](http://arcuswire.com)

20  
25



# Welcome to our 2025 Industrial catalogue.



Showcasing the latest stainless steel and galvanised wire rope, fittings, and swaging tools for industrial applications. You'll find the perfect solution for your needs.

## ARCUS WIRE GROUP

As a recognised leader in wire rope and fittings for 60 years, Arcus Wire Group brings a wealth of experience, knowledge and expertise to help customers with wire rope projects of any size or complexity.



We don't just aim to meet your expectations and project requirements; we strive to exceed them while providing remarkable value.

David Sheedy, CEO



### INDUSTRY ACCREDITATION

Arcus Wire Group is a silver member of the Australian Stainless Steel Development Association (ASSDA) and an ASSDA Accredited Fabricator. This means that we have the knowledge and skills to supply and manufacture custom stainless steel cables to the highest industry standards.



Arcus Wire Group is a member of The Australian Industry Group.

## ABOUT hamma®

The industry leading hamma® range of stainless steel wire rope and fittings provides quality, high-performance products for marine, industrial and architectural applications

## PERFORMANCE BY DESIGN

Engineered to deliver superior performance, the hamma® range integrates the structural integrity and aesthetic appeal of stainless steel with proven engineering expertise and industry knowledge. Manufactured from high-quality Duplex 2205, AISI 316 and AISI 304 grade stainless steel, all hamma® products deliver reliability, strength, corrosion resistance and functionality to meet some of the world's most demanding applications.

## QUALITY

The hamma® manufacturing processes employ advanced technologies to ensure the highest quality standards. Performance guarantees and traceability provide reliability and accountability for hamma® fittings. Unique machine-etched batch numbers are standard on many fittings across the hamma® Regatta range, providing easy identification and tracking. hamma® wire rope is shipped with Mill Certificates which provide details of grade, construction and chemical composition including Nickel content.



















## BUILT FOR THE TOUGHEST ENVIRONMENTS

The hamma® range withstands exposure to harsh environments, extreme temperatures, and high levels of mechanical stress. Due to its structural integrity and aesthetic appeal, the hamma® range is actively sought after for complex structures in Industrial environments, new rigs for the world's fastest racing yachts, supporting heavy loads for industrial applications, and enhancing the aesthetics of architectural projects including arbours, catenaries, glass facades and tensile cable solutions.


## CONTACT US

Call our expert team for help with selecting the right wire rope and fittings for your project needs on 1800 ARCUSW or email [sales@arcuswire.com](mailto:sales@arcuswire.com)

## hamma® Industrial Shackles Page 11

 D SHACKLE	 D SHACKLE WITH COLLARED PIN	 D SHACKLE WITH SQUARE HEAD PIN	 D SHACKLE WITH LOCKING PIN	 D SHACKLE WITH SLOT HEAD PIN	 D SHACKLE WITH HEXAGONAL SINK PIN
 D SHACKLE WIDE	 BOW SHACKLE (ANCHOR)	 BOW SHACKLE (ANCHOR) WITH COLLARED PIN	 D SHACKLE LONG	 D SHACKLE LONG WITH COLLARED PIN	 D SHACKLE LONG WITH SLOT HEAD PIN
 HALYARD SHACKLE WITH LOCKING PIN	 HALYARD SHACKLE CROSS BAR WITH LOCKING PIN	 HEADBOARD SHACKLE CROSS BAR WITH LOCKING PIN	 TWISTED SHACKLE	 TWISTED SHACKLE WITH COLLARED PIN	 QUICK LINK











## hamma® Industrial Swivels Pages 17

 SWIVEL (EYE-EYE)	 SWIVEL (JAW-JAW)
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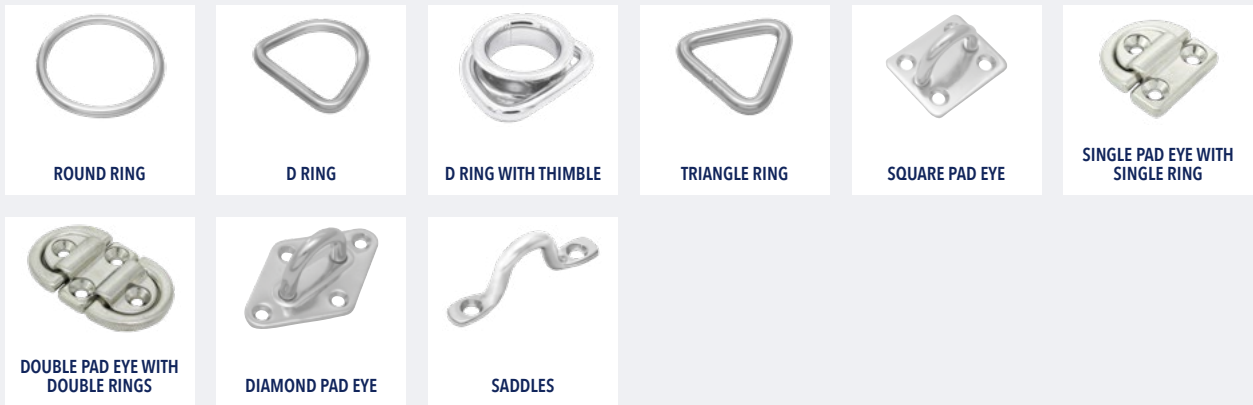
## hamma® Industrial Wire Rope Grips & Thimbles Pages 18

 WIRE ROPE GRIP	 DUPLEX GRIP	 THIMBLE (HEAVY DUTY)	 THIMBLE (STANDARD)
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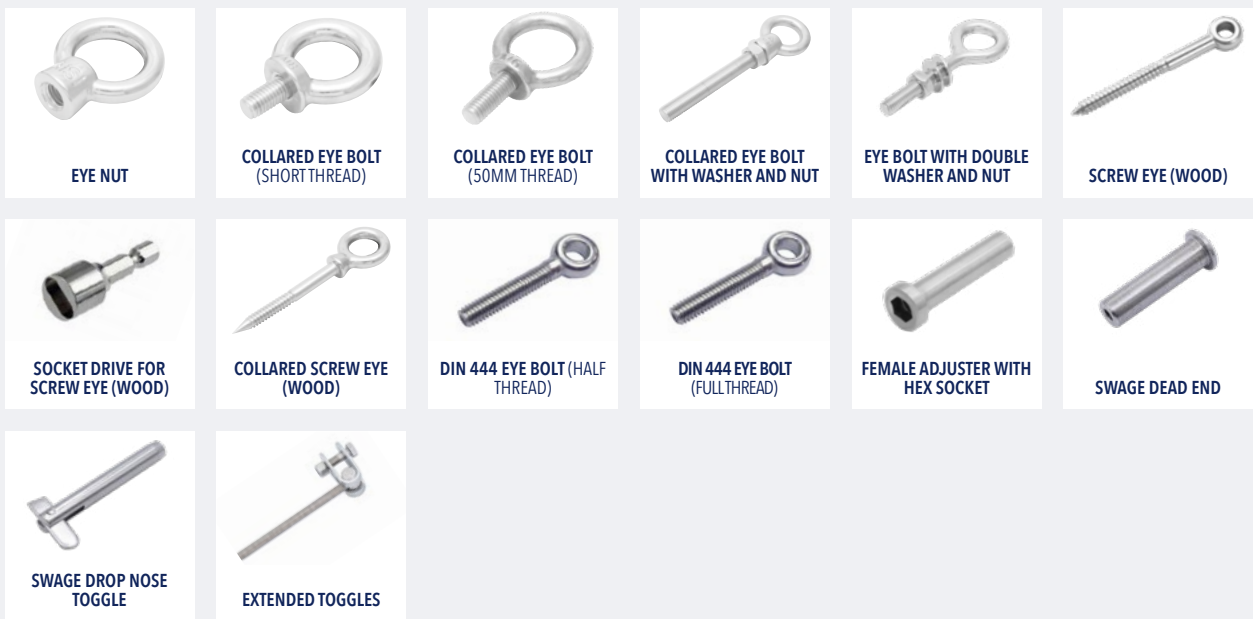
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 GRAB HOOK (CLEVIS END)	 SLIP HOOK (EYE END WITH SAFETY LATCH)	 BOLT SNAP (SWIVEL EYE)	 SNAP HOOK	 SPRING SNAP (CIRCULAR HOOK WITH ANGLED LATCH)	 SPRING SNAP (ANGLED HOOK WITH EYE END)
 SPRING HOOK	 SPRING HOOK (WITH EYE)	 SPRING HOOK WITH SCREW NUT	 EYE SNAP (SWIVEL END)		

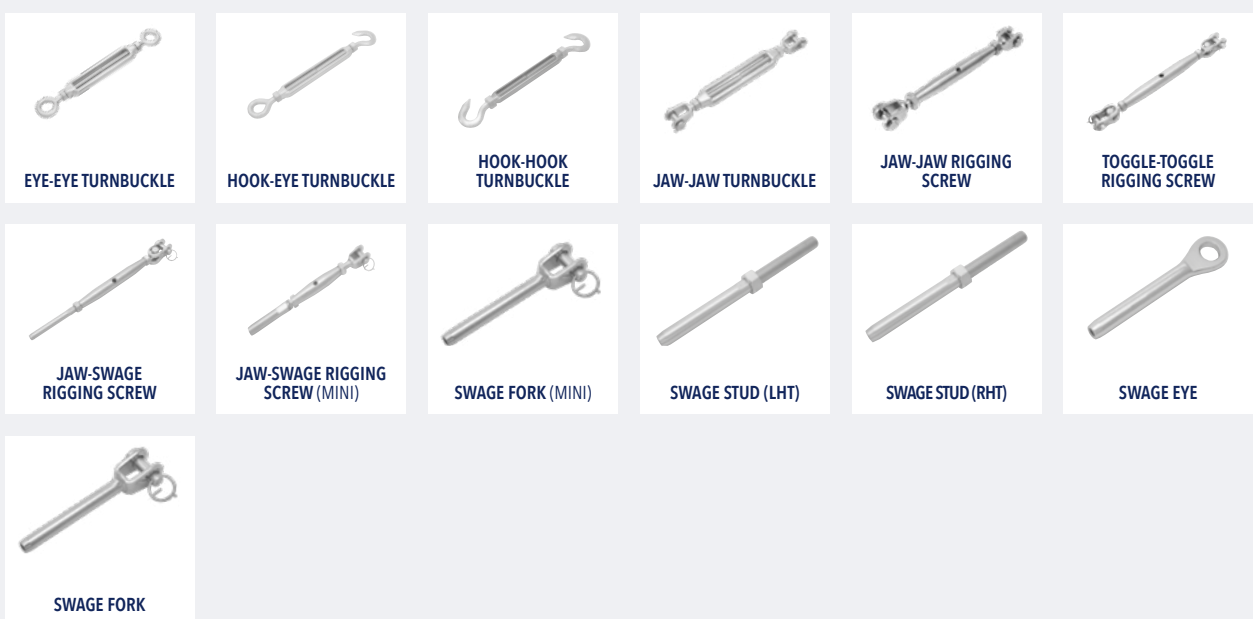
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## hamma® Industrial U Bolts & Eye Bolts Pages 29



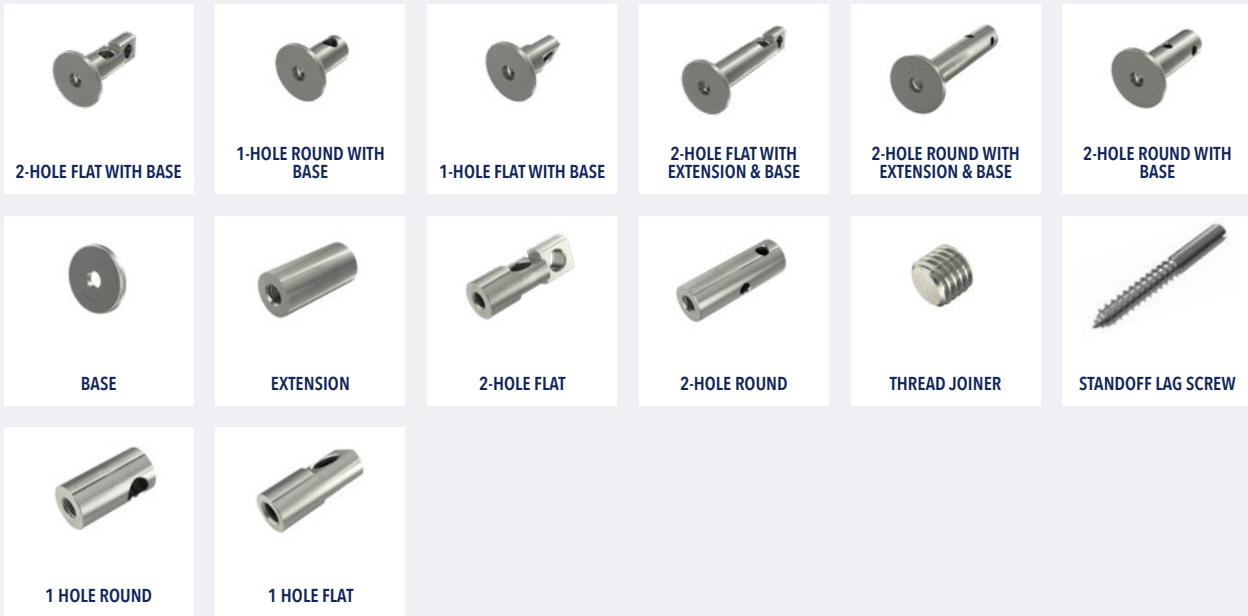
## hamma® Industrial Turnbuckles & Terminals Page 37



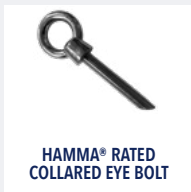
## hamma® Industrial Lifeline Fittings Page 43



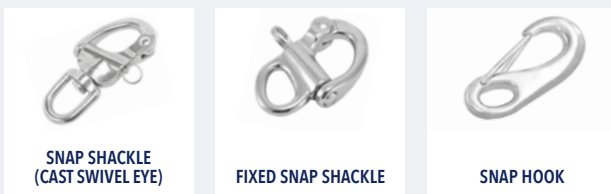
## hamma® Standoffs Pages 45



## hamma® Rated Collared Eye Bolt Page 49



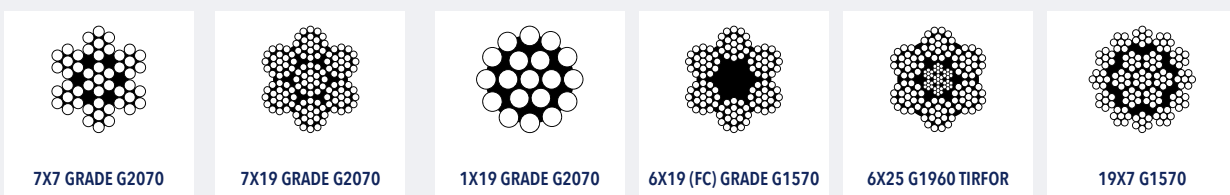
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## Galvanised Wire Pages 56

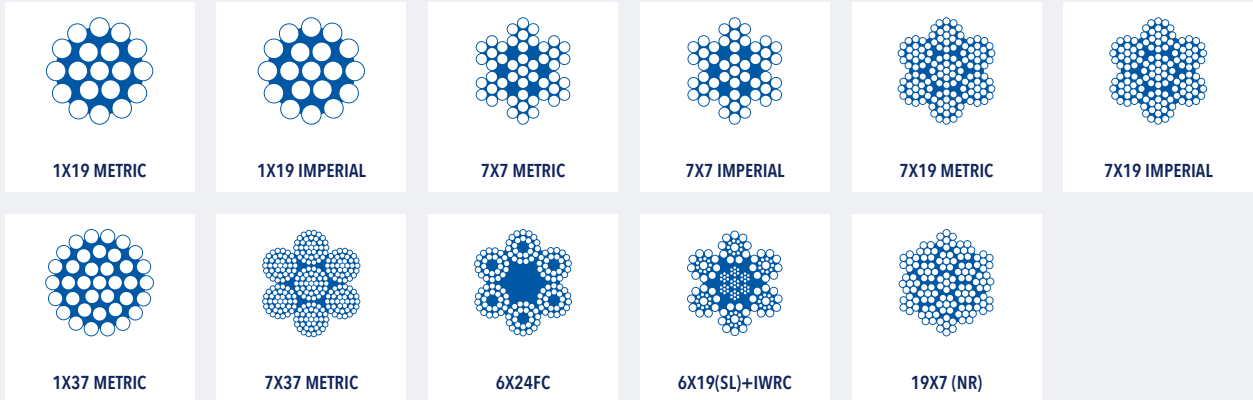


# hamma® Stainless Steel Wire Rope Page 59

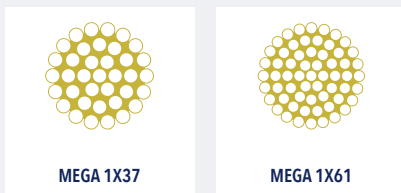
## PRO STRAND AISI 316 PAGE 59



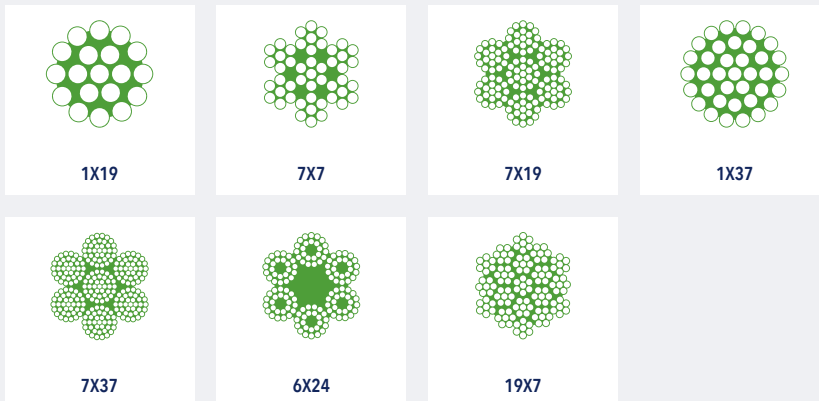
## X STRAND AISI 316 PAGE 63



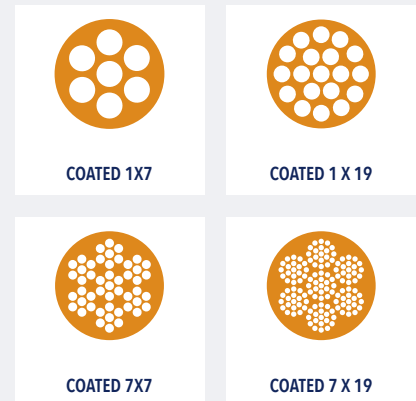
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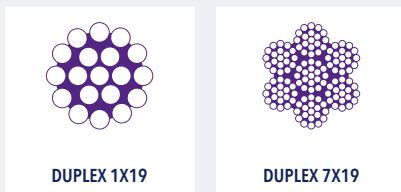
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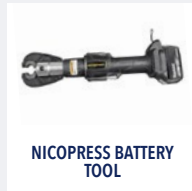


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### NICOPRESS



### FELCO



### WIRETEKNIK



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All hamma® products carry a **10-year warranty** against defects/workmanship from date of purchase.


See [www.arcuswire.com](http://www.arcuswire.com) for terms and conditions.



# hamma<sup>®</sup> Industrial Shackles

## D Shackle


S360

PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6360-0004	4	4	8	16	3,000	550
HM-6360-0005	5	5	10	20	2,000	1,000
HM-6360-0006	6	6	12	24	1,200	1,700
HM-6360-0008	8	8	16	32	500	2,800



## D Shackle with Collared Pin


S360CP

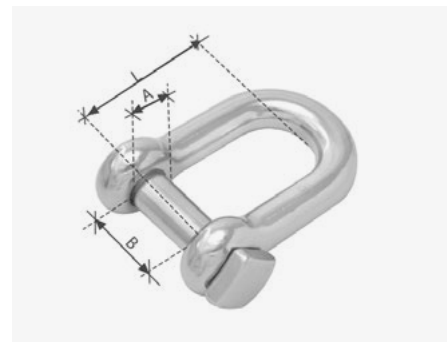
PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6360-0410	10	10	20	40	250	4,500
HM-6360-0412	12	12	24	48	150	6,000
HM-6360-0416	16	16	32	64	60	10,000
HM-6360-0419	19	19	38	76	45	15,000



## D Shackle with Square Head Pin


S360B

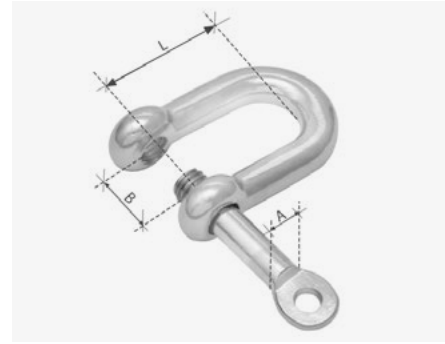
PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6360-1010	10	10	20	40	200	4,500
HM-6360-1012	12	12	24	48	150	6,000



## D Shackle with Locking Pin


S360LK

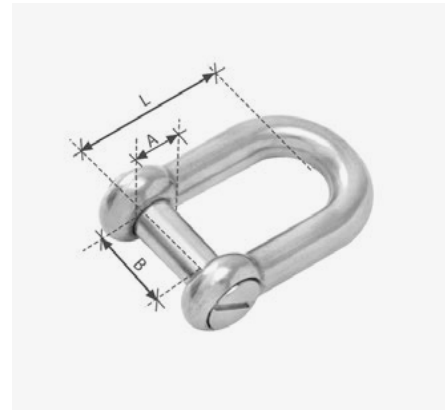
PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6360-5006	6	5.25	12	24	1,000	1,400
HM-6360-5008	8	7.10	16	32	500	2,800
HM-6360-5010	10	8.90	20	40	250	4,000



## D Shackle with Slot Head Pin


S360C

PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6360-4005	5	5	10	20	2,000	1,000
HM-6360-4006	6	6	12	24	1,000	1,700
HM-6360-4008	8	8	16	32	400	2,800
HM-6360-4010	10	10	20	40	250	4,500
HM-6360-4012	12	12	24	48	150	6,000



## D Shackle with Hexagonal Sink Pin


S360CI

PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6360-5106	6	6	12	24	1,000	1,700
HM-6360-5108	8	8	16	32	450	2,800
HM-6360-5110	10	10	20	40	250	4,500
HM-6360-5112	12	12	24	48	150	6,000



## D Shackle Wide


S360WO

PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6360-9008	8	8	28	35	400	2,500
HM-6360-9010	10	10	40	60	150	3,350
HM-6360-9012	12	12	48	72	80	4,000



## Bow Shackle (Anchor)


S370

PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6370-0004	4	4	8	20.0	2,000	550
HM-6370-0005	5	5	10	25.5	1,700	1,000
HM-6370-0006	6	6	12	30.0	800	1,700
HM-6370-0008	8	8	16	41.0	400	2,800



## Bow Shackle (Anchor) with Collared Pin


S370CP

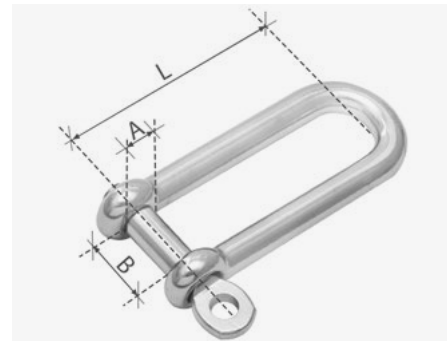
PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6370-3010	10	10	20	51.0	200	4500
HM-6370-3012	12	12	24	61.0	120	6,000
HM-6370-3016	16	16	32	82.0	50	10,000
HM-6370-3019	19	19	38	97.0	30	15,000
HM-6370-3022	22	22	44	110.0	20	19,000



## D Shackle Long


S362

PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6362-0006	6	6	12	48	700	1,700
HM-6362-0008	8	8	16	64	300	2,500



## D Shackle Long with Collared Pin


S362CP

PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6362-3010	10	10	20	80	150	3,500
HM-6362-3012	12	12	24	96	80	5,400



## D Shackle Long with Slot Head Pin


S362C

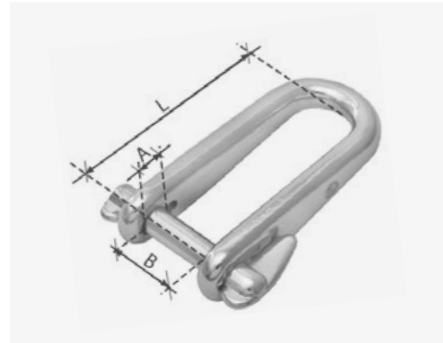
PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6362-1006	6	6	12	48	600	1,700



## Halyard Shackle with Locking Pin


S365LK

PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6365-0005	5	5	13	40.50	800	1,000
HM-6365-0006	6	6	16	46.00	500	1,600
HM-6365-0008	8	8	22	64.00	250	2,250



## Halyard Shackle Cross Bar with Locking Pin


S365DLK

PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6365-1005	5	5	13	40.50	800	1,000
HM-6365-1006	6	6	16	46.00	500	1,600
HM-6365-1008	8	8	22	64.00	230	2,250



## Headboard Shackle Cross Bar with Locking Pin


S364LK

PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)	C (MM)		B.L. (KGS)
HM-6364-0006	6	7.1	12	11.25		400	1,900
HM-6364-0008	8	8.9	16	15.00		180	3,700



# Twisted Shackle


S380

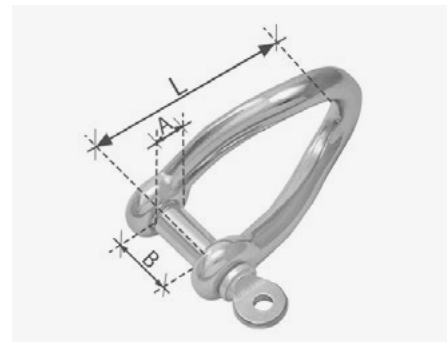
PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6380-0006	6	6	12	36	600	1,600
HM-6380-0008	8	8	16	44	180	2,800



# Twisted Shackle with Collared Pin


S380CP

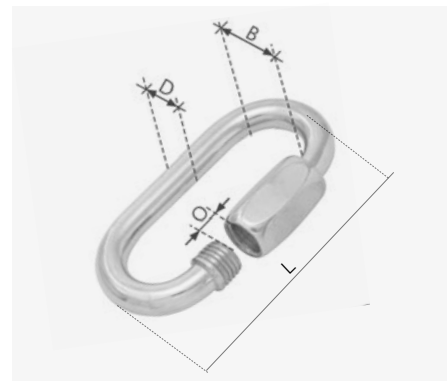
PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6360-8010	10	10	20	51	200	4,600



# Quick Link

S7350

PRODUCT CODE	SIZE (MM)	B (MM)	D (MM)	L (MM)	O (MM)	
HM-2735-0004	4	11	4	39.5	5.5	2,000
HM-2735-0005	5	12.5	5	48.5	6.5	1,200
HM-2735-0006	6	14	6	57	7.5	800
HM-2735-0008	8	17	8	74	10.0	300
HM-2735-0010	10	20	11	89	12.0	200



hama® Stainless Steel Wire Rope Balustrade, Ephraim Island, Queensland, Australia




Credit: Southport Fleetwood Playground, Gold Coast, Australia

# hamma<sup>®</sup> Industrial Swivels

## Swivel (Eye-Eye)


S018

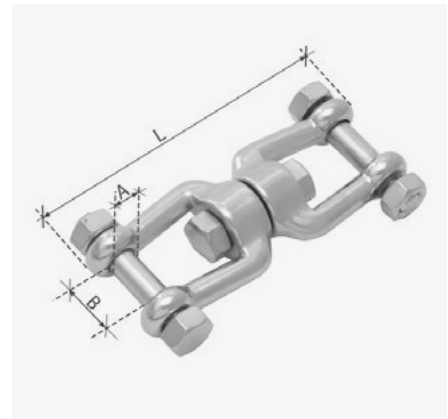
PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6018-0006	6	6	14.70	66	450	1,200
HM-6018-0008	8	8	20.50	94	200	1,900
HM-6018-0010	10	10	24.00	118	100	3,500
HM-6018-0013	13	13	31.00	152	50	5,000



## Swivel (Jaw-Jaw)

S0182


PRODUCT CODE	SIZE	ØA (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6018-2006	6	6	12	66	400	1,200
HM-6018-2008	8	8	16	94	150	1,900
HM-6018-2010	10	10	20	118	80	3,500
HM-6018-2013	13	13	26	152	40	5,000
HM-6018-2016	16	16	32	188	25	8,500
HM-6018-2019	19	19	38	223	15	10,000



# hamma® Industrial Wire Rope Grips & Thimbles

## Wire Rope Grip


S260

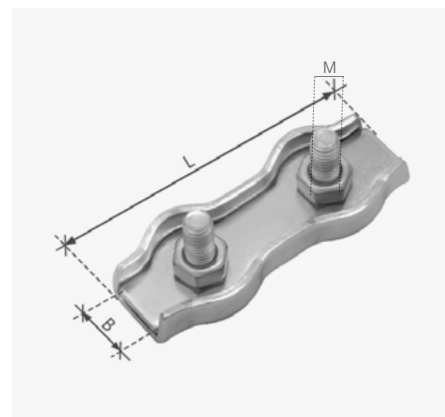
PRODUCT CODE	SIZE	B (MM)	L (MM)	M (MM)	
HM-6260-0002	2	7	17.5	M3	3,000
HM-6260-0003	3	8	21	M3	2,500
HM-6260-0004	4	10	23	M4	1,200
HM-6260-0005	5	12	29	M5	800
HM-6260-0006	6	14	32	M6	500
HM-6260-0008	8	17.5	40	M8	300
HM-6260-0010	10	21	50	M10	200
HM-6260-0012	12	26	62	M12	100
HM-6260-0014	14	28	67	M14	100
HM-6260-0016	16	32	78	M16	60
HM-6260-0019	19	34	83	M19	50



## Duplex Grip


SF512

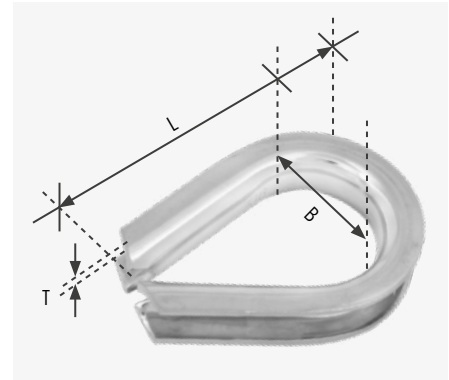
PRODUCT CODE	SIZE	B (MM)	L (MM)	M THREAD	
HM-6512-0003	3	7	34	M4	1,500
HM-6512-0004	4	9.2	40	M5	700



## Thimble (Heavy Duty)


SF414

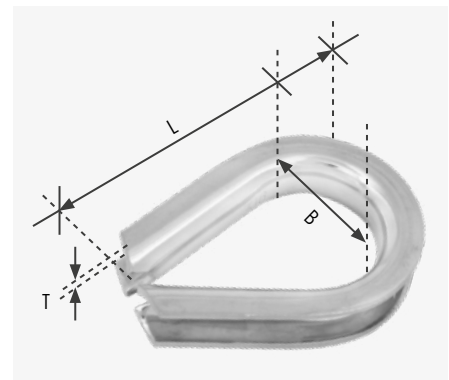
PRODUCT CODE	SIZE (INCH)	B (MM)	L (MM)	T (MM)	
HM-6414-0615	5/16"	27.3	63	2	300
HM-6414-0803	3/8"	29	73	2.5	160
HM-6414-0201	1/2"	38	92	4	80
HM-6414-0805	5/8"	45	106	4	70
HM-6414-0403	3/4"	50.8	125	5	25



## Thimble (Standard)

SF234U

PRODUCT CODE	SIZE (MM)	B (MM)	L (MM)	T (MM)	
HM-6234-0002	2	10	25	0.8	5,000
HM-6234-0003	3	12.5	28.5	1	3,500
HM-6234-0004	4	13	33.0	1.2	2,000
HM-6234-0005	5	15.5	36.5	1.2	1,500
HM-6234-0006	6	17	40	1.5	1,000
HM-6234-0008	8	22.5	51	1.5	500
HM-6234-0010	10	26	58.5	2	300
HM-6234-0012	12	31	68	2	300
HM-6234-0014	14	34	74	2.5	130
HM-6234-0016	16	37.5	83	2.5	150
HM-6234-0018	18	40	92	3	60
HM-6234-0020	20	45	104	2	50
HM-6234-0022	22	50.5	115	4	40
HM-6234-0025	25	54	125	4	30




# Check out our latest Marine products!

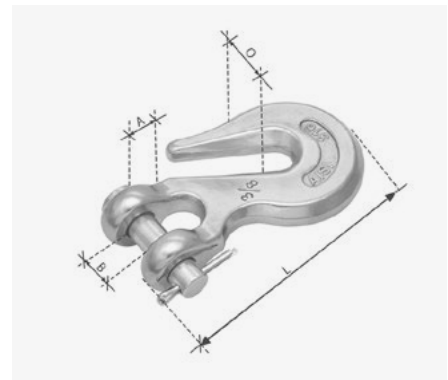


# hamma<sup>®</sup> Industrial Hooks & Snaps

## Grab Hook (Clevis End)


S330

PRODUCT CODE	SIZE (INCH)	B (MM)	A (MM)	L (MM)	O (MM)		B.L. (KGS)
HM-6330-0104	1/4"	9.5	11.1	79.6	8.7	150	2,100
HM-6330-0516	5/16"	11.5	12.7	96	11.1	90	3,100
HM-6330-0308	3/8"	12.7	15	108.6	12.7	60	4,000
HM-6330-0102	1/2"	17	19	143.7	16.6	25	7,350



## Slip Hook (Eye End with Safety Latch)

S325X

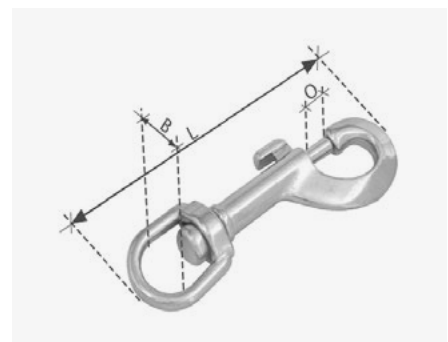
PRODUCT CODE	SIZE (INCH)	ØB (MM)	L (MM)	O (MM)		B.L. (KGS)
HM-6325-5516	5/16"	16	108	24	100	2,900



## Bolt Snap (Swivel Eye)

S225


PRODUCT CODE	SIZE (INCH)	B (MM)	L (MM)	O (MM)		B.L. (KGS)
HM-6225-0304	3/4"	20.5	91	8	500	650

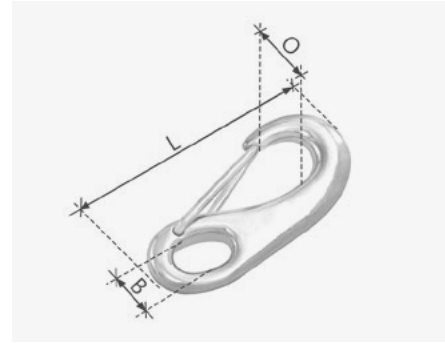


Exclusive to Arcus Wire Group across Australia and New Zealand, the hamma<sup>®</sup> range of stainless steel fittings are manufactured by global leader Kinzi. Since 1971, Kinzi has been supplying stainless steel hardware to companies worldwide.

# Snap Hook


S2470

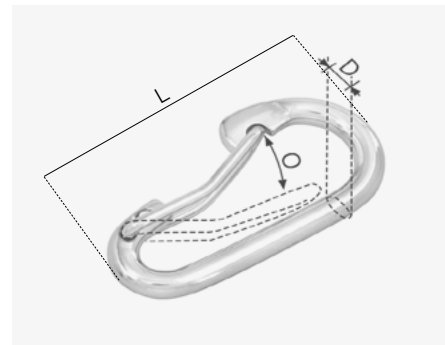
PRODUCT CODE	SIZE (MM)	ØB (MM)	L (MM)	O (MM)		B.L. (KGS)
HM-6247-0032	32	4	32	7	1,500	80
HM-6247-0050	50	6.6	50	10	1,000	220
HM-6247-0070	70	9	70	14	450	500
HM-6247-0100	100	13.8	98	20	150	900



# Spring Snap (Circular Hook with Angled Latch)


SF24302B

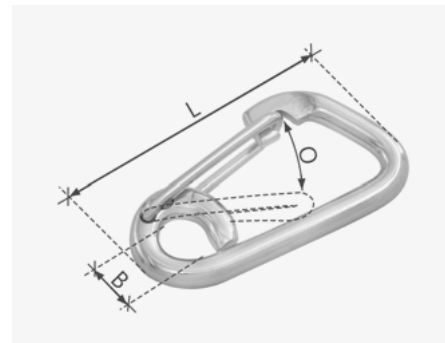
PRODUCT CODE	SIZE (MM)	D (MM)	L (MM)	O (MM)		B.L. (KGS)
HM-6243-1206	6	6	60	14	1000	830
HM-6243-1208	8	8	80	20	350	1,600



# Spring Snap (Angled Hook with Eye End)


SF2430

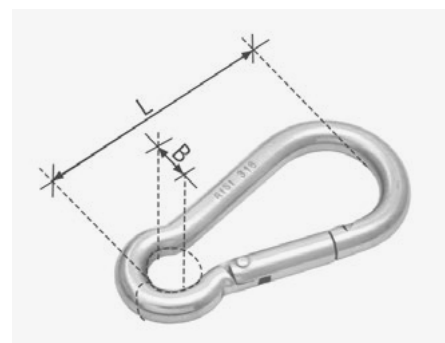
PRODUCT CODE	SIZE (MM)	ØB (MM)	L (MM)	O (MM)		B.L. (KGS)
HM-6243-0006	6	10	61	12.5	500	750
HM-6243-0008	8	12	81	17	300	1,750



# Spring Hook


SF2450

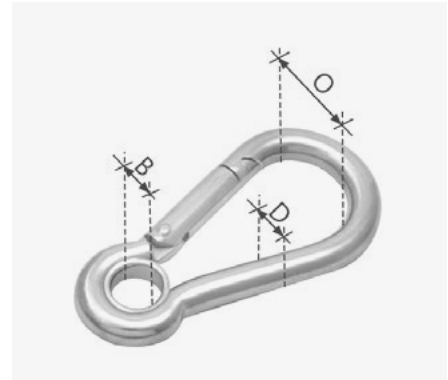
PRODUCT CODE	SIZE (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6245-0005	5	8	40	1,500	160
HM-6245-0060	6	10	48	1,000	300
HM-6245-0080	8	13	64	400	600
HM-6245-0100	10	17	80	200	800



## Spring Hook (with Eye)


SF2450X

PRODUCT CODE	SIZE (MM)	B (MM)	ØD (MM)	L (MM)	O (MM)		B.L. (KGS)
HM-6245-0204	4	6.5	4.5	33	11.5	2,500	100
HM-6245-0205	5	7	5	40	16	1,500	160
HM-6245-0206	6	9	6	48	18	800	300
HM-6245-0208	8	12	8	64	23.5	400	600
HM-6245-0210	10	16	10	80	30	200	800



## Spring Hook with Screw Nut


SF2450N

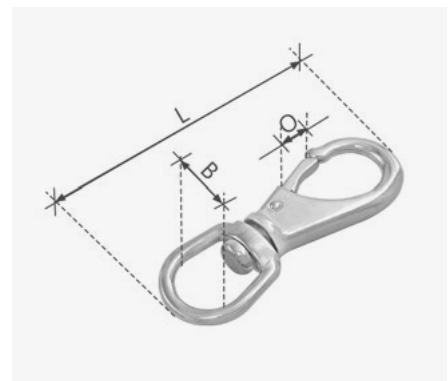
PRODUCT CODE	SIZE (MM)	B (MM)	ØD (MM)	L (MM)	O (MM)		B.L. (KGS)
HM-6245-0006	6	5	6.6	60	6.5	800	400
HM-6245-0008	8	28	8	80	8.5	400	700
HM-6245-0010	10	15	10	100	10	150	900



## Eye Snap (Swivel End)

S251

PRODUCT CODE	SIZE (MM)	O (MM)	B (MM)	L (MM)		B.L. (KGS)
HM-6251-0003	3	19.5	117.5	20.5	200	340




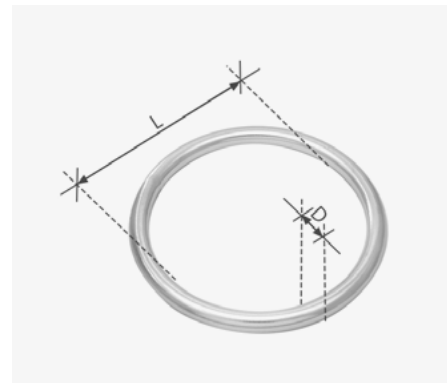


# hamma<sup>®</sup> Industrial Rings & Pads

## Round Ring


SF317 \* Limited G304 Stock Available

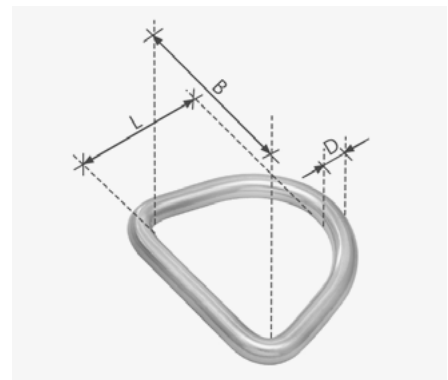
PRODUCT CODE	SIZE (MM)	D (MM)	L (MM)		B.L. (KGS)
HM-6317-0535	5*35	5	35	1,000	2,000
HM-6317-0540	5*40	5	40	800	2,000
HM-6317-0640	6*40	6	40	600	2,700
HM-6317-0650	6*50	6	50	400	2,700
HM-6317-0850	8*50	8	50	300	5,000
HM-6317-1075	10*75	10	75	100	8,500
HM-6317-1010	10*100	10	100	70	8,500
HM-6317-1012	10*120	10	120	45	8,500
HM-6317-1212	12*120	12	120	60	10,000



## D Ring


SF3250 \* Limited G304 Stock Available

PRODUCT CODE	SIZE (MM)	B (MM)	ØD (MM)	L (MM)		B.L. (KGS)
HM-6325-0425	4*25	27	4	22	2,500	800
HM-6325-0640	6*40	39	6	34	700	1,800
HM-6325-0650	6*50	51	6	43	500	1,800
HM-6325-0850	8*50	51	8	43	300	2,800
HM-6325-0265	10*65	65	10	55	150	5,000



## D Ring with Thimble


SF3257 \* This item is G304 only

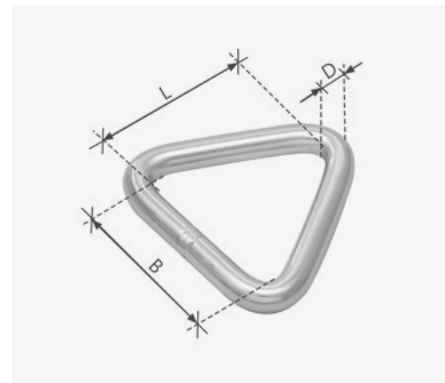
PRODUCT CODE	SIZE (MM)	D (MM)	D1 (MM)	T (MM)		B.L. (KGS)
HM-4325-7231	6x30	6	23.4	11	600	1,800
HM-4325-7351	6x50	6	35.0	12.5	200	1,800
HM-4325-7235	8x50	8	35.0	23.5	150	2,800



## Triangle Ring


SF3252

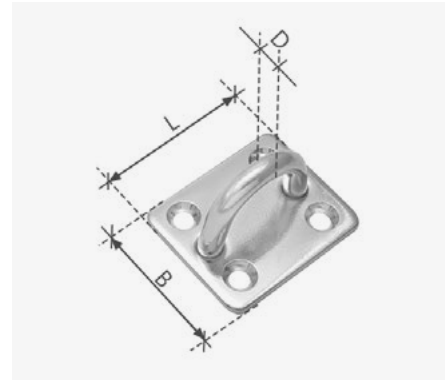
PRODUCT CODE	SIZE (MM)	B (MM)	D (MM)	L (MM)		B.L. (KGS)
HM-6325-2650	6*50	51	6	45	500	2,000
HM-6325-2850	8*50	50	8	45	350	2,800



## Square Pad Eye


SF321 \* This item is G304 only

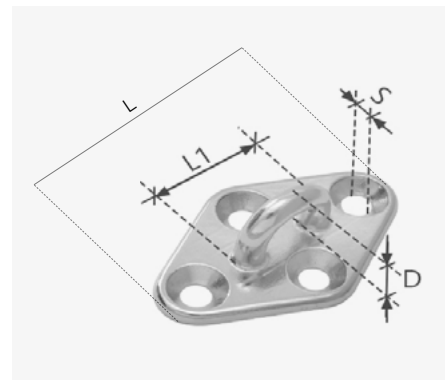
PRODUCT CODE	SIZE (MM)	B (MM)	D (MM)	L (MM)		B.L. (KGS)
HM-4321-0006	6	34	6	40	500	1,000
HM-4321-0008	8	39	8	50	300	1,600



## Diamond Pad Eye

SF3211 \* This item is G304 only

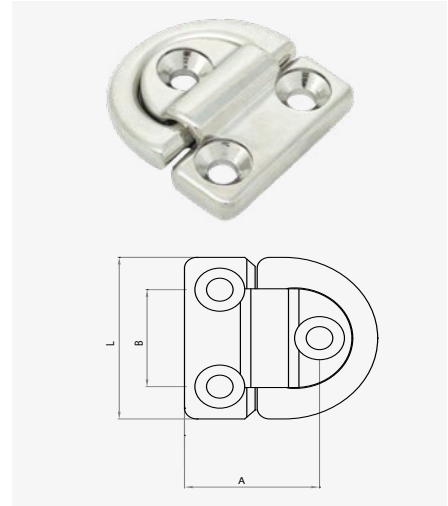
PRODUCT CODE	SIZE (MM)	D (MM)	L (MM)	L1 (MM)	ØS (MM)		B.L. (KGS)
HM-4321-1005	5	5	59	15	4.1	500	700
HM-4321-1006	6	6	64	19	4.1	500	1000
HM-4321-1008	8	8	80	23	5.1	250	1600



# Single Pad Eye with Single Ring

SPE/SINGLE/EP

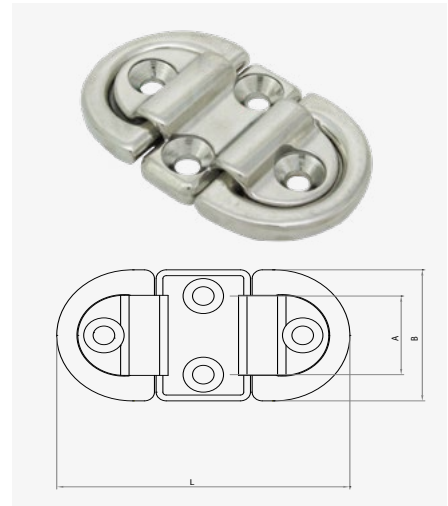
PRODUCT CODE	SIZE (MM)	A (MM)	B (MM)	L (MM)	SCREW USE	B.L. (KGS)	
HM-6106-4546	6x46.5	27	45	46.5	M6	2,200	250
HM-6108-5961	8x61	35	59	61	M8	4,000	150
HM-6001-0757	10x77	53	45	75	M10	7,000	100



# Double Pad Eye with Double Rings

SPE/DOUBLE/EP

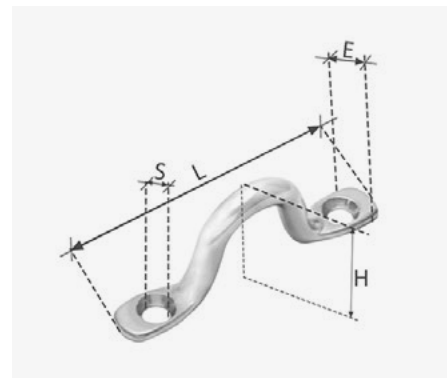
PRODUCT CODE	SIZE (MM)	A (MM)	B (MM)	L (MM)	SCREW USE	B.L. (KGS)	
HM-6106-4587	6	27	45	87	M6	3,600	250
HM-6108-5999	8	35	59	99	M8	6,800	150
HM-6101-0751	10	45	75	126	M10	12,000	50



# Saddle

SF322

PRODUCT CODE	SIZE (MM)	L (MM)	S (MM)	E (MM)	H (MM)	G (MM)
HM-4322-0005	5mm	50	4	9	17	20
HM-4322-0006	6mm	60	5	11.3	22	25
HM-4322-0008	8mm	65	6	13.6	25	25




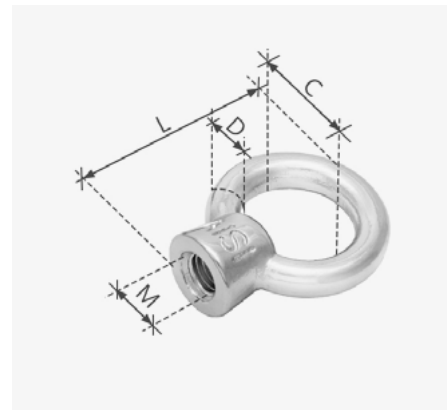


# hamma<sup>®</sup> Industrial U Bolts & Eye Bolts

## Eye Nut


S3061

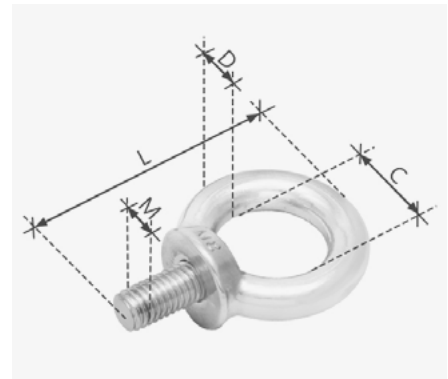
PRODUCT CODE	SIZE (MM)	C (MM)	D (MM)	L (MM)	M (MM)		B.L. (KGS)
HM-6306-1006	6	16	5	31	M6	2,000	1,100
HM-6306-1008	8	20	6.2	39.3	M8	1,000	1,300
HM-6306-1010	10	25	8	48	M10	500	2,600
HM-6306-1012	12	30	10	61	M12	250	3,500
HM-6306-1016	16	35	12.5	72	M16	100	8,000
HM-6306-1020	20	40	16	86	M20	60	10,500



## Collared Eye Bolt (Short Thread)


S580

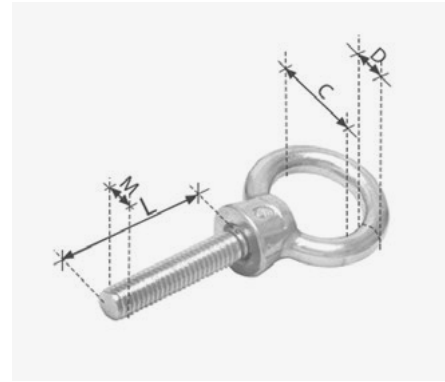
PRODUCT CODE	SIZE (MM)	THREAD LENGTH (MM)	D (MM)	L (MM)	M (MM)		B.L. (KGS)
HM-6580-0006	6	10	6	37	M6	1,200	1,300
HM-6580-0008	8	14	8	49	M8	500	2,000
HM-6580-0010	10	18	10	62	M10	300	2,600
HM-6580-0012	12	20	12	74	M12	150	4,900
HM-6580-0016	16	27	14	90	M16	120	7,000
HM-6580-0020	20	30	16	102	M20	70	10,000
HM-6580-0024	24	38	20	126	M24	30	15,000



## Collared Eye Bolt (50mm Thread)


S306

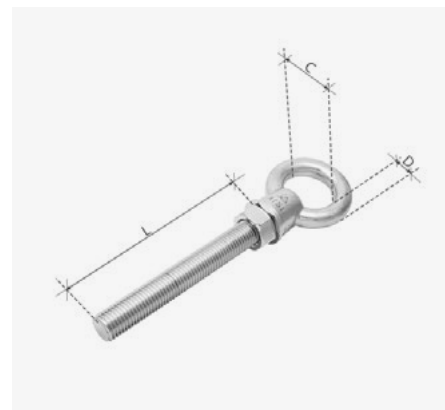
PRODUCT CODE	SIZE (MM)	C (MM)	ØD (MM)	L (MM)	M (MM)		B.L. (KGS)
HM-6306-0650	06*50	16	5	50	M6	1,000	1,100
HM-6306-0850	08*50	20	6.2	50	M8	500	1,800
HM-6306-1050	10*50	25	8	50	M10	250	2,600
HM-6306-1250	12*50	30	10	50	M12	130	3,500
HM-6306-1650	16*50	35	12.5	50	M16	100	8,000



## Collared Eye Bolt with Washer and Nut


S307

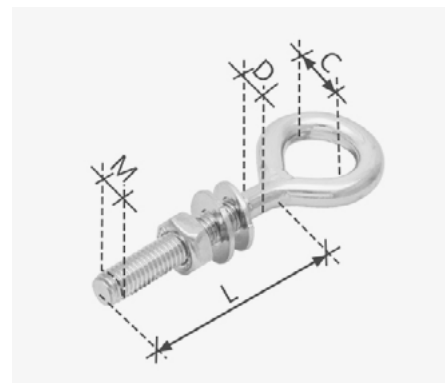
PRODUCT CODE	SIZE (MM)	C (MM)	D (MM)	L (MM)		B.L. (KGS)
HM-6307-1012	10*120	25	8	120	180	2,600
HM-6307-1210	12*100	30	10	100	100	3,500
HM-6307-1212	12*120	30	10	120	100	3,500
HM-6307-2100	12*150	30	10	150	70	3,500
HM-6307-1670	16*100	35	12.5	100	70	8,000
HM-6307-1615	16*150	35	12.5	150	60	8,000



## Eye Bolt with Double Washer and Nut

SF3191

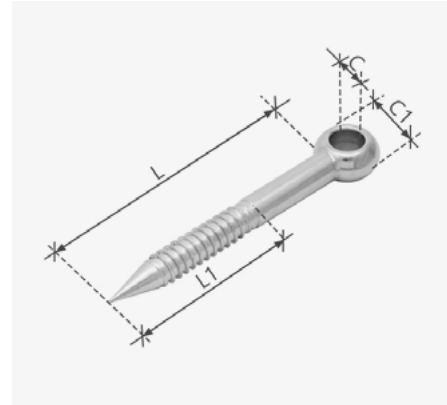
PRODUCT CODE	SIZE (MM)	C (MM)	D (MM)	L (MM)	M (MM)		B.L. (KGS)
HM-6319-1640	6*40	13	5.25	40	M6	1,000	1,000
HM-6319-1655	6*55	13	5.25	55	M6	800	1,000
HM-6319-1680	6*80	13	5.25	80	M6	800	1,000
HM-6319-1610	6*100	13	5.25	100	M6	700	1,000
HM-6319-1835	8*35	17	7	35	M8	500	1,800
HM-6319-1880	8*80	17	7	80	M8	450	1,800
HM-6319-1810	8*100	17	7	100	M8	250	1,800
HM-6319-1102	10*120	21	8.8	120	M10	200	2,400



## Screw Eye (Wood)

SF3182

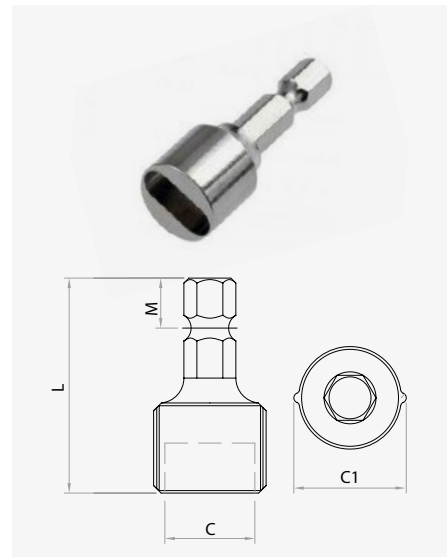
PRODUCT CODE	SIZE (MM)	C (MM)	C1 (MM)	L (MM)	L1 (MM)	
HM-2318-2640	6*40	6.2	14	40	28	2,000
HM-2318-2660	6*60	6.2	14	60	40	1,700
HM-2318-2860	8*60	8.2	18	60	40	1,000
HM-2318-2810	8*100	8.2	18	100	40	500
HM-2318-2180	10*80	10.3	20	80	55	500
HM-2318-2127	12*100	12.3	24.5	100	65	250



## Socket Drive For Screw Eye (Wood)

4SOCKETD00600

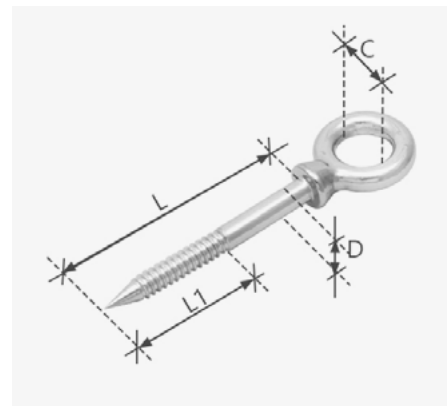
PRODUCT CODE	SIZE (MM)	C (MM)	C1 (MM)	L (MM)	M (MM/INCH)	
HM-SOCKET	6	20.5	22.5	43	10	150



## Collared Screw Eye (Wood)


S3291

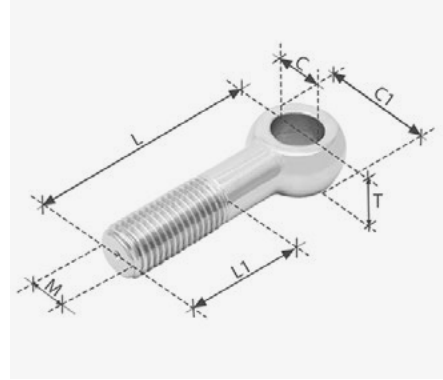
PRODUCT CODE	SIZE (MM)	C (MM)	D (MM)	L (MM)	L1 (MM)	
HM-6329-1680	6*80	14	6	80	48	800
HM-6329-1880	8*80	18	8	80	48	350
HM-6329-1180	10*80	22	10	80	48	230
HM-6329-1110	10*100	22	10	100	60	200
HM-6329-1210	12*100	27	12	100	60	130
HM-6329-1212	12*120	27	12	120	72	100



## Din 444 Eye Bolt (Half Thread)


SFDIN444

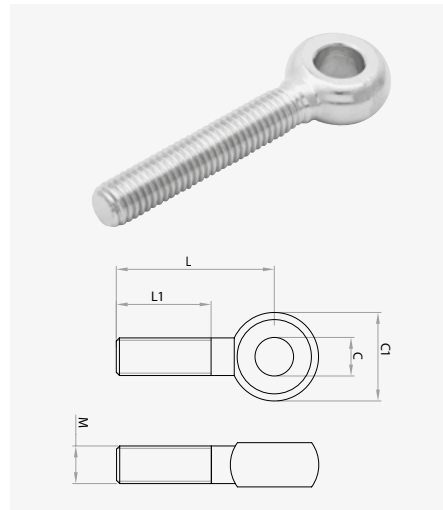
PRODUCT CODE	SIZE (MM)	C (MM)	C1 (MM)	L (MM)	L1 (MM)	T (MM)	M (THREAD)	
HM-2444-0640	6*40	6.2	14	40	22	7	M6	2,000
HM-2444-0660	6*60	6.2	14	60	36	7	M6	1,500
HM-2444-1250	12*50	12.2	25	50	25	14	M12	400



## Eye Bolt (Full Thread)


SFDIN444FT

PRODUCT CODE	SIZE (MM)	C (MM)	C1 (MM)	L (MM)	L1 (MM)	M (THREAD)	
HM-2444-2612	6*19	6.2	14	19	10	M6	4,000
HM-2444-0625	6*25	6.2	14	25	15	M6	3,000



## Female Adjuster with Hex Socket

S7500i

PRODUCT CODE	SIZE (MM)	D (MM)	D1 (MM)	L (MM)	M (THREAD)		B.L. (KGS)
HM-6750-0153	5	8	12	30	M5	2500	600
HM-6750-0163	6	8	12	35	M6	2500	1250
HM-6750-0840	8	10	14	40	M8	2000	1600
HM-6750-0045	10	13	17	45	M10	1000	3250





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## Swaging and Testing

Terminal and ferrule swaging of cable assemblies up to 40mm, made to order and tested to specific tolerances on our 60t and 300t test beds.



## Swage Dead End

S7500

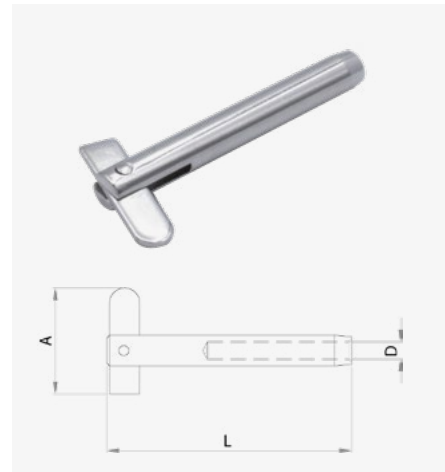
PRODUCT CODE	FOR CABLE (MM)	C (MM)	D1 (MM)	T (MM)	L (MM)	
HM-6750-0180	3.2	6.3	10	3	32	2,500
HM-6750-0532	4.0	7.5	12	4	42	2,500



## Swage Drop Nose Toggle

S7801TP-ACS

PRODUCT CODE	FOR CABLE (MM)	A (MM)	D (MM)	L (MM)	B.L. (KGS)
HM-7801-TP	3.2	22	3.4	51	2,500



## Extended Toggles

PRODUCT CODE	THREAD SIZE	PIN SIZE	THROAT INSIDE TOGGLE MEASUREMENTS (MM)	PIN TO PIN MEASUREMENTS (MM)	OVERALL LENGTH (MM)
AWG-EXT-12500	M12	M12	19	42	500
AWG-EXT-16500	M16	M16	27	54	500
AWG-EXT-20500	M20	M20	35	65	500
AWG-EXT-24500	M24	M24	41	80	500





hama® Industrial Wire Rope and Fittings, Shade Sail Structure, Ramat Gan National Park, Israel


hama® Industrial U Bolts & Eye Bolts



# hamma<sup>®</sup> Industrial Turnbuckles & Terminals

## Eye-Eye Turnbuckle


S311E

PRODUCT CODE	SIZE	MIN LENGTH (MM)	MAX LENGTH (MM)	L1 (MM)	M (MM)		B.L. (KGS)
HM-6311-7005	5	124	170	70	M5	650	680
HM-6311-7006	6	154	220	90	M6	300	1,500
HM-6311-7008	8	210	280	120	M8	150	2,300
HM-6311-7010	10	257	350	150	M10	80	3,100
HM-6311-7012	12	325	460	200	M12	50	4,400
HM-6311-7016	16	390	610	250	M16	25	8,100



## Hook-Eye Turnbuckle


S311HE

PRODUCT CODE	SIZE	MIN LENGTH (MM)	MAX LENGTH (MM)	L1 (MM)	M (MM)		B.L. (KGS)
HM-6311-7105	5	124	170	70	M5	650	130
HM-6311-7106	6	162	220	90	M6	300	350
HM-6311-7108	8	210	280	120	M8	150	650
HM-6311-7110	10	256	350	150	M10	80	800
HM-6311-7112	12	330	460	200	M12	50	1,400



# Hook-Hook Turnbuckle


S311H

PRODUCT CODE	SIZE	MIN LENGTH (MM)	MAX LENGTH (MM)	L1 (MM)	M (MM)		B.L. (KGS)
HM-6311-7205	5	124	170	70	M5	650	130
HM-6311-7206	6	170	220	90	M6	300	350
HM-6311-7208	8	208	280	120	M8	150	650
HM-6311-7210	10	266	350	150	M10	80	800
HM-6311-7212	12	335	460	200	M12	50	1,400



# Jaw-Jaw Turnbuckle


S311J

PRODUCT CODE	SIZE	MIN LENGTH (MM)	MAX LENGTH (MM)	L1 (MM)	M (MM)		B.L. (KGS)
HM-6311-6405	5	114	170	70	M5	500	750
HM-6311-6406	6	137	220	90	M6	300	1,400
HM-6311-6408	8	179	265	120	M8	130	2,200
HM-6311-6310	10	220	350	150	M10	80	3,450
HM-6311-6312	12	296	455	200	M12	40	5,000
HM-6311-6316	16	328	470	200	M16	15	8,000



# Jaw-Jaw Rigging Screw


SF312P

PRODUCT CODE	SIZE	MIN LENGTH (MM)	MAX LENGTH (MM)	L1 (MM)	H (MM)	J (MM)		B.L. (KGS)
HM-6312-0505	5	115	185	80	11.5	7.5	500	750
HM-6312-0506	6	142	215	90	12.5	8.3	250	1,400
HM-6312-0508	8	160	259	105	15.5	12	150	2,200
HM-6312-0510	10	200	399	125	17.5	12.5	100	3,450
HM-6312-0512	12	245	380	150	27	15	50	5,000
HM-6312-0616	16	304	440	190	34	17	20	8,000



## Toggle-Toggle Rigging Screw

S3125

PRODUCT CODE	SIZE	MIN LENGTH (MM)	MAX LENGTH (MM)	L1 (MM)	H (MM)	J (MM)		B.L. (KGS)
HM-6312-5008	8	180	260	105	17	11	140	1,650
HM-6312-5010	10	220	315	125	20	14	75	2,500
HM-6312-5012	12	258	375	150	25	14	35	3,700

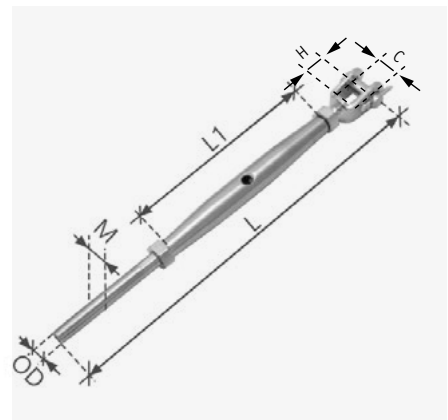


## Jaw-Swage

SF3121P


PRODUCT CODE	WIRE SIZE (MM/INCH)	M (THREAD)	MIN LENGTH (MM)	MAX LENGTH (MM)	A (MM)	H (MM)		B.L. (KGS)
HM-6312-1017	2.5mm	M5	150	193	6	11.5	600	600
HM-6312-1122	3mm	M5	142	193	7	11.5	600	600
HM-6312-1016	3mm	M6	170	207	8	12.5	350	1,000
HM-6312-1007	1/8"	M5	156	193	7	11.5	600	600
HM-6312-1008	1/8"	M6	170	207	8	12.5	350	1,000
HM-6312-1050	4mm	M6	185	207	8	12.5	350	1,000
HM-6312-1018	4mm	M8	205	260	11	18.5	200	1,400
HM-6312-1015	3/16"	M8	205	260	11	15.5	200	1,400
HM-6312-1027	3/16"	M10	240	340	12	17.5	125	2,200
HM-6312-1064	5mm	M8	210	260	11	15.5	200	1,400
HM-6312-1009	5mm	M10	240	340	13	17.5	100	2,200
HM-6312-1010	6mm	M12	295	380	15	28	50	4,000
HM-6312-1011*	7mm	M14	165	325	143	29	45	5,400
HM-6312-1006	1/4"	M10	247	340	15	28	75	2,200
HM-6312-1040	1/4"	M12	295	380	14	27	50	4,000
HM-6312-1098	8mm	M12	303	380	13	27	40	4,500
HM-6312-1073	8mm	M14	328	410	15	28	30	6,000
HM-6312-1070*	8mm	M16	370	495	17	25	30	6,500
HM-6312-1074	10mm	M16	380	495	17	25	30	8,200
HM-6312-1071*	10mm	M20	405	560	20	39	15	8,500
HM-6312-1455	12mm	M20	414	560	20	39	15	12,500
HM-6312-1424	14mm	M24	610	760	30	55	15	18,500
HM-6312-1461	16mm	M24	610	760	30	55	15	18,500

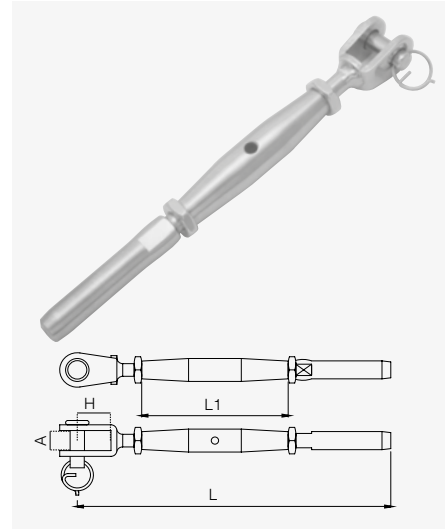
\* Denotes Cotter Pin



# Jaw/Swage Rigging Screw (Mini)


SF3121P/MIN

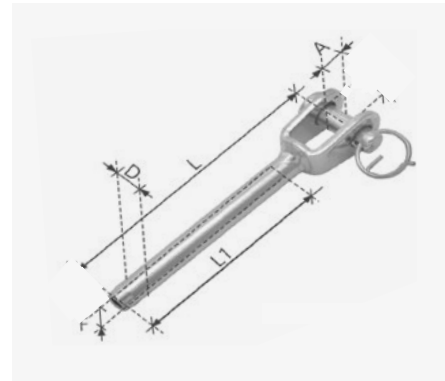
PRODUCT CODE	SIZE (MM)	M (THREAD)	L (MM)	L1 (MM)	OD (MM)		B.L. (KGS)
HM-6312-1020	3.2mm	M5	107	50	3	800	750



# Swage Fork (Mini)


SF7803S

PRODUCT CODE	SIZE (INCH)	L (MM)	L1 (MM)	A (MM)	D (MM)		B.L. (KGS)
HM-6780-3518	1/8"	48	28	5	7	1500	700



# Swage Stud (LHT)


SF7801L

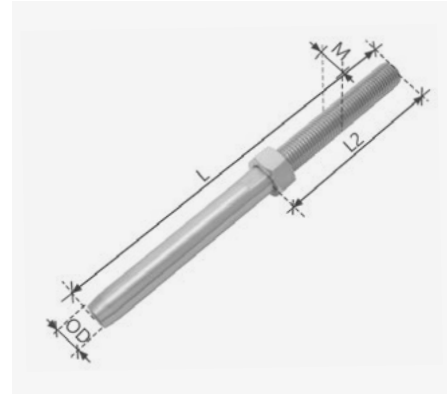
PRODUCT CODE	SIZE (MM/INCH)	M (THREAD)	L (MM)	L2 (MM)	OD (MM)	
HM-6780-1160	1/8"	M5	90	40	6.3	1,500
HM-6780-1107	1/8"	M6	90	40	6.3	1,400
HM-6780-1108	4mm	M6	106	48	7.5	750
HM-6780-1109	4mm	M8	118	60	7.5	750
HM-6780-1036	6mm	M12	162	79	12.5	150



# Swage Stud (RHT)


SF7801

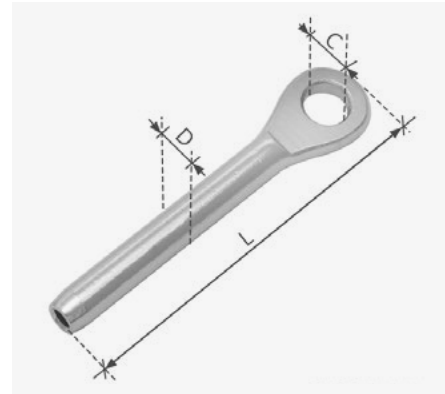
PRODUCT CODE	SIZE (MM/INCH)	M (THREAD)	L (MM)	L2 (MM)	OD (MM)	
HM-6780-1012	2.5mm	M5	86	40	5.5	2,000
HM-6780-1089	2.5mm	M6	85	42	5.5	1,400
HM-6780-1068	3mm	M5	80	40	6.3	1,400
HM-6780-1020	3mm	M6	97	48	6.3	1,200
HM-6780-1073	1/8"	M5	90	40	6.3	1,500
HM-6780-1007	1/8"	M6	90	40	6.3	1,400
HM-6780-1061	4mm	M6	117	57	7.5	750
HM-6780-1076	4mm	M8	115	57	7.5	750
HM-6780-1017	3/16"	M8	124	60	9.1	600
HM-6780-1095	5mm	M8	128	57	9.1	450
HM-6780-1026	5mm	M10	128	61	9.1	300
HM-6780-1134	6mm	M10	162	80	12.5	150
HM-6780-1028	6mm	M12	162	79	12.5	150
HM-6780-1056	8mm	M12	175	76	16.1	150
HM-6780-1171	8mm	M14	180	90	16.1	100
HM-6780-1030	8mm	M16	214	102	16.1	100
HM-6780-1018	10mm	M16	225	105	17.8	80
HM-6780-1014	10mm	M20	225	105	17.8	80
HM-6780-1566	12mm	M20	278	116	21.4	70
HM-6780-1995	14mm	M24	328	140	25	20
HM-6780-1993	16mm	M24	387	170	28.1	20



# Swage Eye


SF7802

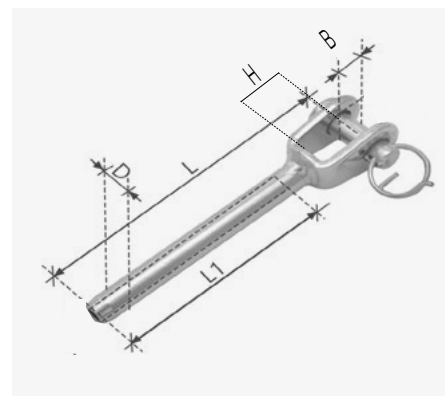
PRODUCT CODE	SIZE (MM/INCH)	C (MM)	D (MM)	L (MM)		B.L. (KGS)
HM-6780-2202	2mm	5.5	5.53	56	2,500	850
HM-6780-2225	2.5mm	5.5	5.53	56	2,500	850
HM-6780-2203	3mm	6.5	6.35	62	2,000	1,000
HM-6780-2718	1/8"	6.5	6.35	62	2,000	1,000
HM-6780-2204	4mm	8.5	7.54	76	1,200	1,350
HM-6780-2731	3/16"	10.5	9.12	87	500	2,500
HM-6780-2205	5mm	10.5	9	87	500	2,500
HM-6780-2306	6mm	13	12.54	107.5	300	4,500
HM-6780-2714	1/4"	13	12.54	107.5	300	4,500
HM-6780-2208	8mm	14.5	16.13	133	125	6,700



# Swage Fork

SF7803

PRODUCT CODE	SIZE (MM/INCH)	B (MM)	D (MM)	H (MM)	L (MM)	L1 (MM)		B.L. (KGS)
HM-6780-3025	2.5mm	5	5.53	11.5	62	35	1,500	700
HM-6780-3003	3mm	5	6.35	12.5	68	38	1,000	1,250
HM-6780-3418	1/8"	5	5.53	11.5	68	38	1,000	700
HM-6780-3718	1/8"	6	6.35	12.5	68	38	1,000	1,250
HM-6780-3904	4mm	6	7.54	12.5	77	45	1,000	1,250
HM-6780-3004	4mm	8	7.54	15.5	77	45	500	1,800
HM-6780-3316	3/16"	9	9.12	15.5	87	51	250	2,650
HM-6780-3005	5mm	10	9.12	15.5	87	51	250	2,650
HM-6780-3006	6mm	12	12.54	27.0	109	64	150	4,000
HM-6780-3908	8mm	12	16.13	28.0	148	80	150	4,000
HM-6780-3008	8mm	14	16.13	28.0	148	80	70	6,500
HM-6780-3010	10mm	16	17.85	33.5	154	90	50	9,000
HM-6780-3012	12mm	19	21.44	39.0	176	105	40	11,000
HM-6780-3114	14mm	25	25.00	55.0	257	140	10	13,000
HM-6780-3116	16mm	25	28.17	55.0	281	160	10	18,000



# hamma<sup>®</sup> Industrial Life Line Fittings

## hamma<sup>®</sup> Industrial Pelican Hook with Stud Terminal

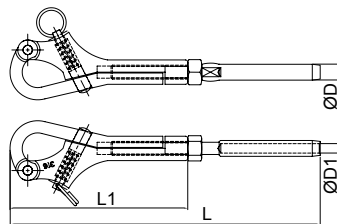
HM-S2831/S7801

CODE	SIZE (CABLE/THREAD)	ØD (MM)	ØD1 (MM)	L (MM)	L1 (MM)	B.L. (KGF)
HM-6283-1413	4mm*M6	7.54	4.3	130	75	1,000
HM-6283-1414	4mm*M8	7.54	4.3	168	100	1,500
HM-6283-1514	5mm*M8	9.08	5.3	176	100	1,500

### TECHNICAL DATA

Casting material: AISI316 - DIN 1.4408  
 Forging material: AISI316 - DIN 1.4401  
 Production: S2831-I4  
 S2831 - Hook - Cast

Terminal - Forged Terminal  
 Surface treatment: "E.P." (Electro polished)



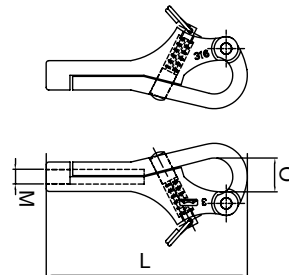
## hamma<sup>®</sup> Industrial Pelican Hook

HM-S2831

CODE	SIZE (MM)	L (MM)	M (MM)	O (MM)	B.L. (KGS)
HM-6283-1006	6	75	M6	13	1,200
HM-6283-1008	8	100	M8	16	1,500

### TECHNICAL DATA

Casting material: AISI316 - DIN 1.4408  
 Forging material: AISI316 - DIN 1.4401  
 Production: S2831 - Hook - Cast  
 Surface treatment: "E.P." (Electro polished)



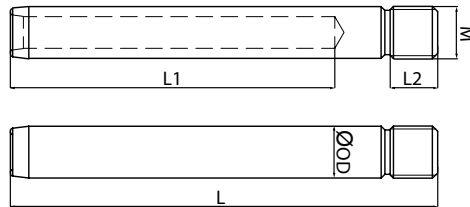
# hamma® Industrial Short Swage Stud

HM-SF7801

HM-2780 CODE	SIZE (CABLE)	L (MM)	L1 (MM)	L2 (MM)	M (THREAD)	ØOD (MM)
HM-2780-1645	4	70	44	12	M8	7.5
HM-2780-1644	5	82	55	12	M8	9.1

**TECHNICAL DATA**

Forging material: AISI316 - DIN 1.4401  
 Production: SF7801- Stud - Forged  
 Surface treatment: "M.F." (Matte finished)



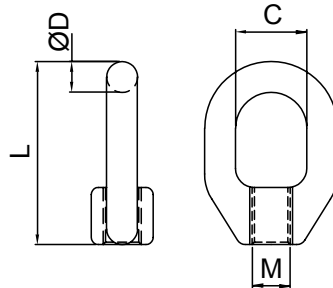
# hamma® Industrial Gate Eye

HM-6306

HM-6306 CODE	SIZE (MM/INCH)	C (MM)	ØD (MM)	L (MM)	M (THREAD)
HM-6306-2108	8	15	6.5	37.5	M8
HM-6306-2536	5/16"UNF	15	6.5	37.5	5/16"UNF

**TECHNICAL DATA**

Casting material: AISI316 - DIN 1.4408  
 Production: S3062/E1 - Swivel - Cast  
 Surface treatment: "E.P." (Electro polished)



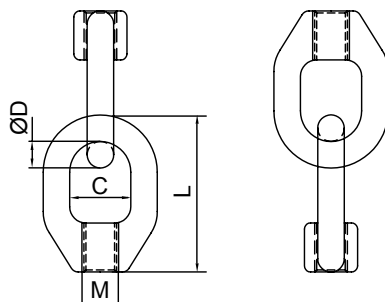
# hamma® Industrial Interlocking Gate Eye

HM-S3062/E2

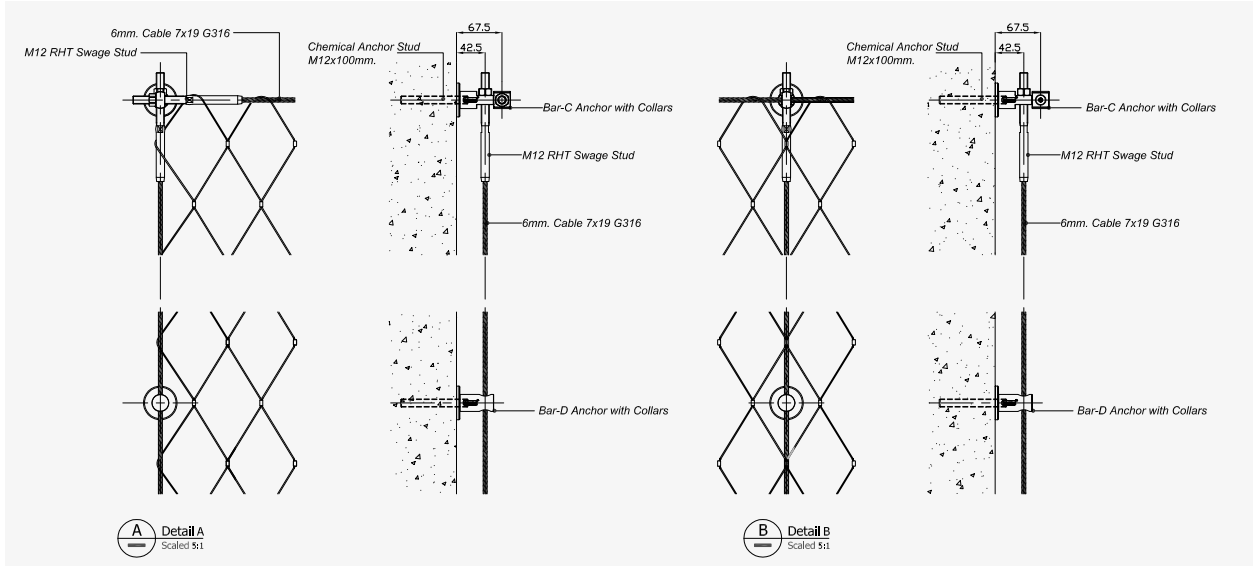
HM-S3062/E2 CODE	SIZE (MM/INCH)	C (MM)	ØD (MM)	L (MM)	M (THREAD)
HM-6306-2208	8	15	6.5	37.5	M8
HM-6306-2526	5/16"UNF	15	6.5	37.5	5/16"UNF

**TECHNICAL DATA**

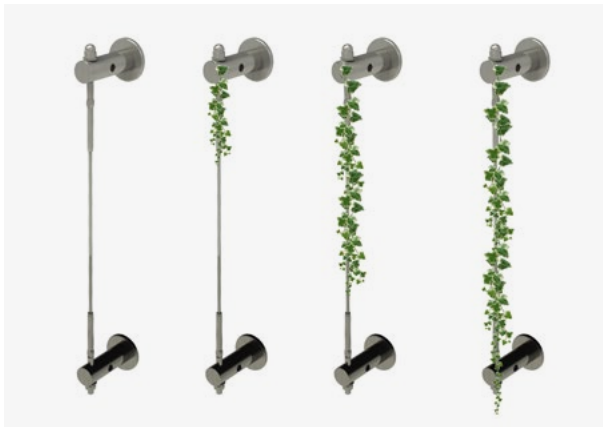
Casting material: AISI316 - DIN 1.4408  
 Production: S3062/E2 - Swivel - Cast  
 Surface treatment: "E.P." (Electro polished)



# hamma® Standoffs



Flexi-Mesh Commercial Green Wall



Flexi-Mesh Commercial Green Wall

## ELECTRO POLISH FINISHED

- Long lasting in the built environment
- Highly resistant

## TIMBER, MASONRY FIXING

- M12 chemical set or combo lag thread fixings

## DESIGN LAYOUT FLEXIBILITY

- Vertical
- Horizontal
- Combinations of above
- Diamond

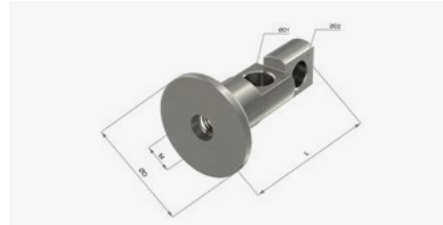


## COMMERCIAL AND DOMESTIC APPLICATION

# hamma® Standoffs Assemblies

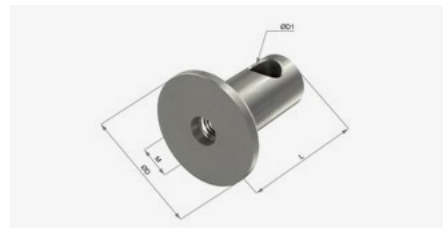
## 2-HOLE FLAT WITH BASE

PRODUCT CODE	D1 (MM)	D2 (MM)	M	D (MM)	L (MM)
HM-ARC20-2FB	14.0	14.0	M12	50.0	80.0



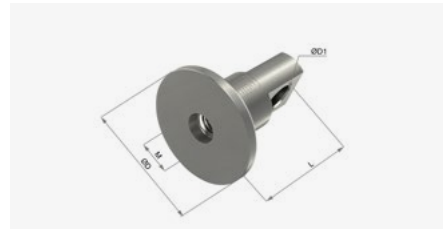
## 1-HOLE ROUND WITH BASE

PRODUCT CODE	ØD1 (MM)	M	ØD (MM)	L (MM)
HM-ARC20-1RB	14.5	M12	50.0	55.0



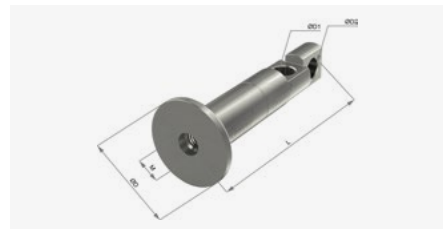
## 1-HOLE FLAT WITH BASE

PRODUCT CODE	ØD1 (MM)	M	ØD (MM)	L (MM)
HM-ARC20-1HB	14.0	M12	50.0	55.0



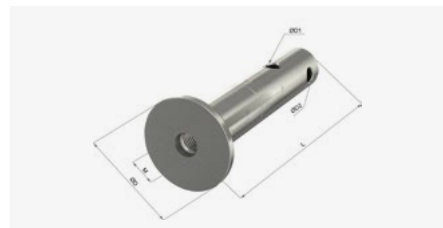
## 2-HOLE FLAT WITH EXTENSION & BASE

PRODUCT CODE	D1 (MM)	D2 (MM)	M	D (MM)	L (MM)
HM-ARC20-2FEB	14.0	14.0	M12	50.0	130.0



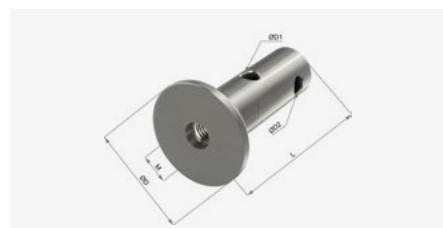
## 2-HOLE ROUND WITH EXTENSION & BASE

PRODUCT CODE	ØD1 (MM)	ØD2 (MM)	M	ØD (MM)	L (MM)
HM-ARC20-2REB	14.0	14.0	M12	50.0	130.0



## 2-HOLE ROUND WITH BASE

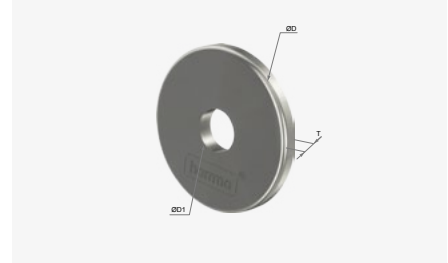
PRODUCT CODE	ØD1 (MM)	ØD2 (MM)	M	ØD (MM)	L (MM)
HM-ARC20-2RB	9.0	9.0	M12	50.0	80.0



# hamma<sup>®</sup> Standoffs Components

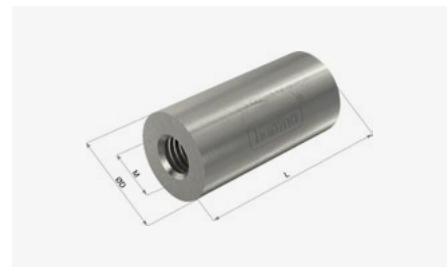
## BASE

PRODUCT CODE	D1 (MM)	ØD	T
HM-ARC20-BASE	13.0	50.0	5.0



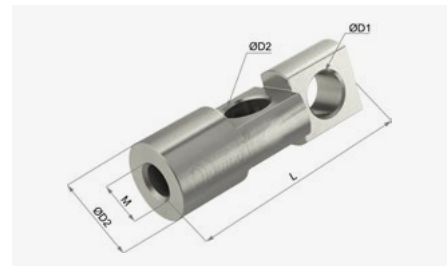
## EXTENSION

PRODUCT CODE	M	L (MM)	ØD
HM-ARC20-BAR-A	M12	50.0	25.4



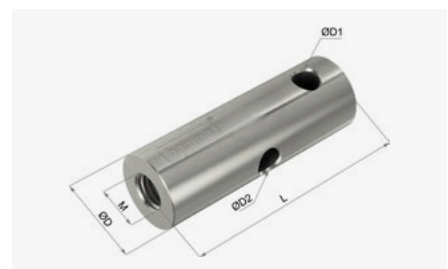
## 2-HOLE FLAT

PRODUCT CODE	M	L (MM)	ØD	T	ØD1	ØD2
HM-ARC20-BAR-C	M12	75.0	14.0	13.5	14.0	25.4



## 2-HOLE ROUND

PRODUCT CODE	M	L (MM)	ØD	ØD1	ØD2
HM-ARC20-BAR-B	M12	75.0	25.4	9.0	9.0



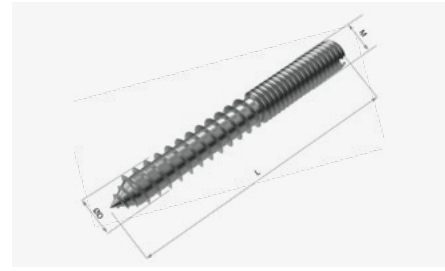
## THREAD JOINER

PRODUCT CODE	M	L (MM)
HM-ARC20-THREAD-18	M12	18.0
HM-ARC20-THREAD-105	M12	105.0
HM-ARC20-THREAD-120	M12	120.0



STANDOFF LAG SCREW

PRODUCT CODE	D (MM)	M	L (MM)
HM-ARC20-LAG	10	12x1.75	80



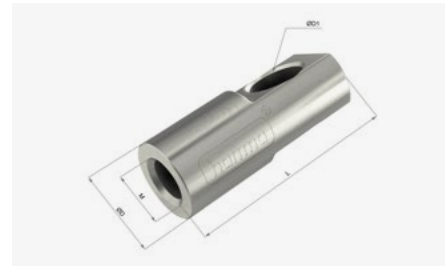
1 HOLE ROUND

PRODUCT CODE	M	L (MM)	ØD	ØD1
HM-ARC20-BAR-D	M12	50.0	25.4	14.5



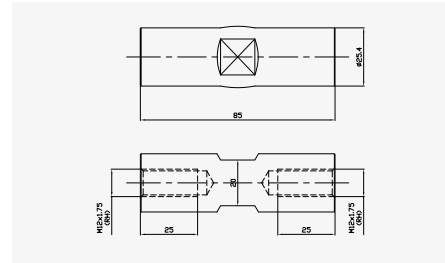
1 HOLE FLAT

PRODUCT CODE	M	L (MM)	ØD	T	ØD1
HM-ARC20-BAR-E	M12	50.0	25.4	13.5	14.0



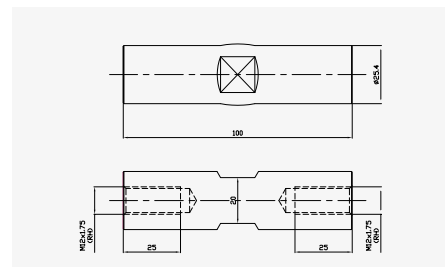
EXTENSION

PRODUCT CODE	M	L (MM)	ØD
HM-ARC20-EXT-85	M12	85.0	25.4



EXTENSION

PRODUCT CODE	M	L (MM)	ØD
HM-ARC20-EXT-100	M12	100.0	25.4



# hamma<sup>®</sup> Rated Collared Eye Bolt

The hamma<sup>®</sup> Rated Collared Eye Bolt is the perfect solution for both abseil and fall arrest systems.

## KEY FEATURES

- G316 Stainless Steel
- Rated to 15kN
- Can be used for abseiling and fall arrest anchors
- Angled shaft to stop rotation
- Tested in accordance with AS5532:2013
- 16mm\*100mm 45 deg (Laser Etched with hamma)



## SPECIFICATIONS AND INSTALLATION

- G316 Stainless steel
- 16mm eyebolt
- Made by hamma®, a leading quality brand
- Rated 15kN fall arrest and abseil
- Hole size 18mm with minimum depth of 110mm
- Minimum concrete depth of 150mm
- Must have a minimum of 40mm below anchor hole
- Concrete must be minimum of 25MPa with no structural cracking and be in good condition. If in doubt it should be inspected by a structural engineer
- Edge of anchor hole must be a minimum of 200mm away from any edge
- Minimum distance between anchors 200mm unless specified by a structural engineer
- The slab that the anchor is being installed into must be a single structural slab that is an integral part of the building structure. This should be verified by a structural engineer
- The hamma® Rated Collared Eye Bolt should not be used in block walls or any other type of structure that is not of solid concrete construction
- Recommended chemical PolyPro BIS-P Gen2 or Hilti equivalent
- Upon drilling hole, ensure hole is properly cleaned out using a brush and hand air pump. This should be done a minimum of 4 times or until no more residual concrete dust can be seen coming out of the hole. This is to ensure a strong bond is formed between the chemical and the concrete
- Once installed and the chemical has cured, load test the anchor point to 7.5kN for a period not less than 3 minutes in direct tension. It must be able to hold this load with no signs of movement. Testing and inspection in accordance with AS/NZS 1891.4-2009.

## WARNING AND DISCLAIMER

All information contained in this document is considered general guidance and advice only. The intention of this document is to provide general information on how to install the hamma® Rated Collared Eye Bolt and should not be considered training. It is the responsibility of the installer to ensure that they have the required licenses, experience, skills, training, and knowledge to design, install and certify an anchor point system.

Arcus Wire Group Pty Ltd (**Arcus Wire Group**) is not liable for, nor can be held responsible for, any mistakes or omissions within this document, or any misinterpretation of this document.

The hamma® Rated Collared Eye Bolt must only be installed by a competent person (as deemed competent according to the relevant legislation), who has been trained in the selection, use and maintenance of height safety systems by a registered training organisation (RTO).

The suitability of the roof and structure must be carried out by a structural engineer or a competent person (as deemed competent according to the relevant legislation) and is the sole responsibility of the installer to ensure this is completed prior to installation.

The incorrect design of an anchor point system or incorrect installation of the hamma® Rated Collared Eye Bolt may result in serious injury or death. To the extent permitted by law, Arcus Wire Group is not responsible for, nor liable, directly, or indirectly, for any damage, injury or death related to the installation or use of its products.

No warranty is given by Arcus Wire Group about the structural integrity or suitability of any structure to which the hamma® Rated Collared Eye Bolt are installed. Proper assessment prior to installation must be completed by a Structural Engineer or by a competent person (as deemed competent according to the relevant legislation). It is the sole responsibility of the installer to ensure this is completed prior to

installation. Arcus Wire Group cannot be held responsible or liable for any third-party assessment.

## DESIGN INFORMATION

The design of an anchor point fall arrest system and an abseil system are vastly different, and each will depend upon the roof layout and access requirements. It is up to the designer of these systems to ensure that they have the required training, experience, knowledge, and qualifications to do so safely. The following guidelines are for general information purposes only.

### FALL ARREST

- Anchor points should be spaced evenly with each anchor being able to be reached safely without exposing the user to a fall
- Maximum distance of anchor points from an edge that requires access is 10m
- Maximum distance between anchor points should not exceed 6m. This is to limit dead zones. Designer and installer should consider site conditions and should consider if this measurement should be decreased for greater safety.
- Diversion anchors should be installed in any location where there is a corner or the roof shape would expose the user to a pendulum fall. Ensure when assessing location of diversion anchors that there is sufficient roof structure to attach the anchor

### FALL CLEARANCE FOR FALL ARREST ANCHOR

When designing and installing a height safety system there must be sufficient clearance below the system to allow for a fall to be arrested. AS1891.4 and the Managing the Risks of Falls at Workplaces Code of Practice specify what needs to be taken into consideration during the design. This includes: -

- Position of anchor to the edge of the roof/fall zone
- Length of lanyard or attachment
- Length of shock absorber deployment
- Height of the user
- A safety factor of 1000mm

Designers and installers of fall arrest anchor points must make themselves aware of these requirements.

### ABSEIL

Abseil anchor point systems are site specific and can only be designed by a person with the appropriate rope access accreditation, training and experience. Arcus Wire Group does not provide guidance for this.

## INSPECTION AND MAINTENANCE

Anchor points must be inspected by a competent person (as deemed competent according to the relevant legislation) at least once every 12 months under normal conditions or more frequently when in corrosive environments. As part of the inspection, the following must be taken into account:

- Does the design and layout of the system still adequately control the risks of falls?
- Is the concrete in good condition and not cracking or lifting?
- Have any new penetrations been installed that are within 200mm of an anchor point since last inspection?
- Is the anchor point in good condition and no signs of a fall?
- Any anchor that shows evidence of a fall must be replaced. As part of this replacement the concrete around the anchor should be inspected. We recommend engaging a structural engineer where it is believed that a fall has occurred and moving the anchor to a new location if possible
- Data label should be installed showing all relevant information.
- System sign at entry point must be updated.

- Is all the required information regarding the system readily available to an end user prior to accessing the roof? If not, speak with client about the importance of this.
- The anchor must be load tested to 50% of its nominated value with a vertical load (in tension load) for a period of not less than 3 minutes. During this time there should be no loss of pressure or movement of the anchor or surrounding concrete. No cracking or distortion should occur. For a 15kN rated anchor this is 7.5kN

## WARRANTY

Each hamma® Rated Collared Eye Bolt is supplied with a 10-year warranty against defects from date of purchase (Warranty Period). The warranty is given to the original purchaser of the product and is not transferrable.

The benefits given by this warranty are in addition to other rights and remedies the original purchaser may have under law.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

### REPAIR OR REPLACEMENT

During the Warranty Period, and as our sole liability to the original purchaser under this warranty, Arcus Wire Group agrees to either repair or replace (at its option) any defective hamma® Rated Collared Eye Bolt, if the product has a defect in materials and workmanship.

If Arcus Wire Group elects to replace the product, replacement may be with a different device if the item under warranty is no longer in production.

Repair or replacement of the product does not extend or restart the Warranty Period.

### EXCLUSIONS

For the purposes of this warranty, a defect does not include visual appearance such as tea staining or discolouration.

This warranty against defects does not apply:

- to goods which have been improperly fitted, improperly maintained, or used in any application for which it has not been intended;
- to normal wear which can reasonably be expected in normal use of the goods;
- to components or assemblies used in aeronautical applications;
- to goods installed in severe chlorine or high humidity environments where chloramines occur (e.g. covered swimming pools), due to potential stress corrosion;
- where there has been an electric current passed through the goods;
- where there has been a failure by the customer or an end user of the goods to carry out or observe instructions or directions given by us; and
- where there has been a modification or repair of the goods attempted or carried out by the customer or any other person.

The installation of each hamma® Rated Collared Eye Bolt must be inspected by an installer who has the required licenses, experience, skills, training, and knowledge to design, install and certify an anchor point system (Qualified Installer) as per our inspection criteria set out in the Inspection and Maintenance section above or this warranty will be void.

The hamma® Rated Collared Eye Bolt is designed and fabricated in accordance with AS1891.4 and AS5532:2013 and are to be used in accordance with these Standards.

### HOW TO MAKE A CLAIM

To make a claim under this warranty, you must (within the Warranty Period and within 14 days of the defect becoming evident) submit a claim to us using the following contact details:

Phone: 1800 272 879

Address: 9 Keller Crescent, Carrara, Queensland, 4211

Email: [accounts@arcuswire.com](mailto:accounts@arcuswire.com)

Your claim must include the following information:

- your name, address and phone number;
- a description of the goods;
- a description of the defect (with supporting photos), and the circumstances in which the defect appeared;
- proof of the Customer's purchase of the goods and details of the date and place of supply;
- details of the installer; and
- evidence of annual inspections.

A claimant must provide Arcus Wire Group with all other information it reasonably requests about the circumstances in which the defect was caused.

Arcus Wire Group may arrange for the product to be inspected, to determine whether it is defective. A call out fee for inspection may be charged. Any call out fee that Arcus Wire Group charges will be refunded if Arcus Wire Group determines that the product is defective. If, acting reasonably, Arcus Wire Group agrees that the product is defective, it will, at its option, either repair or replace the product.

### TERMS AND CONDITIONS

- The hamma® Rated Collared Eye Bolt must be installed by a Qualified Installer or warranty is void
- The hamma® Rated Collared Eye Bolt must be inspected every 12 months by a Qualified Installer or warranty is void
- Incorrect design, installation or non-compliance will void warranty
- Use of the hamma® Rated Collared Eye Bolt outside of its designed purpose will void warranty
- Excessive use causing damage or failure which is considered outside of normal operations will void warranty

## TECHNICAL SPECIFICATIONS

hamma® Collared Eye Bolt 16mm\*100mm 45 deg (Laser Etched with hamma).

## UPDATES

Arcus Wire Group reserves the right to update, change or modify this document without notice. Please check our website for the latest version [www.arcuswire.com](http://www.arcuswire.com).

# Conversions & Codes

# hamma® X Swage Tolerance Chart

## CONVERSIONS

IMP	METRIC
1/8	3.17
5/32	3.96
3/16	4.76
7/32	5.55
1/4	6.35
9/32	7.14
5/16	7.93
3/8	9.52
7/16	11.1
1/2	12.7
9/16	14.28
5/8	15.875
3/4	19.05
7/8	22.2
1"	25.4
1 1/8	28.57
1 1/4	31.75

## RIGGING SCREWS

THREAD SIZE	CODE
1/8	2
1/4	4
5/16	5
3/8	6
7/16	7
1/2	8
9/16	9
5/8	10
3/4	12
7/8	14
1	16
1 1/8	18
1 1/4	20

WIRE Ø MM / IN	BEFORE SWAGE MIN Ø MM	BEFORE SWAGE MAX Ø MM	AFTER SWAGE MIN Ø MM	AFTER SWAGE MAX Ø MM
1.6mm or 1/16"	3.94	4.06	3.40	3.50
2.4mm or 3/32"	5.41	5.53	4.70	4.82
3mm or 1/8"	6.22	6.35	5.44	5.65
4mm or 5/32"	7.42	7.54	6.23	6.35
5mm or 3/16"	9.00	9.12	7.83	7.95
5.5mm or 7/32"	10.72	10.84	9.35	9.50
6mm or 1/4"	12.42	12.54	10.95	11.12
7mm or 9/32"	14.18	14.30	12.50	12.70
8mm	16.01	16.13	14.07	14.30
9mm, 3/8" & 10mm	17.73	17.85	15.70	15.90
11mm or 7/16"	19.63	19.83	17.27	17.47
12mm or 1/2"	21.32	21.44	18.82	19.05
12E	20.00	20.08	17.60	17.80
14mm or 9/16"	24.88	25.00	22.00	22.23
16mm or 5/8"	28.05	28.17	25.15	25.40
19mm or 3/4"	34.40	34.52	30.36	30.70
22mm or 7/8"	40.21	40.46	36.20	36.50
25mm or 1"	45.77	46.02	40.97	41.28
28mm or 1 1/8"	50.00	50.00	44.00	44.50
32mm or 1 1/4"	58.00	58.00	51.00	51.50

## FORCE AND TENSILE STRENGTH CONVERSIONS

1 kg	=	9.81N	1 N	=	9.81N
1 Mpa	=	1 N/mm <sup>2</sup>	1 Pa	=	1 N/m <sup>2</sup>

## FORCE AND TENSILE STRENGTH CONVERSIONS

1 Lb	=	4.45N	1 Kip	=	4.45N
1 foot	=	0.305m	1 inch	=	25.4mm
1 ft <sup>2</sup>	=	0.0929m <sup>2</sup>	1 in. <sup>2</sup>	=	645mm <sup>2</sup>
1 psi	=	6890 Pa	1 ksi	=	689MPa

# hamma® Industrial Snap Shackles

## hamma® Industrial Snap Shackle (Cast Swivel Eye)

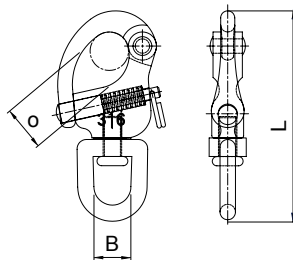
HM-6248

CODE	SIZE (CABLE)	B (MM)	L (MM)	O (MM)	B.L. (KGF)
HM-6248-2001	1	12	67	14	1,100
HM-6248-2021	2	16	87	20	2,000
HM-6248-2304	3	22	126	27	3,500

### TECHNICAL DATA

Casting material: AISI316 - DIN 1.4408  
 Forging material: AISI316 - DIN 1.4401  
 Production: S2482, S2478

Shackle - Cast  
 Swivel - Cast  
 Pin - Forged  
 Surface treatment : "E.P." (Electro polished)



## hamma® Industrial Fixed Snap Shackle

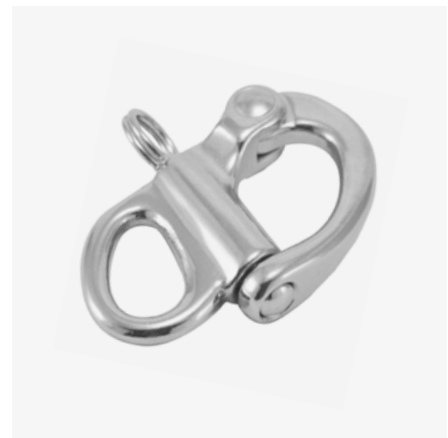
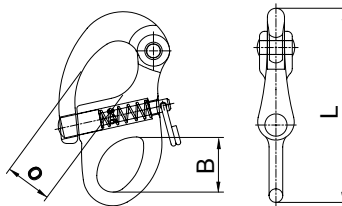
HM-6248

CODE	SIZE (MM)	B (MM)	L (MM)	O (MM)	B.L. (KGF)
HM-6248-3000	0	6.5	32	9	400
HM-6248-3001	1	16	56	12	1,100
HM-6248-3322	2	21	70	19	2,000
HM-6248-3333	3	21	102	25	3,500

### TECHNICAL DATA

Casting material: AISI316 - DIN 1.4408  
 Forging material: AISI316 - DIN 1.4401  
 Production: S2483

Shackle - Cast  
 Pin - Forged  
 Surface treatment : "E.P." (Electro polished)



## hamma® Industrial Snap Hook

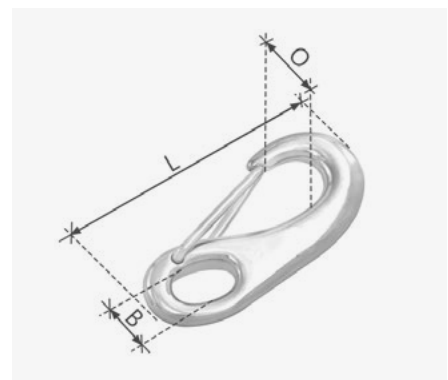
S2470

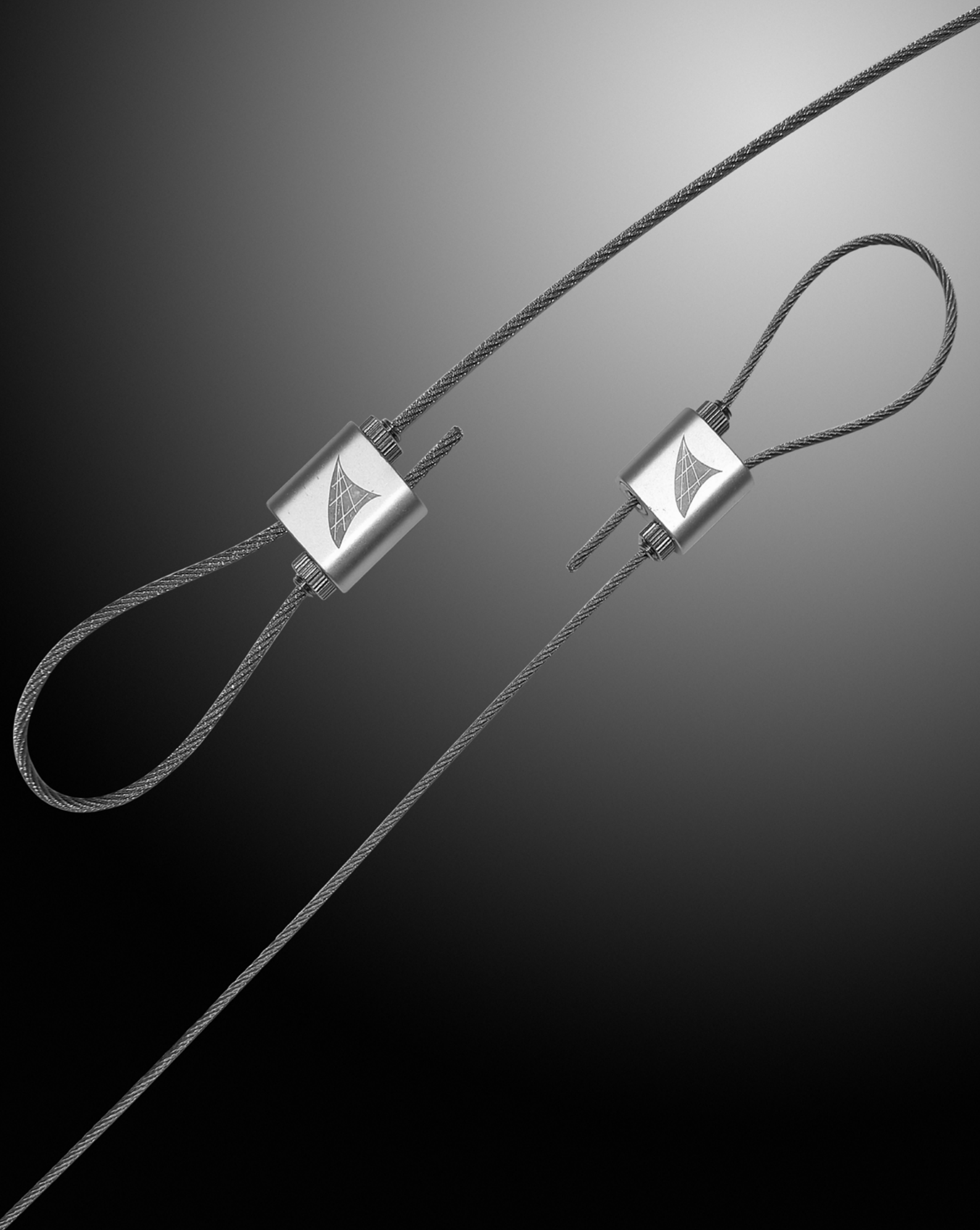
PRODUCT CODE	SIZE (MM)	ØB (MM)	L (MM)	O (MM)	B.L. (KGS)
HM-6247-0032	32	4	32	7	80
HM-6247-0050	50	6.6	50	10	220
HM-6247-0070	70	9	70	14	500
HM-6247-0100	100	13.8	98	20	900

### TECHNICAL DATA

Casting material: AISI316 - DIN 1.4408  
 Forging material: AISI316 - DIN 1.4401  
 Production: S2470

SNAP - Cast  
 Surface treatment : "E.P." (Electro polished)





# Wire Joiner Range

## Wire Joiner Range

AWG-GRIP

PRODUCT CODE	SIZE (MM)	WEIGHT (KG)
AWG-GRIP-01	1.2mm Ø 11kg 1.5mm Ø 18kg	10g
AWG-GRIP-02	2.0m Ø 32kg	14g
AWG-GRIP-03	2.5mm Ø 50 kg	23g
AWG-GRIP-04	3.0mm Ø72 kg 3.2mm Ø 81kg	37g
AWG-GRIP-05	4.0mm Ø 128 kg 5.0mm Ø 200kg	88g

Available in various sizes, our new Wire Joiner range is the ideal solution for adjustable, reusable wire swaging options.

### KEY FEATURES

- Safe working load on straight inline pulls when using wire rope specifications
- Fully adjustable
- Lightweight
- Recommended for 7x7 and 7x19 wire rope configurations



# Galvanised Wire Rope Range

Our galvanised wire rope range is available in the following configurations: 7x7, 1x19, 7x19, 6x19FC and 6x25.

The 6x19FC range includes polyurethane and nylon coated gym cables. Please refer to the 6x19FC section for specifications.

For more detailed information about our galvanised wire rope range please contact our team on 1800 ARCUSW (1800 272 879) or email [sales@arcuswire.com](mailto:sales@arcuswire.com).

## 1x19

The 1x19 configuration of the wire rope provides excellent resistance to stretching and bending, which makes it ideal for use in applications where stability and support are essential. It is also resistant to abrasion, making it a long-lasting and durable choice for use in harsh and demanding environments.

Overall, galvanised 1x19 wire rope is a versatile and reliable product that offers high strength and durability, making it an excellent choice for a wide range of industrial and commercial applications.

## 7X7

The 7x7 configuration provides excellent flexibility and allows for easy bending and wrapping, making it ideal for use in applications such as garage doors, cable railings, irrigation, and agricultural fencing.

The galvanized coating on the wire rope provides added protection against corrosion and rust, making it suitable for use in outdoor environments where it may be exposed to moisture and other elements. It also offers good resistance to abrasion, which helps to extend its service life.

## 7x19

The 7x19 configuration provides excellent flexibility and allows for easy bending and wrapping, making it ideal for use in applications such as shade sails, theatres, and poultry sheds. The galvanized coating on the wire rope provides added protection against corrosion and rust, making it suitable for use in outdoor environments where it may be exposed to moisture and other elements. It also offers good resistance to abrasion, which helps to extend its service life.

## 6x19FC

The "FC" in its name stands for "Fiber Core", indicating that the rope has a natural fiber core that provides additional flexibility and shock absorption. This type of wire rope is ideal for use in applications that require both strength and flexibility, such as gym cable and rigging operations, as well as in structural applications.

Its 6x19FC configuration provides excellent flexibility, allowing for easy bending and wrapping, while also providing high strength and durability. The galvanized coating on the wire rope provides added protection against corrosion and rust, making it suitable for use in outdoor environments where it may be exposed to moisture and other elements. It also offers good resistance to abrasion, which helps to extend its service life.

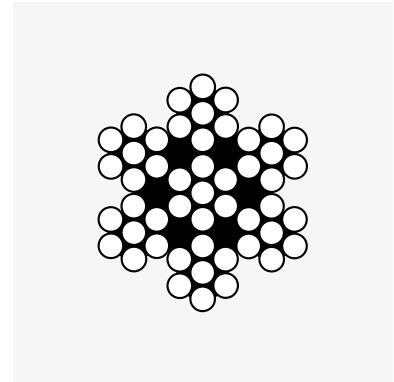
## 19X7

The 19x7 configuration in non-rotating with wire strand core, is a rotation resistant galvanised wire rope used mainly for cranes and hoists.

## 7x7 Grade G2070

G0770

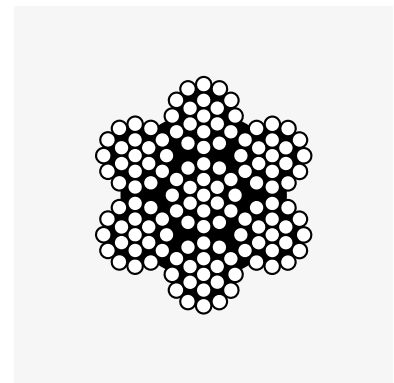
CODE	SIZE	WEIGHT	MBL (KN)	REEL SIZE
G077012-1000	1.2mm	0.006	1.09	1000m
G077015-1000	1.5mm	0.009	1.70	1000m
G077020-1000	2.0mm	0.015	3.03	1000m
G077025-1000	2.5mm	0.024	4.73	1000m
G077030-1000	3.0mm	0.035	6.72	1000m
G077040-1000	4.0mm	0.061	11.90	1000m
G077050-1000	5.0mm	0.096	18.60	1000m
G077060-1000	6.0mm	0.138	26.70	1000m
G077070-1000	7.0mm	0.188	36.40	1000m
G077080-1000	8.0mm	0.246	47.50	1000m



## 7x19 Grade G2070

G0790

CODE	SIZE	WEIGHT	MBL (KN)	REEL SIZE
G079032-1000	3.2mm	0.039	7.05	1000m
G079040-1000	4.0mm	0.061	11.20	1000m
G079050-1000	5.0mm	0.095	17.40	1000m
G079060-1000	6.0mm	0.137	25.40	1000m
G079065-1000	6.5mm	0.161	29.30	1000m
G079070-1000	7.0mm	0.187	31.00	1000m
G079080-1000	8.0mm	0.243	43.90	1000m
G0790100-1000	10.0mm	0.381	68.70	1000m
G0790120-1000	12.0mm	0.548	98.90	1000m
G0790140-1000	14.0mm	0.746	125.59	1000m



Also available in Black Nylon Coated  
3mm GN079030.

## 7x19 Grade G1770

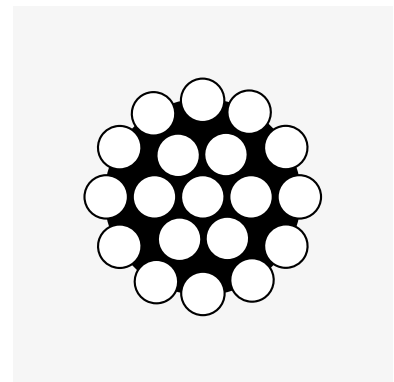
G0791

CODE	SIZE	WEIGHT	MBL (KN)	REEL SIZE
G079160-1000	16.0mm	0.997	149.9	1000m

## 1x19 Grade G2070

G0190

CODE	SIZE	WEIGHT	MBL (KN)	REEL SIZE
G0190125-1000	1.25mm	0.005	1.70	1000m
G019015-1000	1.5mm	0.008	2.44	1000m
G019020-1000	2.0mm	0.015	4.35	1000m
G019025-1000	2.5mm	0.024	6.79	1000m
G019030-1000	3.0mm	0.035	9.79	1000m
G519060-1000	6.0mm	0.18	30.35	1000m
G519080-1000	8.0mm	0.259	53.95	1000m
G519100-1000	10.0mm	0.511	84.29	1000m
G519120-1000	12.0mm	0.739	121.38	1000m
G519140-1000	14.0mm	0.965	165.21	1000m
G519160-500	16.0mm	1.314	215.79	1000m



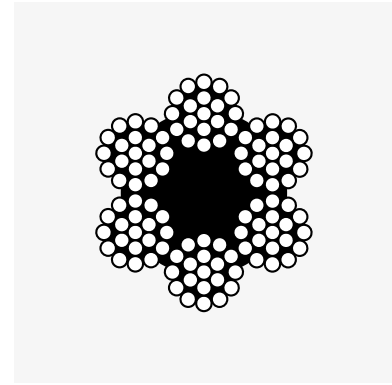
## 6x19 (FC) Grade G1570

G5690

CODE	SIZE	WEIGHT	MBL (KN)	REEL SIZE
G569030-1000	3.0mm	0.031	4.34	1000m
G569040-1000	3.5mm	0.042	5.80	1000m
G569050-1000	4.0mm	0.055	7.70	1000m
G569050-1000	5.0mm	0.086	12.00	1000m
G569060-1000	6.0mm	0.125	17.60	1000m

Also available in a range of Polyurethane and Nylon Coated Gym Cable options as per below:

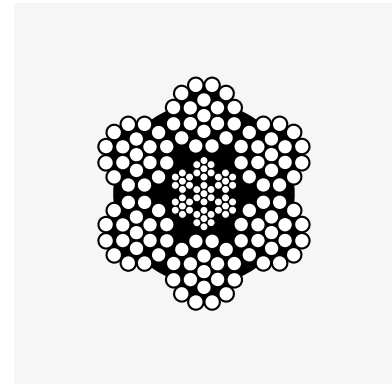
- Black Nylon Coated 4-5.5mm GN69040;
- Black PVC Coated 6-8mm GMB69060;
- Black Polyurethane Coated 3-4.8mm GP69030 and 4-6mm GP69040



## 6x25 G1960 Tirfor

G0651

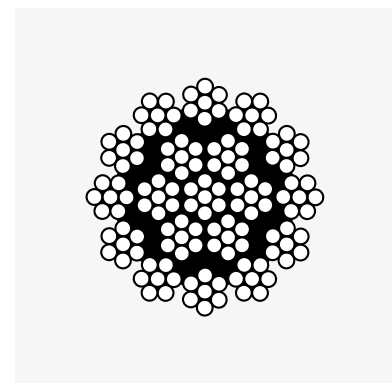
CODE	SIZE	WEIGHT	MBL (KN)	REEL SIZE
G065110-1000	11.0m	0.46	84.4	1000m
G065160-1000	16.0mm	0.997	179	1000m



## 19x7 G1570

G1570

CODE	SIZE	CONSTRUCTION	WEIGHT	MBL (KN)	REEL SIZE
G597050-1000	5.0mm	19x7	0.095	14.5	1000m
G597060-1000	6.0mm	19x7	0.137	18.5	1000m
G597070-1000	7.0mm	19x7	0.19	25.2	1000m
G597080-1000	8.0mm	19x7	0.243	41.1	1000m



# hamma<sup>®</sup> Stainless Steel Wire Rope

## hamma<sup>®</sup> Pro Strand

### Quality Compacted Rope

hamma<sup>®</sup> Pro Strand is a market leading compacted strand wire rope.

Originally this type of wire was die formed. The process involved draining the wire strand through dies using soap as a drawing compound. Over the years, new technologies enabled the formation of the delta shape via a unique swaging process which provides a smoother finish with no sharp edges and maximum cross sectional area.

Ideal for Marine applications, the key benefits of hamma<sup>®</sup> Pro Strand include:

- **Extreme Performance:** increased minimum breaking strength resulting in standing rigging that delivers a longer working life;
- **Corrosion Resistance:** explicitly made for the harshest marine conditions, hamma<sup>®</sup> Pro Strand is manufactured from the highest quality raw materials that have been successfully tested in the world's southern oceans for over 20 years;
- **Superior Finish:** the wire rope goes through several QA/QC inspections during production to check the cleanliness of the wire rope; and
- **Durability:** suitable for dinghy, racing, and cruising markets, ideally combined with the hamma<sup>®</sup> Regatta range of open body turnbuckles and terminals to produce a reliable, high-performance standard rigging solution.

hamma<sup>®</sup> Pro Strand is also ideal for rigid structures or glass façades due to the unique surface finish and high tensile performance.

The low elasticity also means hamma<sup>®</sup> Pro Strand wire ropes don't need to be pre-stretched.

The shiny smooth surface is visually appealing, enabling the compact cables to be located in areas of close proximity to building occupants, making greater use of space.

Moreover, its small profile to tensile ratio means that hamma<sup>®</sup> Pro Strand wire ropes offer an unparalleled transparency and performance to the glass facade. Combining ease of maintenance in both outdoor and indoor locations, compact hamma<sup>®</sup> Pro Strand wire ropes are the perfect solution to modern tensile structure design.

hamma<sup>®</sup> Pro Strand Technical Data:

- Material: AISI 316
- Construction: Compacted Strand
- Modulus of Elasticity: 132 +/- 10kN/mm<sup>2</sup>  
Note: Limit tension is calculated at 60% of MBL.

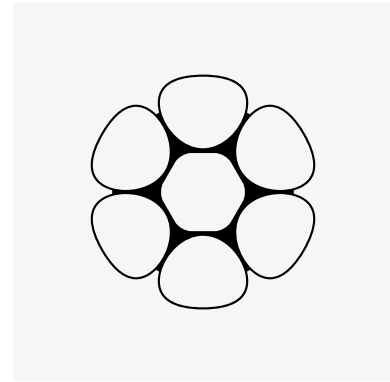
NB Other sizes available/mill certificates available on request.

Wire lengths are available in the following Cut, 305m, 500m, 1000m. Other lengths are available upon request.

## hamma® Pro Strand 1x7

Quality Compacted Rope

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMP17016	1.6mm	1x7	250	2.5	0.016
HMP17020	2.0mm	1x7	450	4.4	0.024
HMP17025	2.5mm	1x7	700	6.9	0.036
HMP17030	3.0mm	1x7	1,025	10.1	0.055
HMP17032	3.2mm	1x7	1,130	11.1	0.059
HMP17035	3.5mm	1x7	1,375	13.5	0.075
HMP17040	4.0mm	1x7	1,800	17.7	0.098



hamma® Pro 1x7 strand has been developed to provide the marine and architectural industries with a quality 'compacted' strand that has a smooth clean finish, aesthetically superior to regular wire rope construction whilst maintaining the strength and corrosion resistance of all hamma® stainless steel wire rope.

As hamma® Pro 1x7 is a 'compacted' strand there is no need to pre-stress the wire.

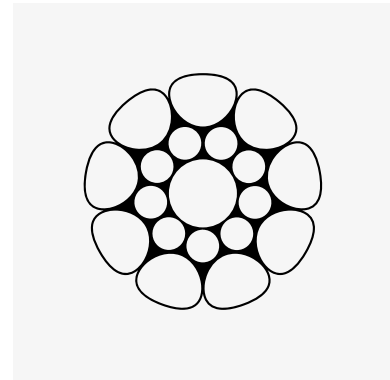
This process of strand compaction decreases the constructional stretch of the wire which also results in breaking loads approximately 30% higher than conventional strands.

hamma® Pro 1x7 is a (6/1) Construction and used for small diameter applications up to and including 4.0mm.

## hamma® Pro Strand 1x19

Quality Compacted Rope

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMP19050	5.0mm	1x19	2,600	25.5	0.156
HMP19060	6.0mm	1x19	3,700	36.3	0.218
HMP19070	7.0mm	1x19	5,100	50.0	0.291
HMP19080	8.0mm	1x19	6,500	63.7	0.381
HMP19090	9.0mm	1x19	9,000	88.3	0.484
HMP19100	10.0mm	1x19	10,250	100.5	0.599
HMP19110	11.0mm	1x19	13,500	132.4	0.719
HMP19120	12.0mm	1x19	14,400	141.2	0.810



hamma® Pro 1x19 has been developed to provide the marine and architectural industries with a quality 'compacted' strand that has a smooth clean finish, aesthetically superior to any product currently on the market whilst maintaining the strength and corrosion resistance of all hamma® stainless steel wire rope. As hamma® is a 'compacted' strand there is no need to pre-stress the wire.

This process of strand compaction decreases the constructional stretch of the wire which also results in breaking loads approximately 30% higher than conventional strands.

hamma® Pro 1x19 is a (9/9/1) Construction and used for diameter applications up to and including 12.0mm.

# hamma® Pro Strand 1x25

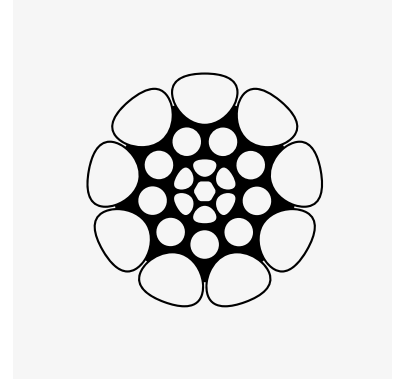
Quality Compacted Rope

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMP15140	14.0mm	1x25	19,300	189.7	1.142
HMP15160	16.0mm	1x25	25,600	251.7	1.494
HMP15190	19.0mm	1x25	32,000	314.6	2.105

hamma® Pro 1x25 has been developed to provide the marine and architectural industries with a quality 'compacted' strand that has a smooth clean finish, aesthetically superior to any product currently on the market whilst maintaining the strength and corrosion resistance of all hamma® stainless steel wire rope.

As hamma® Pro Strand 1x25 is a 'compacted' strand there is no need to pre-stress the wire. This process of strand compaction decreases the constructional stretch of the wire which also results in breaking loads approximately 30% higher than conventional strands.

hamma® Pro 1x25 is a (9/9/6/1) Construction and used for bigger diameter applications 14-19 mm.



Perth Arbour, Optus Stadium, Australia



# hamma<sup>®</sup> X Strand

## Xtreme Outperformance

hamma<sup>®</sup> X has been the industry leading conventional strand across Australasia for over 17 years. This is primarily due to its proven quality control.

The hamma<sup>®</sup> X range offers a combination of superior corrosion resistance, solid all-round performance and a strong value proposition. hamma<sup>®</sup> X wire rope is extensively used in hanger cables for lightweight structures, stabilizing cables for wooden trusses, and balustrade cables for stairways and pedestrian railings.

hamma<sup>®</sup> X Technical Data:

- Cable material: AISI 316
- Construction: Spiral strand
- Modulus of elasticity: 132+/-10 kN/mm<sup>2</sup>

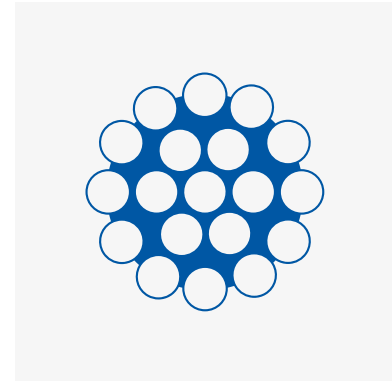
Note: Limit tension is calculated at 60% of MBL.



Lisa Blair's Yacht Climate Action Now  
At the launch of Lisa's adventure to be the first woman to sail solo, non-stop and unassisted around Antarctica

## hamma® X Strand 1x19 Metric

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMX19010	1.0mm	1x19	84	0.8	0.005
HMX19015	1.5mm	1x19	189	1.9	0.011
HMX19020	2.0mm	1x19	336	3.3	0.020
HMX19025	2.5mm	1x19	525	5.1	0.031
HMX19030	3.0mm	1x19	756	7.4	0.045
HMX19035	3.5mm	1x19	1,030	10.1	0.073
HMX19040	4.0mm	1x19	1,340	13.1	0.080
HMX19050	5.0mm	1x19	2,100	20.6	0.126
HMX19060	6.0mm	1x19	3,030	29.7	0.180
HMX19070	7.0mm	1x19	4,120	40.4	0.248
HMX19080	8.0mm	1x19	5,380	52.8	0.318
HMX19090	9.0mm	1x19	6,810	66.8	0.407
HMX19100	10.0mm	1x19	8,400	82.5	0.511
HMX19110	11.0mm	1x19	10,574	99.8	0.607
HMX19120	12.0mm	1x19	12,102	119.0	0.739
HMX19140	14.0mm	1x19	16,473	152.0	0.965
HMX19160	16.0mm	1x19	20,500	211.0	1.314
HMX19190	19.0mm	1x19	30,300	298.0	1.781
HMX19200	20.0mm	1x19	33,650	330.0	1.966
HMX19220	22.0mm	1x19	40,687	399.0	2.404



hamma® X 1x19 has been Australasia's number one selling 1x19 wire rope for over 17 years. hamma® X 1x19 consists of a strand with 19 wires. hamma® X 1x19 is a rigid wire and is suitable for rigid rigging only such as mast stays, balustrading, guy ropes and structural applications. Terminal swaging hamma® Regatta using hydraulic machines is the preferred method. When the two are combined the product quality is optimised.

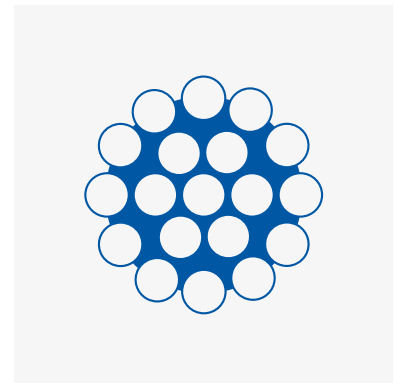
Known for its superior quality hamma® X Strand is an essential product for the following industries:

- Architectural
- Shade Structure's and Tensile Membranes
- Marine
- Yacht Rigging
- Offshore Oil & Gas
- Subsea Engineering
- Mining
- Glass Facade
- Cable Net Structures

Wire lengths are available in the following Cut, 305m, 500m, 1000m. Other lengths are available upon request.

# hamma® X Strand 1x19 Imperial

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMX19008	1/32"	1x19	53	0.5	0.003
HMX19012	3/64"	1x19	121	1.2	0.007
HMX19016	1/16"	1x19	215	2.1	0.013
HMX19024	3/32"	1x19	483	4.7	0.029
HMX19032	1/8"	1x19	861	8.4	0.051
HMX19048	3/16"	1x19	1,935	19.0	0.115
HMX19055	7/32"	1x19	2,640	25.9	0.157
HMX19064	1/4"	1x19	3,442	33.8	0.204
HMX19072	9/32"	1x19	4,357	42.7	0.259
HMX19096	3/8"	1x19	7,746	76.0	0.460
HMX19110	7/16"	1x19	10,574	99.8	0.607
HMX19127	1/2"	1x19	13,555	132.9	0.806
HMX19143	9/16"	1x19	17,186	168.5	1.020



hamma® X 1x19 has been Australasia's number one selling 1x19 wire rope for over 17 years. hamma® X 1x19 consists of a strand with 19 wires. hamma® X 1x19 is a rigid wire and is suitable for rigid rigging only such as mast stays, balustrading, guy ropes and structural applications. Terminal swaging either hamma® Industrial or hamma® Regatta using hydraulic machines is the preferred method. When the two are combined the product quality is optimised.

Known for its superior quality hamma® X Strand is an essential product for the following industries:

- Architectural
- Shade Structure's and Tensile Membranes
- Marine
- Yacht Rigging
- Offshore Oil & Gas
- Subsea Engineering
- Mining
- Glass Facade
- Cable Net Structures

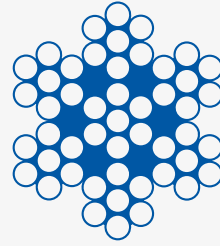
Wire lengths are available in the following Cut, 305m, 500m, 1000m. Other lengths are available upon request.



hamma® Industrial Wire Rope and Fittings, Shade Sail Structure, Ramat Gan National Park, Israel

## hamma® X Strand 7x7 Metric

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMX77010	1.0mm	7x7	59	0.6	0.005
HMX77020	2.0mm	7x7	258	2.5	0.017
HMX77025	2.5mm	7x7	374	3.7	0.025
HMX77030	3.0mm	7x7	581	5.7	0.037
HMX77040	4.0mm	7x7	1,030	10.1	0.066
HMX77050	5.0mm	7x7	1,620	15.9	0.105
HMX77060	6.0mm	7x7	2,320	22.8	0.151
HMX77070	7.0mm	7x7	2,954	28.9	0.203
HMX77080	8.0mm	7x7	3,674	36.1	0.271
HMX77100	10.0mm	7x7	5,741	56.3	0.410
HMX77120	12.0mm	7x7	8,270	81.1	0.577
HMX77140	14.0mm	7x7	11,217	110.0	0.796
HMX77160	16.0mm	7x7	14,700	144.2	0.997
HMX77190	19.0mm	7x7	21,600	211.8	1.439
HMX77200	20.0mm	7x7	22,944	225.0	1.587
HMX77220	22.0mm	7x7	27,838	273.0	1.947
HMX77240	24.0mm	7x7	33,039	324.0	2.311
HMX77260	26.0mm	7x7	38,851	381.0	2.711
HMX77280	28.0mm	7x7	45,071	442.0	3.146
HMX77320	32.0mm	7x7	58,838	577.0	4.056



hamma® X 7x7 has been Australasia's number one selling 7x7 wire rope for over 17 years. hamma® X 7x7 is made up of 7 strands with 7 wires. hamma® X 7x7 is a Semi-Rigid wire rope and not as easily bent as 7x19. hamma® X 7x7 is an excellent choice for fixed rigging applications such as balustrading and safety barrier rails. 7x7 has very limited applications as a running or working rope.

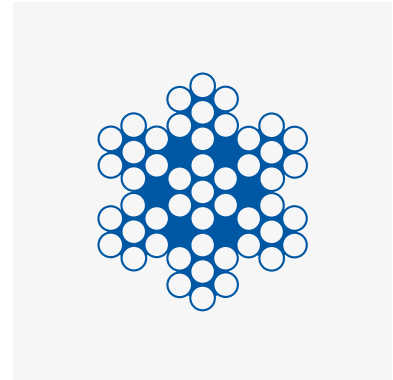
Known for its superior quality hamma® X Strand is an essential product for the following industries:

- Balustrading
- Shade Structure's and Tensile Membranes
- Marine
- Offshore Oil & Gas
- Mining
- Cable Net Structures

Wire lengths are available in the following Cut, 305m, 500m, 1000m and 3000m. Other lengths are available upon request.

# hamma® X Strand 7x7 Imperial

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMX77012	3/64"	7x7	86	0.8	0.006
HMX77016	1/16"	7x7	153	1.5	0.010
HMX77024	3/32"	7x7	344	3.4	0.023
HMX77032	1/8"	7x7	612	6.0	0.042
HMX77048	3/16"	7x7	1,493	14.6	0.095
HMX77055	7/32"	7x7	1,857	18.2	0.130
HMX77064	1/4"	7x7	2,641	25.9	0.169
HMX77072	9/32"	7x7	3,343	32.8	0.215



hamma® X 7x7 has been Australasia's number one selling 7x7 wire rope for over 17 years. hamma® X 7x7 is made up of 7 strands with 7 wires. hamma® X 7x7 is a Semi-Rigid wire rope and not as easily bent as 7x19. hamma® X 7x7 is an excellent choice for fixed rigging applications such as balustrading and safety barrier rails. 7x7 has very limited applications as a running or working rope.

Known for its superior quality hamma® X Strand is an essential product for the following industries:

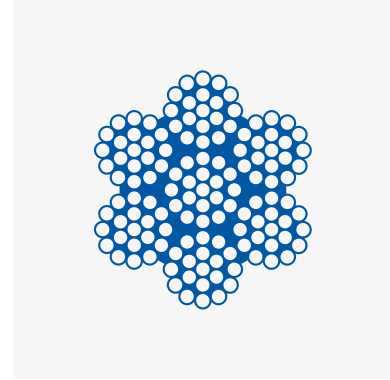
- Balustrading
- Shade Structure's and Tensile Membranes
- Marine
- Offshore Oil & Gas
- Mining
- Cable Net Structures

Wire lengths are available in the following Cut, 305m, 500m, 1000m and 3000m. Other lengths are available upon request.



# hamma® X Strand 7x19 Metric

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMX79020	2.0mm	7x19	239	2.3	0.017
HMX79025	2.5mm	7x19	373	3.7	0.025
HMX79030	3.0mm	7x19	538	5.3	0.037
HMX79035	3.5mm	7x19	732	7.2	0.052
HMX79040	4.0mm	7x19	956	9.4	0.067
HMX79050	5.0mm	7x19	1,490	14.6	0.104
HMX79060	6.0mm	7x19	2,105	20.6	0.150
HMX79070	7.0mm	7x19	2,800	27.4	0.208
HMX79080	8.0mm	7x19	3,400	33.3	0.262
HMX79100	10.0mm	7x19	5,310	52.1	0.424
HMX79120	12.0mm	7x19	7,650	75.0	0.597
HMX79140	14.0mm	7x19	10,400	102.0	0.790
HMX79160	16.0mm	7x19	13,600	133.0	1.075
HMX79190	19.0mm	7x19	19,300	189.3	1.438
HMX79200	20.0mm	7x19	21,210	208.0	1.628
HMX79220	22.0mm	7x19	25,700	252.0	1.969
HMX79240	24.0mm	7x19	30,600	300.0	2.368
HMX79260	26.0mm	7x19	36,000	353.0	2.758
HMX79280	28.0mm	7x19	41,800	409.0	3.156
HMX79320	32.0mm	7x19	54,500	535.0	4.087



hamma® X 7x19 has been Australasia's number one selling 7x19 wire rope for over 17 years. hamma® X 7x19 is made up of 7 strands with 19 wires. hamma® X 7x19 is a flexible wire rope and easily bent for a thimble eye termination. hamma® X 7x19 is a versatile construction of stainless steel wire rope. hamma® X 7x19 can be used in either fixed rigging or for limited working rope applications such as on a boat winch.

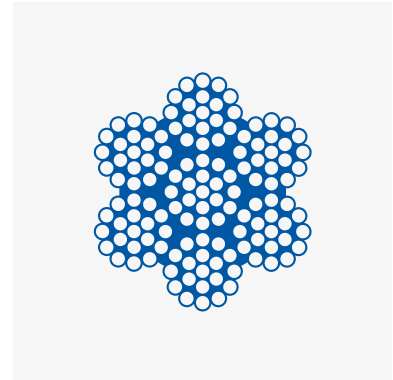
Known for its superior quality, this is an essential product for the following industries.

- Balustrading
- Shade Structure's and Tensile Membranes
- Marine
- Yacht Rigging
- Steering Cables
- Offshore Oil & Gas
- Mining
- Cable Net Structures
- Irrigation Bore Pump Cables

Wire lengths are available in the following Cut, 305m, 500m, 1000m. Other lengths are available upon request.

# hamma® X Strand 7x19 Imperial

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMX79012	3/64"	7x19	86	0.8	0.006
HMX79016	1/16"	7x19	153	1.5	0.010
HMX79020	5/64"	7x19	239	2.3	0.017
HMX79024	3/32"	7x19	344	3.4	0.024
HMX79032	1/8"	7x19	611	6.0	0.043
HMX79040	5/32"	7x19	956	9.4	0.067
HMX79048	3/16"	7x19	1,344	13.2	0.096
HMX79055	7/32"	7x19	1,874	18.4	0.131
HMX79064	1/4"	7x19	2,450	24.0	0.172
HMX79072	9/32"	7x19	3,100	30.4	0.215
HMX79080	5/16"	7x19	3,400	33.3	0.262
HMX79096	3/8"	7x19	4,894	48.0	0.380
HMX79127	1/2"	7x19	8,566	84.0	0.499
HMX79160	5/8"	7x19	13,600	133.0	1.075



hamma® X 7x19 has been Australasia's number one selling 7x19 wire rope for over 17 years. hamma® X 7x19 is made up of 7 strands with 19 wires. hamma® X 7x19 is a flexible wire rope and easily bent for a thimble eye termination. hamma® X 7x19 is a versatile construction of stainless steel wire rope. hamma® X 7x19 can be used in either fixed rigging or for limited working rope applications such as on a boat winch.

Known for its superior quality, this is an essential product for the following industries.

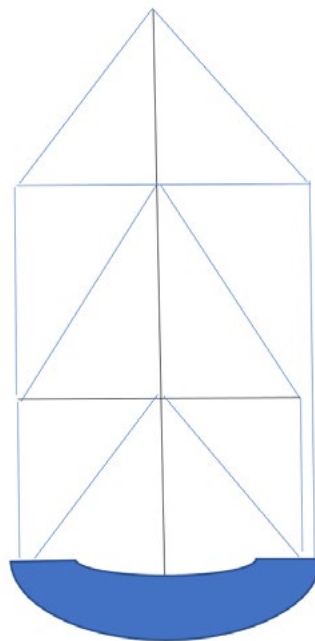
- Balustrading
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- Yacht Rigging
- Steering Cables
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- Irrigation Bore Pump Cables

Wire lengths are available in the following Cut, 305m, 500m, 1000m. Other lengths are available upon request.

## DIS-CONTINUOUS RIGGING

Dis-continuous rigging is made from individual stays in each panel. A panel is deck to spreader, spreader to spreader, and spreader to mast head and referred to numerically from deck to mast head, V being a vertical stay and D being a diagonal stay. The only catch is the top most stay usually is a D running into a V as a single stay over the top most spreader tip. Mainly used for race boats and superyachts

Tuning is a little more difficult with adjustment required at deck level as well as at spreaders.



## CONTINUOUS RIGGING

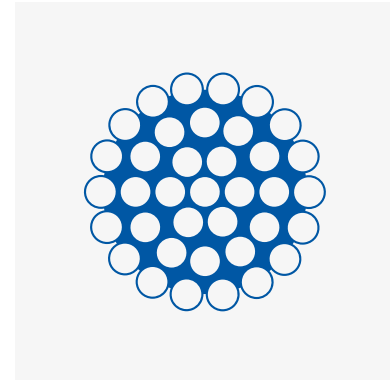
Continuous rigging, the most common rigging, is rigging that runs from the mast top or mid point through spreader ends/ tips down to the deck without any terminal breaks in the rigging. Lower stays will be split with two sets, aft lower and forward lower.

Continuous rigging is simple in design and very straightforward for installation as well as being easy to tune, all being done from deck level.

# hamma® X Strand 1x37

Used extensively in the tensile architecture market

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMX37050	5.0mm	1x37	2,051	20	0.124
HMX37060	6.0mm	1x37	2,957	29	0.178
HMX37070	7.0mm	1x37	4,018	39	0.242
HMX37080	8.0mm	1x37	5,252	52	0.316
HMX37090	9.0mm	1x37	6,649	65	0.401
HMX37100	10.0mm	1x37	8,209	81	0.494
HMX37120	12.0mm	1x37	11,829	116	0.712
HMX37140	14.0mm	1x37	16,112	158	0.969
HMX37160	16.0mm	1x37	21,006	206	1.266
HMX37190	19.0mm	1x37	26,615	261	1.602
HMX37200	20.0mm	1x37	32,835	322	1.977
HMX37220	22.0mm	1x37	39,667	389	2.393
HMX37240	24.0mm	1x37	44,154	433	2.848
HMX37260	26.0mm	1x37	55,473	544	3.342
HMX37280	28.0mm	1x37	64,344	631	3.876



hamma® X 1x37 stainless steel wire strand is used extensively in the tensile architectural sector.

Key features include:

- Long lasting shine and smooth
- Clean finish improves corrosion resistance as well as exceeding the aesthetic requirements of the tensile architectural design.

hamma® X 1x37 is used for larger structural projects such as:

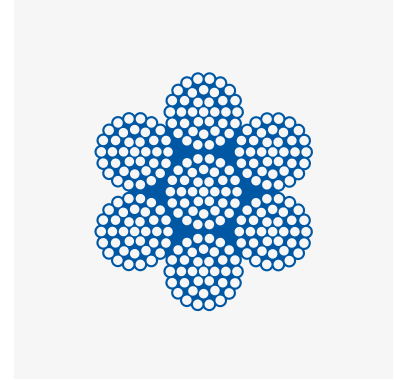
- Cable bridges
- Swing bridges
- Hanging Facades
- Industrial Facades
- Cable Truss
- Standing Rigging.

hamma® X 1x37 is a (18/12/6/1) Construction manufactured the same way as 1x19 with additional 18 Strands added.

# hamma® X Strand 7x37

Used extensively in the tensile architecture market

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMX73050	5.0mm	7x37	1,275	12.5	0.098
HMX73060	6.0mm	7x37	1,835	18	0.144
HMX73070	7.0mm	7x37	2,498	24.5	0.198
HMX73080	8.0mm	7x37	3,263	32	0.269
HMX73090	9.0mm	7x37	4,130	40.5	0.329
HMX73100	10.0mm	7x37	5,099	50	0.409
HMX73120	12.0mm	7x37	7,342	72	0.581
HMX73140	14.0mm	7x37	9,993	98	0.810
HMX73160	16.0mm	7x37	13,052	128	1.027
HMX73180	18.0mm	7x37	16,519	162	1.340
HMX73200	20.0mm	7x37	20,394	200	1.618
HMX73220	22.0mm	7x37	24,677	242	1.856
HMX73240	24.0mm	7x37	29,368	288	2.230
HMX73260	26.0mm	7x37	34,466	338	2.752
HMX73280	28.0mm	7x37	39,973	392	3.184
HMX73320	32.0mm	7x37	52,209	512	4.098



hamma® X 7x37 stainless steel wire rope is a specialised type of wire rope constructed with 7 strands, each containing 37 individual wires.

This specific configuration of wire rope offers several advantages:

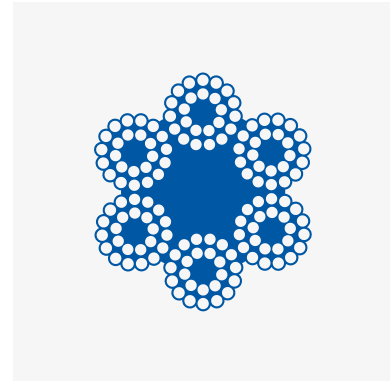
- **Flexibility:** The 7x37 construction provides a balance between flexibility and strength, making it suitable for applications where bending and manoeuvrability are necessary.
- **Corrosion Resistance:** AISI 316 stainless steel is highly resistant to corrosion, making it suitable for use in marine environments and outdoor applications.
- **Durability:** The structure of AISI 316 stainless steel provides excellent hardness and wear resistance, enhancing the durability and longevity of the wire rope.

Overall, hamma® 7x37 stainless steel wire rope is a versatile and durable solution used in various industries, including marine, construction, mining, and aerospace, where reliable performance under demanding conditions is essential.

## hamma® X Strand 6x24 (FC)

A general purpose flexible fibre core wire rope

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMX24060	6.0mm	6x24fc	1,387	13.6	0.121
HMX24070	7.0mm	6x24fc	1,886	18.5	0.170
HMX24080	8.0mm	6x24fc	2,876	28.2	0.198
HMX24090	9.0mm	6x24fc	3,630	35.6	0.254
HMX24100	10.0mm	6x24fc	4,487	44.0	0.319
HMX24120	12.0mm	6x24fc	6,455	63.3	0.461
HMX24140	14.0mm	6x24fc	8,790	86.2	0.647
HMX24160	16.0mm	6x24fc	11,523	113	0.813
HMX24180	18.0mm	6x24fc	14,582	143	1.036
HMX24200	20.0mm	6x24fc	17,947	176	1.277
HMX24220	22.0mm	6x24fc	21,720	213	1.571
HMX24240	24.0mm	6x24fc	25,799	253	1.812
HMX24260	26.0mm	6x24fc	30,286	297	2.111
HMX24280	28.0mm	6x24fc	35,180	345	2.448
HMX24320	32.0mm	6x24fc	45,887	450	3.198



hamma® X Strand 6x24(FC) is a general purpose flexible fibre core wire rope.

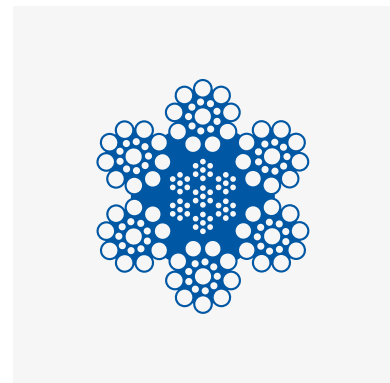
hamma® X Strand 6x24(FC) is typically used in the marine industry due to its flexibility which makes it suitable for mooring lines, lifting slings and small core single layer winches and tow lines.

This product is not widely stocked so please contact your local Arcus Wire Group office for availability.

## hamma® X Strand 6x19(SL) IWRC

A general purpose flexible independent wire rope core

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMX69120SL	12.0mm	6x19SL	9,265	908.5	0.5942
HMX69160SL	16.0mm	6x19SL	14,641	143.6	1.1925
HMX69200SL	20.0mm	6x19SL	22,877	224.3	1.6505
HMX69220SL	22.0mm	6x19SL	27,681	271.4	1.9971
HMX69240SL	24.0mm	6x19SL	32,943	323.1	2.3767



hamma® X Strand 6x19(SL) IWRC has been supplied by Arcus Wire Group for the past 17 years. Often confused with hamma® 7x19, hamma® the 6x19(SL) IWRC has an independent wire rope core which allows the outer layers of the strand to lock against the 7x7 Wire Rope Core.

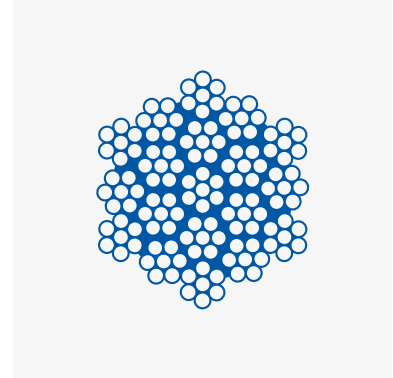
The hamma® X Strand 6x19(SL) has a slightly larger diameter. The outer wire that makes the wire rope is flexible.

This product is not widely stocked so please contact your local Arcus Wire Group office for availability.

## hamma® X Strand 19x7 (NR)

Is a non-rotating wire rope

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMX97032	3.2mm	19x7NR	538	5.3	TBC
HMX97040	4.0mm	19x7NR	840	8.2	TBC
HMX97050	5.0mm	19x7NR	1,275	12.5	0.106
HMX97060	6.0mm	19x7NR	1,835	18.0	0.150
HMX97070	7.0mm	19x7NR	2,498	24.5	0.205
HMX97080	8.0mm	19x7NR	3,263	32.0	0.263
HMX97090	9.0mm	19x7NR	4,130	40.5	0.332
HMX97100	10.0mm	19x7NR	5,099	50.0	0.407
HMX97120	12.0mm	19x7NR	7,342	72.0	0.592
HMX97140	14.0mm	19x7NR	9,993	98.0	0.779
HMX97160	16.0mm	19x7NR	13,052	128.0	0.978
HMX97190	19.0mm	19x7NR	16,519	162.0	1.309
HMX97200	20.0mm	19x7NR	20,394	200.0	1.608
HMX97220	22.0mm	19x7NR	24,677	242.0	1.949
HMX97240	24.0mm	19x7NR	29,368	288.0	2.316
HMX97260	26.0mm	19x7NR	34,466	338.0	2.722
HMX97280	28.0mm	19x7NR	39,973	392.0	3.150



hamma® X Strand 19x7(NR) is a non-rotating wire rope, widely used in the Elevator, Crane and Winch industry.

The middle core is laid an opposite way to the outer layer so when put under load the outside layer locks off on itself causing the wire rope not to rotate and therefore unravel.

This product is not widely stocked so please contact your local Arcus Wire Group office for availability.





# hamma<sup>®</sup> Mega

## Developed for the Grandest of Architectural Designs

hamma<sup>®</sup> Mega is extensively used in the architectural sector.

The hamma<sup>®</sup> Mega range delivers stainless wire ropes from 20.0mm upwards and is produced with AISI 316.

Previously unavailable in the industry, the hamma<sup>®</sup> Mega range was one of the first large diameter stainless steel wire ropes suitable for tensile architecture.

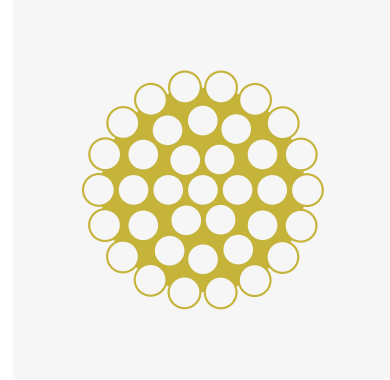
## hamma® Mega 1x37

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMM37200	20.0mm	1x37	32,835	322	1.977
HMM37220	22.0mm	1x37	39,667	389	2.393
HMM37240	24.0mm	1x37	44,154	433	2.848
HMM37260	26.0mm	1x37	55,473	544	3.342
HMM37280	28.0mm	1x37	64,344	631	3.876

Available in stainless steel AISI 316 with 1×37 configurations for cable diameter 20mm – 28mm.  
hamma® Mega 1x37 Technical Data.

Cable material: AISI 316 Construction: Spiral strand Configuration:  
1x 37= 1+ 6+ 12+18

Modulus of elasticity: 132 +/-10 kN/mm<sup>2</sup> Note: Limit tension is calculated at 60% of MBL.



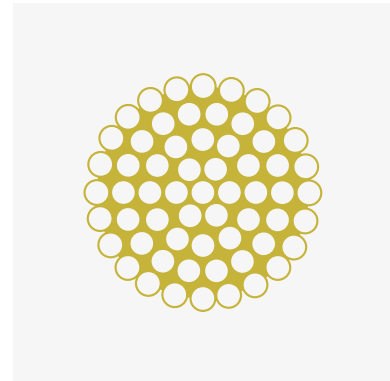
## hamma® Mega 1x61

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMM61300	30.0mm	1x61	78,824	773	4.510
HMM61340	34.0mm	1x61	96,261	944	5.800
HMM61360	36.0mm	1x61	98,606	967	6.500
HMM61420	42.0mm	1x61	114,208	1,120	8.810

Available in stainless steel AISI 316 with 1×61 configurations for cable diameter 30mm – 42mm.  
hamma® Mega 1x37 Technical Data.

Cable material: AISI 316 Construction: Spiral strand Configuration:  
1x 61= 1+ 6+ 12+18+24

Modulus of elasticity: 132 +/-10 kN/mm<sup>2</sup> Note: Limit tension is calculated at 60% of MBL.



## hamma® X Swage Tolerance Chart

WIRE Ø MM / IN	BEFORE SWAGE MIN Ø MM	BEFORE SWAGE MAX Ø MM	AFTER SWAGE MIN Ø MM	AFTER SWAGE MAX Ø MM
1.6mm or 1/16"	3.94	4.06	3.40	3.50
2.4mm or 3/32"	5.41	5.53	4.70	4.82
3mm or 1/8"	6.22	6.35	5.44	5.65
4mm or 5/32"	7.42	7.54	6.23	6.35
5mm or 3/16"	9.00	9.12	7.83	7.95
5.5mm or 7/32"	10.72	10.84	9.35	9.50
6mm or 1/4"	12.42	12.54	10.95	11.12
7mm or 9/32"	14.18	14.30	12.50	12.70
8mm	16.01	16.13	14.07	14.30
9mm, 3/8" & 10mm	17.73	17.85	15.70	15.90
11mm or 7/16"	19.63	19.83	17.27	17.47
12mm or 1/2"	21.32	21.44	18.82	19.05
12E	20.00	20.08	17.60	17.80
14mm or 9/16"	24.88	25.00	22.00	22.23
16mm or 5/8"	28.05	28.17	25.15	25.40
19mm or 3/4"	34.40	34.52	30.36	30.70
22mm or 7/8"	40.21	40.46	36.20	36.50
25mm or 1"	45.77	46.02	40.97	41.28
28mm or 1 1/8"	50.00	50.00	44.00	44.50
32mm or 1 1/4"	58.00	58.00	51.00	51.50



### RECYCLABILITY

Manufactured from high-quality Duplex 2205, AISI 316 and AISI 304 grade stainless steel, the hamma® range is recyclable, contributing to environmental sustainability and waste reduction.

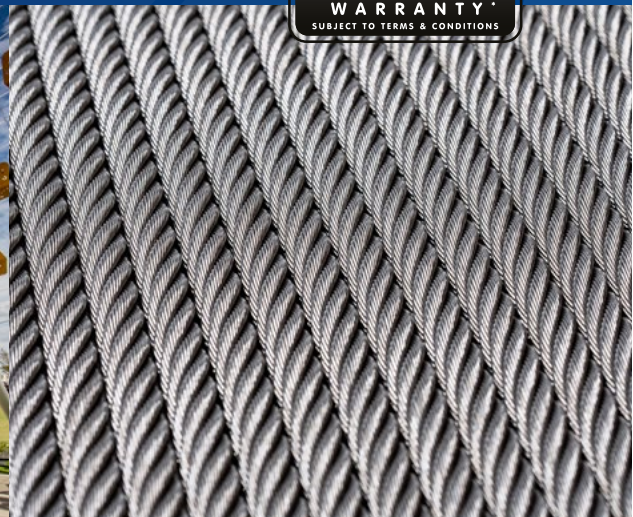
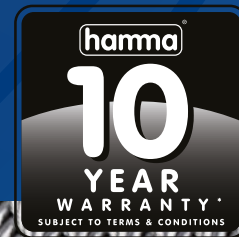
### CARE AND MAINTENANCE

Whilst stainless steel is resistant to corrosion and staining, regular cleaning and maintenance is necessary to preserve the appearance of all stainless steel products. Cleaning with soap, water, or mild abrasives helps restore and protect the shiny finish.

For detailed Stainless Steel Cleaning and Maintenance Guidelines see page 106.

All hamma® products carry a **10-year warranty** against defects/workmanship from date of purchase.

See [www.arcuswire.com](http://www.arcuswire.com) for terms and conditions.





# hamma<sup>®</sup> AISI 304

## Stainless Steel Wire Rope

Up until the late 1980's, AISI 304 was the standard grade for stainless steel wire ropes and strand.

However, testing conducted by Arcus Wire Group and Sean Langman in the late 1990's, found that when compared to AISI 316 (hamma X Strand), the higher breaking strength of AISI 304 was offset by other factors that made AISI 316 more attractive for a wide range of applications.

These factors include:

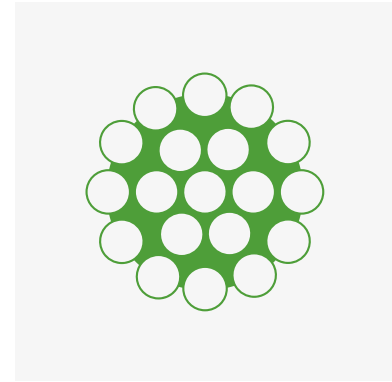
- Eliminated issues with dissimilar metals when swaging with marine/architectural fittings which are mostly manufactured from AISI 316;
- Lower fatigue rate; and
- More suitable as a Marine grade and less likely to Tea Stain.

Due to these key factors, AISI 304 is ideally suited to applications where strength is important or where there is minimal movement (thereby reducing the impact of fatigue) and in non-coastal locations.

# hamma® AISI 304 1x19

hamma® AISI 304 1x19 is a strand containing 19 wires

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HM419020	2.0mm	1x19	378	3.7	0.020
HM419030	3.0mm	1x19	851	8.3	0.045
HM419040	4.0mm	1x19	1,510	14.8	0.080
HM419050	5.0mm	1x19	2,366	23.2	0.126
HM419060	6.0mm	1x19	3,416	33.5	0.180
HM419070	7.0mm	1x19	4,650	45.6	0.248
HM419080	8.0mm	1x19	6,067	59.5	0.318
HM419090	9.0mm	1x19	7,678	75.3	0.407
HM419100	10.0mm	1x19	9,483	93.0	0.511
HM419120	12.0mm	1x19	13,664	134.0	0.739
HM419140	14.0mm	1x19	18,559	182.0	0.865
HM419160	16.0mm	1x19	24,269	238.0	1.314
HM419190	19.0mm	1x19	34,300	338.0	1.966
HM419220	22.0mm	1x19	45,877	450.0	2.404



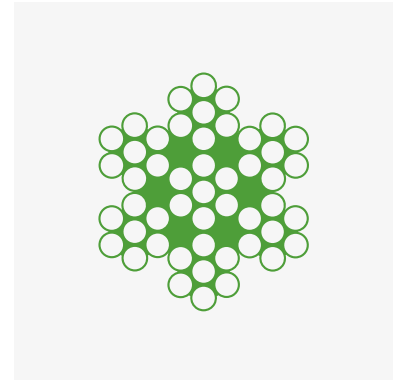
hamma® AISI 304 1x19 is a strand containing 19 wires. 1x19 consists of a single strand with 19 wires. It is very stiff and is suitable for fixed "straight line" rigging only such as for standing rigging, mast stays and applications where there is no flexibility required. hamma® AISI 304 1x19 wire rope has good corrosion resistance and has a higher MBL than AISI 316 in most cases and is best used in industrial applications.

This product is not widely stocked so please contact your local distributor for availability.

# hamma® AISI 304 7x7

hamma® AISI 304 7x7 is made up of 7 strands with 7 wires

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HM477008	0.8mm	7x7	38	0.4	0.003
HM477010	1.0mm	7x7	59	0.6	0.004
HM477012	1.2mm	7x7	86	0.8	0.006
HM477016	1.6mm	7x7	153	1.5	0.010
HM477020	2.0mm	7x7	258	2.5	0.017
HM477024	2.4mm	7x7	344	3.4	0.023
HM477030	3.0mm	7x7	581	5.7	0.037
HM477032	3.2mm	7x7	661	6.5	0.042
HM477040	4.0mm	7x7	1,030	10.1	0.066
HM477050	5.0mm	7x7	1,621	15.9	0.105
HM477060	6.0mm	7x7	2,335	22.9	0.151
HM477070	7.0mm	7x7	3,171	31.1	0.203
HM477080	8.0mm	7x7	4,140	40.6	0.271
HM477090	9.0mm	7x7	5,241	51.4	0.318
HM477100	10.0mm	7x7	6,475	63.5	0.410
HM477120	12.0mm	7x7	9,330	91.5	0.577
HM477140	14.0mm	7x7	12,644	124.0	0.796
HM477160	16.0mm	7x7	16,621	163.0	0.997
HM477180	18.0mm	7x7	21,006	206.0	1.289
HM477200	20.0mm	7x7	25,901	254.0	1.587
HM477220	22.0mm	7x7	31,305	307.0	1.947
HM477240	24.0mm	7x7	37,322	366.0	2.311
HM477260	26.0mm	7x7	43,746	429.0	2.711
HM477280	28.0mm	7x7	50,782	498.0	3.146
HM477320	32.0mm	7x7	66,282	650.0	4.056



hamma® AISI 304 7x7 is made up of 7 strands with 7 wires. hamma® AISI 304 7x7 is a Semi-Rigid wire rope and not as easily bent as 7x19. hamma® AISI 304 7x7 is an excellent choice for fixed rigging applications such as balustrading and safety barrier rails. hamma® AISI 304 7x7 has very limited applications as a running or working rope. Known for its superior quality, this is an essential product for the following applications.

- Balustrading
- Shade Structure's and Tensile Membranes
- Marine
- Offshore Oil & Gas
- Mining
- Cable Net Structures

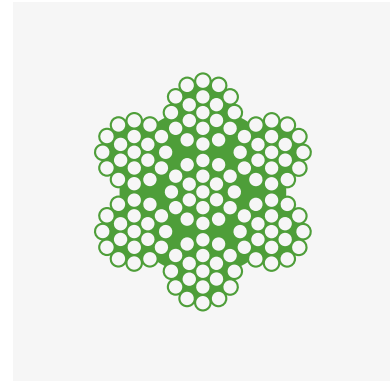
Wire lengths are available in the following Cut, 305m, 500m, 1000m and 3000m. Other lengths are available upon request.

This product is not widely stocked so please contact your local distributor for availability.

# hamma® AISI 304 7x19

hamma® AISI 304 7X19 consists of 7 strands of 19 wires

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HM479016	1.6mm	7x19	153	1.5	0.010
HM479020	2.0mm	7x19	239	2.3	0.017
HM479024	2.4mm	7x19	344	3.4	0.024
HM479030	3.0mm	7x19	538	5.3	0.037
HM479032	3.2mm	7x19	612	6.0	0.043
HM479040	4.0mm	7x19	956	9.4	0.067
HM479048	4.8mm	7x19	1,344	13.2	0.096
HM479050	5.0mm	7x19	1,499	14.7	0.104
HM479060	6.0mm	7x19	2,162	21.2	0.150
HM479070	7.0mm	7x19	2,937	28.8	0.208
HM479080	8.0mm	7x19	3,834	37.6	0.262
HM479090	9.0mm	7x19	4,854	47.6	0.340
HM479100	10.0mm	7x19	5,996	58.8	0.424
HM479120	12.0mm	7x19	8,627	84.6	0.597
HM479140	14.0mm	7x19	11,727	115.0	0.790
HM479160	16.0mm	7x19	15,296	150.0	1.438
HM479180	18.0mm	7x19	19,375	190.0	1.290
HM479200	20.0mm	7x19	23,963	235.0	1.628
HM479220	22.0mm	7x19	28,960	284.0	1.969
HM479240	24.0mm	7x19	34,466	338.0	2.368
HM479260	26.0mm	7x19	40,483	397.0	2.756
HM479280	28.0mm	7x19	47,009	461.0	3.156
HM479320	32.0mm	7x19	61,387	602.0	4.087



hamma® AISI 304 7x19 is a flexible wire rope and easily bent for a thimble eye termination. hamma® AISI 304 7x19 is a versatile construction of stainless steel wire rope. hamma® AISI 304 7x19 can be used in either fixed rigging or for limited working rope applications such as on a boat winch. Known for its superior quality, this is an essential product for the following industries.

- Balustrading
- Shade Structure's and Tensile Membranes
- Marine
- Yacht Rigging
- Offshore Oil & Gas
- Mining
- Cable Net Structures
- Irrigation Bore Pump Cables

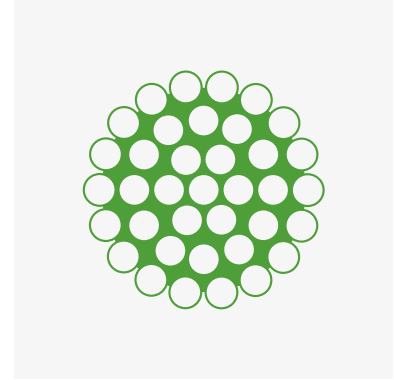
Wire lengths are available in the following Cut, 305m, 500m, 1000m and 3000m. Other lengths are available on request.

This product is not widely stocked so please contact your local distributor for availability.

# hamma® AISI 304 1x37

hamma® AISI 304 1x37 is a rigid low stretch architectural cable with a high MBL

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HM437050	5.0mm	1x37	2,315	22.7	0.124
HM437060	6.0mm	1x37	3,334	32.7	0.178
HM437070	7.0mm	1x37	4,528	44.4	0.242
HM437080	8.0mm	1x37	5,925	58.1	0.316
HM437090	9.0mm	1x37	7,495	73.5	0.401
HM437100	10.0mm	1x37	9,249	90.7	0.494
HM437120	12.0mm	1x37	13,358	131.0	0.712
HM437140	14.0mm	1x37	18,151	178.0	0.969
HM437160	16.0mm	1x37	23,657	232.0	1.266
HM437180	18.0mm	1x37	29,980	294.0	1.602
HM437200	20.0mm	1x37	37,016	363.0	1.977
HM437220	22.0mm	1x37	44,766	439.0	2.393
HM437240	24.0mm	1x37	53,229	522.0	2.848
HM437260	26.0mm	1x37	62,509	613.0	3.342
HM437280	28.0mm	1x37	72,502	711.0	3.876



hamma® AISI 304 1x37 is a rigid low stretch architectural cable with a high MBL. AISI 304 wire rope has good corrosion resistance and has a higher MBL than AISI 316 in most cases and is best used in industrial applications.

### Applications

- Aircraft cables
- Automotive industry
- Suspension bridges

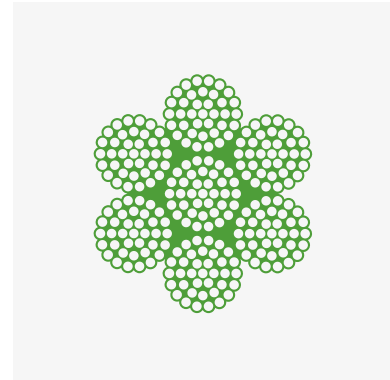
Wire lengths are available in the following Cut, 305m, 500m, 1000m and 3000m. Other lengths are available upon request.

This product is not widely stocked so please contact your local distributor for availability.

# hamma® AISI 304 7x37

hamma® AISI 304 7x37 consists of 7 strands each consisting of 37 wires

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HM473050	5.0mm	7x37	1,438	14.1	0.098
HM473060	6.0mm	7x37	2,070	20.3	0.144
HM473070	7.0mm	7x37	2,814	27.6	0.198
HM473080	8.0mm	7x37	3,681	36.1	0.269
HM473090	9.0mm	7x37	4,660	45.7	0.329
HM473100	10.0mm	7x37	5,751	56.4	0.409
HM473120	12.0mm	7x37	8,280	81.2	0.581
HM473140	14.0mm	7x37	11,217	110.0	0.810
HM473160	16.0mm	7x37	14,684	144.0	1.027
HM473180	18.0mm	7x37	18,661	183.0	1.340
HM473200	20.0mm	7x37	22,944	225.0	1.618
HM473220	22.0mm	7x37	27,838	273.0	1.856
HM473240	24.0mm	7x37	33,141	325.0	2.230
HM473260	26.0mm	7x37	38,851	381.0	2.752
HM473280	28.0mm	7x37	45,071	442.0	3.184
HM473320	32.0mm	7x37	58,838	577.0	4.098



hamma® AISI 304 7x37 consists of 7 strands each consisting of 37 single wires where all wires in all strands have the same diameter. It is a flexible wire rope available in cable diameters 5mm – 32mm. AISI 304 wire rope has good corrosion resistance and has a higher MBL than AISI 316 in most cases and is best used in industrial applications.

### Applications

- Crane rope
- General engineering applications
- Hoist rope

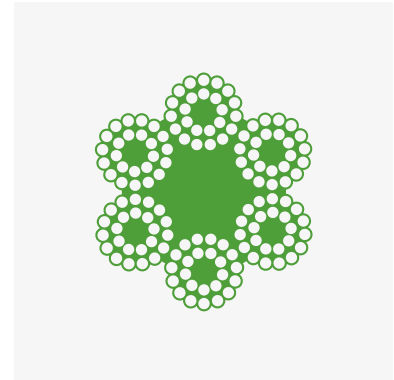
Wire lengths are available in the following Cut, 305m, 500m, 1000m and 3000m. Other lengths are available upon request.

This product is not widely stocked so please contact your local distributor for availability.

## hamma® AISI 304 6x24 (FC)

hamma® AISI 304 6x24fc feature with high flexibility and low unit weight

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HM424060	6.0mm	6x24fc	1,825	17.9	0.121
HM424070	7.0mm	6x24fc	2,478	24.3	0.170
HM424080	8.0mm	6x24fc	3,233	31.7	0.198
HM424090	9.0mm	6x24fc	4,089	40.1	0.254
HM424100	10.0mm	6x24fc	5,048	49.5	0.319
HM424120	12.0mm	6x24fc	7,271	71.3	0.461
HM424140	14.0mm	6x24fc	9,901	97.1	0.647
HM424160	16.0mm	6x24fc	12,930	126.8	0.813
HM424180	18.0mm	6x24fc	16,366	160.5	1.036
HM424200	20.0mm	6x24fc	20,201	198.1	1.277
HM424220	22.0mm	6x24fc	24,443	239.7	1.571
HM424240	24.0mm	6x24fc	29,093	285.3	1.812
HM424260	26.0mm	6x24fc	34,140	334.8	2.111
HM424280	28.0mm	6x24fc	39,596	388.3	2.448
HM424320	32.0mm	6x24fc	51,720	507.2	3.198



hamma® AISI 304 6x24fc feature high flexibility and low unit weight. On the main fibre core (polypropylene) six strands are laid, in which the fibre core is used instead of central wire. AISI 304 wire rope has good corrosion resistance and has a higher MBL than AISI 316 in most cases and is best used in industrial applications.

### Applications

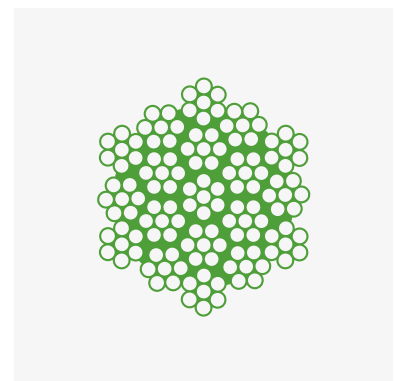
- Springs
- Topping lifts
- Mooring ropes
- Towing ropes
- Winchrope

This product is not widely stocked so please contact your local distributor for availability.

## hamma® AISI 304 19x7 (NR)

hamma® AISI 304 19x7 is Non-Rotating (NR) wire rope

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HM497050	5.0mm	19x7NR	1,438	14.1	0.106
HM497060	6.0mm	19x7NR	2,070	20.3	0.150
HM497070	7.0mm	19x7NR	2,814	27.6	0.205
HM497080	8.0mm	19x7NR	3,681	36.1	0.263
HM497090	9.0mm	19x7NR	4,660	45.7	0.332
HM497100	10.0mm	19x7NR	5,751	56.4	0.407
HM497120	12.0mm	19x7NR	8,280	81.2	0.592
HM497140	14.0mm	19x7NR	11,319	111.0	0.779
HM497160	16.0mm	19x7NR	14,684	144.0	0.978
HM497180	18.0mm	19x7NR	18,661	183.0	1.309
HM497200	20.0mm	19x7NR	23,046	226.0	1.608
HM497220	22.0mm	19x7NR	27,838	273.0	1.949
HM497240	24.0mm	19x7NR	33,141	325.0	2.316
HM497260	26.0mm	19x7NR	38,851	381.0	2.722
HM497280	28.0mm	19x7NR	45,071	442.0	3.150



hamma® AISI 304 19x7 is rotation resistant wire rope. Its rotation-resistant characteristic is achieved by laying six strands around a core strand in one direction, then laying 12 strands around the first operation in the opposite direction. Its general application is where a single-part hoist rope is used to lift a free load or where rotation resistant properties are required.

This product is not widely stocked so please contact your local distributor for availability.



# hamma<sup>®</sup> Coated Wire

## Coated Wire Rope

Ideal for a variety of applications. hamma<sup>®</sup> Coated is a PVC, Nylon or Polyurethane coated hamma<sup>®</sup> X Strand wire rope.

Applications include balustrading design and installation through to industrial use, construction purposes, and more.

When selecting hamma<sup>®</sup> Coated wire rope it is important to consider the following key factors:

- Breaking strains provided for coated wire rope are indicative only.
- Information should only be used as a guide; products may vary according to manufacturing specifications.
- Check tensile strength (Grade) and Minimum Breaking Strain (MBS) at time of order to confirm appropriateness of application.

# hamma® Coated 1x7

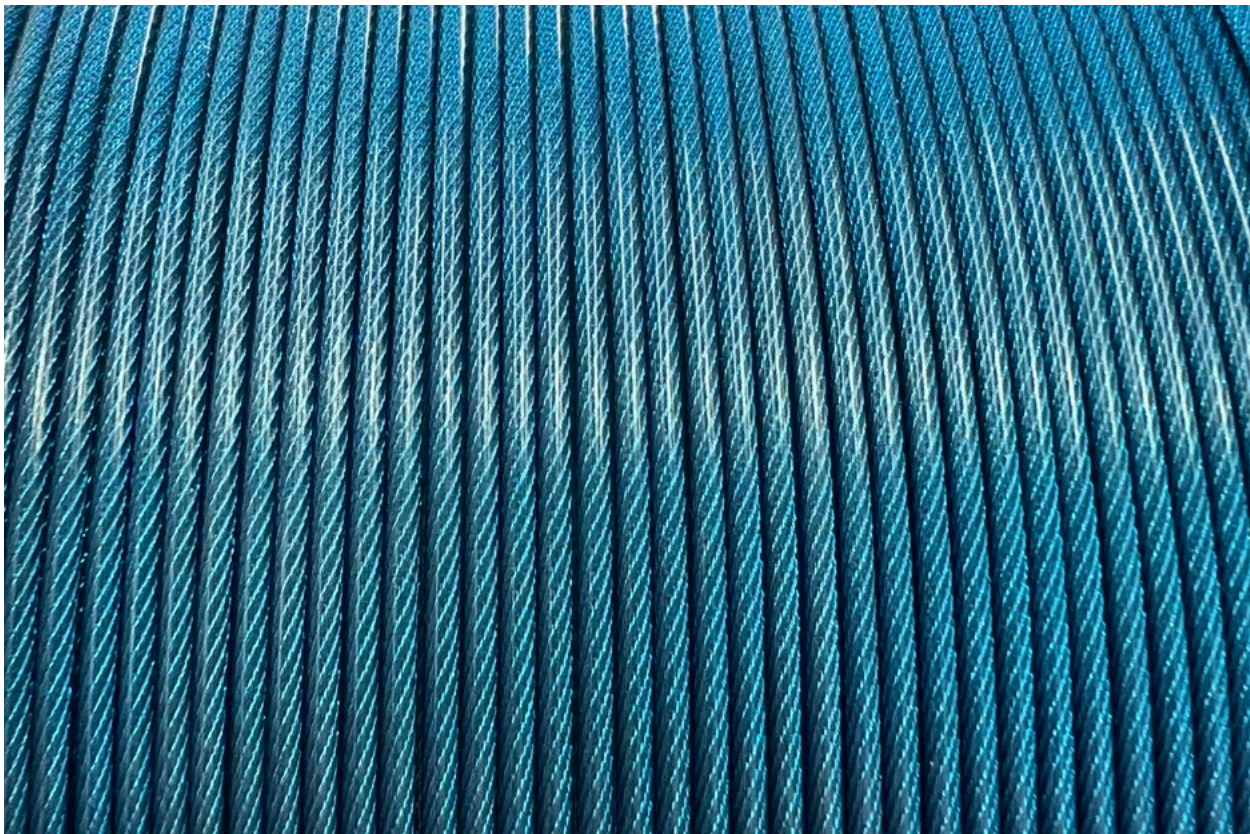
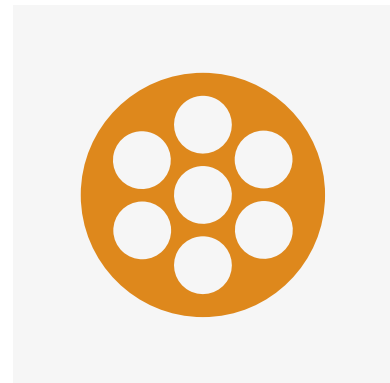
hamma® Coated 1x7 is coated hamma® X Strand Wire

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	WEIGHT P/M (KG)	MBS (KN)	COATING TYPE	COATING COLOUR
HCCL417004	0.4mm - 0.7mm	1x7	16	0.001	0.1	Nylon	Clear
HCCL417006	0.6mm - 0.8mm	1x7	25	0.002	0.2	Nylon	Clear
HCCL417007	0.7mm - 0.8mm	1x7	48	0.003	0.4	Nylon	Clear
HCCL417008	0.8mm - 1.0mm	1x7	63	0.004	0.6	Nylon	Clear
HCCL417010	1.0mm - 1.2mm	1x7	100	0.005	0.9	Nylon	Clear
HCCL417012	1.2mm - 1.5mm	1x7	141	0.008	1.3	Nylon	Clear

hamma® Coated 1x7 is a PVC coated wire which has the hamma® X Strand coated with UV stabilised PVC. The wire strand has the same workings of a 1x7 strand which is non-flexible. It is available in many internal and external diameter combinations.

- Construction 1x7

Available in Nylon coating in clear colour.



# hamma® Coated 1 x 19

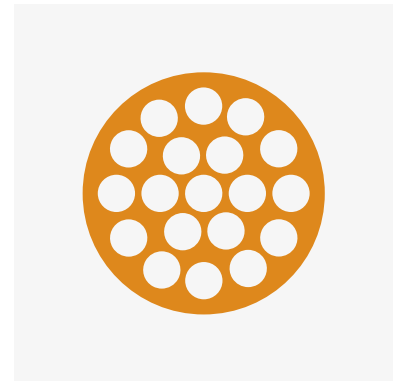
hamma® Coated 1x19 is coated hamma® X Strand Wire

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	WEIGHT P/M (KG)	MBS (KN)	COATING TYPE	COATING COLOUR
HCBK419024	2.4mm - 3.2mm	1x19	545	0.029	5.3	PVC	Black
HCBK419032	3.2mm - 4.8mm	1x19	968	0.053	9.5	PVC	Black
HCBK419040	4.0mm - 5.6mm	1x19	1,510	0.081	14.8	PVC	Black
HCBL419032	3.2mm - 4.8mm	1x19	968	0.053	9.5	PVC	Blue
HCCL419032	3.2mm - 4.0mm	1x19	968	0.052	9.5	PVC	Clear
HCRE419024	2.4mm - 3.2mm	1x19	545	0.039	5.3	PVC	Red
HCRE419032	3.2mm - 4.8mm	1x19	968	0.053	9.5	PVC	Red
HCWH419024	2.4mm - 4.0mm	1x19	545	0.029	5.3	PVC	White
HCWH419032	3.2mm - 4.8mm	1x19	968	0.053	9.5	PVC	White
HCBK619024	2.4mm - 3.2mm	1x19	483	0.029	4.7	PVC	Black
HCBK619032	3.2mm - 4.8mm	1x19	861	0.053	8.4	PVC	Black
HCBK619064	6.4mm - 8.0mm	1x19	3,442	0.211	33.4	PVC	Black
HCCL619020	2.0mm - 2.4mm	1x19	336	0.021	3.3	Nylon	Clear
HCWH619032	3.2mm - 4.8mm	1x19	861	0.053	8.4	PVC	White
HCWH619040	4.0mm - 5.6mm	1x19	1,340	0.081	13.1	PVC	White

hamma® Coated 1x19 is a PVC coated wire which has the hamma® X coated with UV stabilised PVC. The wire strand has the same workings of a 1x19 strand which is non-flexible. It is available in many internal and external diameter combinations.

## Applications

- Yacht Lifelines
- Shade Structures
- Architectural Rigging



# hamma® Coated 7x7

hamma® Coated 7x7 is coated hamma® X Strand Wire

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	WEIGHT P/M (KG)	MBS (KN)	COATING COLOUR	COATING TYPE
HCWH677032	3.2mm - 5.6mm	7x7	612	0.043	6	White	PVC
HCWH677040	4.0mm - 6.4mm	7x7	1,030	0.068	10.1	White	PVC
HCWH677048	4.8mm - 7.2mm	7x7	1,493	0.098	14.6	White	PVC
HCWH677064	6.4mm - 8.0mm	7x7	2,320	0.172	22.8	White	PVC
HCBL477020	2.0mm - 4.0mm	7x7	258	0.018	2.5	Blue	PVC
HCBL477024	2.4mm - 3.2mm	7x7	344	0.024	3.4	Blue	PVC
HCBL477032	3.2mm - 4.0mm	7x7	661	0.043	6.5	Blue	PVC
HCCL477012	1.2mm - 1.5mm	7x7	86	0.007	0.8	Clear	PVC
HCCL477016	1.6mm - 2.4mm	7x7	153	0.011	1.5	Clear	PVC
HCCL477024	2.4mm - 3.2mm	7x7	344	0.024	3.4	Clear	PVC
HCCL477032	3.2mm - 4.0mm	7x7	661	0.043	6.5	Clear	PVC
HCWH477032	3.2mm - 5.6mm	7x7	661	0.043	6.5	White	PVC
HCWH477040	4.0mm - 6.4mm	7x7	1,030	0.068	10.1	White	PVC
HCWH477048	4.8mm - 7.2mm	7x7	1,430	0.098	14.1	White	PVC
HCBL677016	1.6mm - 2.4mm	7x7	153	0.011	1.5	Blue	PVC
HCBL677020	2.0mm - 4.0mm	7x7	258	0.018	2.5	Blue	PVC
HCBL677024	2.4mm - 3.2mm	7x7	344	0.024	3.4	Blue	PVC
HCCL677020	2.0mm - 2.4mm	7x7	258	0.018	2.5	Clear	PVC

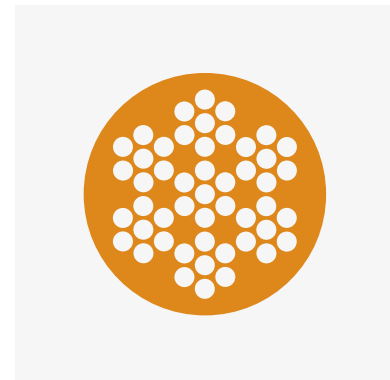
hamma® Coated 7x7 is a PVC coated wire which has the hamma® X Strand coated with UV stabilised PVC. The wire strand has the same workings of a 7x7 strand which is semi-flexible. It is available in many internal and external diameter combinations.

## Applications

- Yacht Lifelines
- Shade Structures
- Architectural Rigging
- Fishing Line
- Shark traces
- Construction 7x7

hamma® Coated 7x7 is available in many internal and external diameter combinations.

Polyurethane is used for applications that have many friction points, the polyurethane coating can protect the wire from overuse, wear and tear in a particular spot. i.e. wire rope used in a pulley.



# hamma® Coated 7 x 19

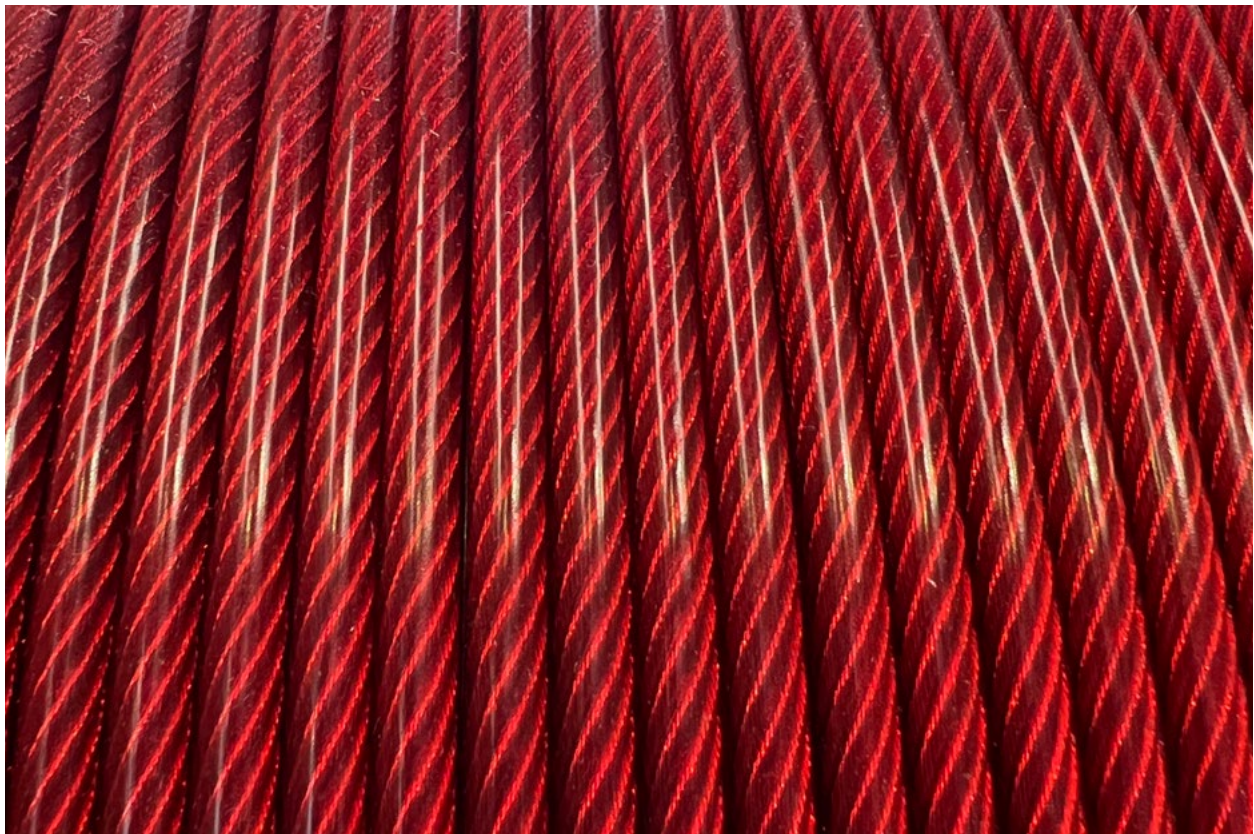
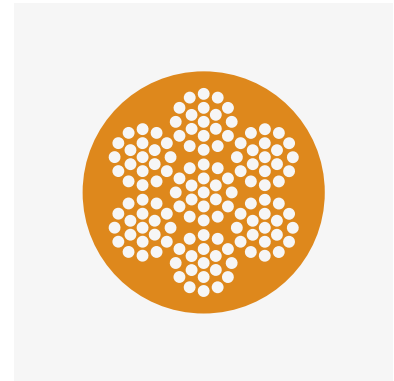
hamma® Coated 7x19 is coated hamma® X Strand Wire

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	WEIGHT P/M (KG)	MBS (KN)	COATING COLOUR	COATING TYPE
HCCL479016	1.6mm - 2.0mm	7x19	153	0.011	1.5	Clear	PVC
HCCL479024	2.4mm - 3.2mm	7x19	344	0.025	3.4	Clear	PVC
HCPRE479030	3.0mm - 5.0mm	7x19	538	0.039	5.3	Red	PUR
HCWH679032	3.2mm - 4.8mm	7x19	611	0.044	6	White	PVC
HCBL679032	3.2mm - 4.0mm	7x19	611	0.044	6	Blue	PVC
HCBL479032	3.2mm-4.0mm	7x19	612	0.044	6	Blue	PVC
HCCL479032	3.2mm - 4.0mm	7x19	612	0.044	6	Clear	PVC
HCCL679055	5.5mm - 7.2mm	7x19	1,807	0.134	17.7	Clear	PVC
HCCL679080	8.0mm - 10.0mm	7x19	3,396	0.370	33.3	Clear	PVC

hamma® Coated 7x19 is a PVC coated wire which has the hamma® X Strand coated with UV stabilised PVC. The wire strand has the same workings of a 7x19 strand which is very flexible. It is available in many internal and external diameter combinations.

## Applications

- Hang gliding
- Light Aircraft
- Construction 7x19





# hamma<sup>®</sup> Duplex

## Heavy Duty Stainless Steel Wire Rope

The latest addition to the hamma<sup>®</sup> range of stainless steel wire rope is hamma<sup>®</sup> Duplex 2205. Duplex is a material suited to applications where high strength, high corrosive resistance and long service life is required.

### Characteristics of hamma<sup>®</sup> Duplex Wire Rope

#### HIGH BREAKING FORCE

(The breaking force shall be specified as a minimum breaking force only)

- hamma<sup>®</sup> Duplex Wire Rope supports the EN 12 385-4: Steel wire rope standard
- Breaking force higher than international standards can be provided upon request. As a guide, hamma<sup>®</sup> Duplex Wire Rope has approximately 20% higher breaking force than AISI 304 grade.

#### HIGH RESISTANCE AGAINST PITTING AND CREVICE CORROSION

- Pitting resistance of hamma<sup>®</sup> Duplex Wire Rope is approximately 30% higher than AISI 316 grade.
- Better crevice corrosion resistance than that of Austenitic grade in similar working conditions. (No crevice corrosion up to 1,000ppm of Chlorine).

#### HIGH RESISTANCE AGAINST STRESS CORROSION CRACKING

- Compared with Austenitic grade, hamma<sup>®</sup> Duplex Wire Rope withstands more than 100°C elevated temperature in similar working conditions.

#### EXTRA BRIGHT AND CLEAN SURFACE.

- Stainless steel provides for ease of maintenance.

#### DUPLEX STAINLESS STEEL CHEMICAL REQUIREMENTS

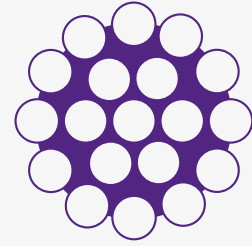
Chemical Composition (Wt.Pct.) (Unit: wt%)

SPEC.	GRADE	RANGE	C	SI	MN	P	S	CR	NI	MO	MO	REMARK
EN10088-3 :2005	X2CrNiMoN22-5- 31.4462	Min						21.0	4.50	2.50	0.10	2205
		Max	0.030	1.00	2.00	0.035	0.015	23.0	6.50	3.50	0.22	
ASTM A240/A240M	S31803	Min						21.0	4.50	2.50	0.08	
		Max	0.030	1.00	2.00	0.030	0.020	23.0	6.50	3.50	0.20	

# hamma® Duplex 1x19

High Resistance Against Stress Corrosion Cracking

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMD19010	1.0mm	1x19	95	0.9	0.005
HMD19020	2.0mm	1x19	379	3.7	0.020
HMD19030	3.0mm	1x19	853	8.4	0.045
HMD19040	4.0mm	1x19	1516	14.9	0.080
HMD19050	5.0mm	1x19	2,369	23.2	0.126
HMD19060	6.0mm	1x19	3,411	33.5	0.180
HMD19070	7.0mm	1x19	4,643	45.5	0.248
HMD19080	8.0mm	1x19	6,065	59.5	0.318
HMD19090	9.0mm	1x19	7,675	75.3	0.407
HMD19100	10.0mm	1x19	9,476	92.9	0.511
HMD19110	11.0mm	1x19	11,466	112	0.607
HMD19120	12.0mm	1x19	13,645	134	0.739
HMD19130	13.0mm	1x19	16,014	157	0.806
HMD19140	14.0mm	1x19	18,573	182	0.965
HMD19150	15.0mm	1x19	21,321	209	TBC
HMD19160	16.0mm	1x19	24,258	238	1.314
HMD19170	17.0mm	1x19	27,385	269	TBC
HMD19180	18.0mm	1x19	30,702	301	TBC
HMD19190	19.0mm	1x19	34,208	335	1.781
HMD19200	20.0mm	1x19	37,903	372	1.966
HMD19210	21.0mm	1x19	41,789	410	TBC
HMD19220	22.0mm	1x19	45,863	450	2.404



hamma® Duplex Wire Rope 1x19 has been developed for several key applications where Strength and Corrosion resistance are paramount.

- Architectural
- Shade Structure's and Tensile Membranes
- Marine
- Yacht Rigging
- Offshore Oil & Gas
- Subsea Engineering
- Mining
- Glass Facade
- Cable Net Structures
- Zoo Enclosures

hamma® Duplex Wire Rope is a market leader for Subsea, Architectural, Corrosive Environments and Swimming Pool applications.

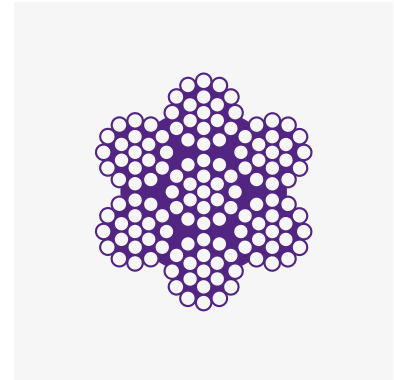
Please note that MBS quoted is 1770.

hamma® Duplex Wire Rope 1x19 maximum tensile strength grades available up to 2500N/mm<sup>2</sup>.

# hamma® Duplex 7x19

High Resistance Against Stress Corrosion Cracking

CODE	WIRE SIZE	CONSTRUCTION	MBS (KGF)	MBS (KN)	WEIGHT P/M (KG)
HMD79010	1.0mm	7x19	65	0.6	0.005
HMD79020	2.0mm	7x19	259	2.5	0.017
HMD79030	3.0mm	7x19	583	5.7	0.037
HMD79040	4.0mm	7x19	1,037	10.2	0.067
HMD79050	5.0mm	7x19	1,620	15.9	0.104
HMD79060	6.0mm	7x19	2,333	22.9	0.150
HMD79070	7.0mm	7x19	3,175	31.1	0.208
HMD79080	8.0mm	7x19	4,147	40.7	0.262
HMD79090	9.0mm	7x19	5,248	51.5	0.340
HMD79100	10.0mm	7x19	6,480	63.5	0.424
HMD79110	11.0mm	7x19	7,840	76.9	0.499
HMD79120	12.0mm	7x19	9,331	91.5	0.597
HMD79130	13.0mm	7x19	10,950	107.4	0.677
HMD79140	14.0mm	7x19	12,700	124.5	0.790
HMD79150	15.0mm	7x19	14,579	143.0	0.932
HMD79160	16.0mm	7x19	16,588	162.7	1.075
HMD79170	17.0mm	7x19	18,726	183.6	TBC
HMD79180	18.0mm	7x19	20,994	205.9	TBC
HMD79190	19.0mm	7x19	23,391	229.4	1.438
HMD79200	20.0mm	7x19	25,918	254.2	1.628
HMD79210	21.0mm	7x19	28,575	280.2	TBC
HMD79220	22.0mm	7x19	31,361	307.5	1.969



hamma® Duplex Wire Rope 7x19 has been developed for several key applications where Strength and Corrosion resistance are paramount.

- Architectural
- Shade Structure's and Tensile Membranes
- Marine
- Offshore Oil & Gas
- Subsea Engineering
- Mining
- Glass Facade
- Cable Net Structures
- Zoo Enclosures

hamma® Duplex Wire Rope is a market leader for Subsea, Architectural, Corrosive Environments and Swimming Pool applications.

Please note that MBS quoted is 1770.

hamma® Duplex Wire Rope 7x19 maximum tensile strength grades available up to 2500N/mm<sup>2</sup>.

# Innovation At Our Core

With a focus on continuing to meet the changing needs of our customers and emerging technical developments in our industry, we utilise our extensive working knowledge to design and develop new solutions.

Over the years our product innovation has included being the first mainstream supplier of AISI 316 wire into Australia (which has now become industry standard) and launching the hamma® range of stainless steel wire rope and fittings in both AISI 316 and Duplex 2205.

## AISI 316

Arcus Wire Group was the first to bring AISI 316 wire rope and strand to Australia. Up until the late 1980's, AISI 304 was the standard grade. In association with Noakes Rigging, a leader in architectural and yacht rigging, Arcus Wire Group determined that AISI 316 was a superior grade for yacht and architectural rigging.

Working in conjunction with KOS (Koreas Original Stainless), Arcus Wire Group designed and developed a new compacted strand to replace Dyform resulting in the release of hamma® Pro Strand in 2007.

Today the hamma® range is a market leader in stainless steel wire rope and fittings.

## LEADING ENVIRONMENTAL ACTION

In 2004 ASSDA (Australian Stainless Steel Development Association) published a technical report highlighting the value of recycling stainless steel. The report focused on the 100% recyclability of stainless steel and its valuable raw materials.

The report was a catalyst to Arcus Wire Group exploring potential solutions to introduce environmental improvements to the distribution of stainless steel wire rope.

At the time Arcus Wire Group used thousands of reels annually which were covered in thousands of metres of corflute plastic to protect the stainless steel during shipping. In addition, the reels were painted blue which required hundreds of litres of paint per year.

The team researched and tested a range of options culminating in a move to unpainted reels (made from sustainable wood) and natural cardboard sleeves for packaging. Both innovations delivered 100% recyclable solutions.

In addition, the team also finalised agreements with suppliers and customers for the removal of plastic din spools for all Arcus Wire Group supplied wire.

Today Arcus Wire Group continues to focus on delivering solutions to improve environmental outcomes. These include a recycling program for all relevant materials and supporting environmental awareness campaigns including Lisa Blair's record breaking sailing expeditions on her yacht 'Climate Action Now' with the supply of hamma® stainless steel wire and fittings.



# About Wire Rope

## What Wire Rope is...

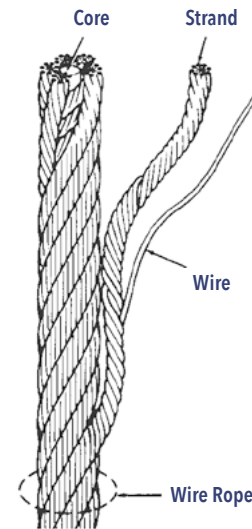
Typically wire rope consists of a core member, around which a number of multiwired strands are "laid" or helically bent.

There are two general types of cores for wire rope - fiber cores and wire cores. The fiber core may be made from natural or synthetic fibers. The wire core can be an Independent Wire Rope Core (IWRC), or a Strand Core (SC).

The purpose of the core is to provide support and maintain the position of the outer strands during operation.

Any number of multi-wired strands may be laid around the core. The most popular arrangement is six strands around the core, as this combination gives the best balance.

The number of wires per strand may vary from 3 to 91, with the majority of wire ropes falling into the 7-wire, 19-wire, or 37-wire strand categories.



## The "lays" of Wire Rope

"Lay" of a wire rope is simply a description of the way wires and strands are placed during construction. Right lay and left lay refer to the direction of strands.

Right lay means that the strands pass from left to right across the rope. Left lay means just the opposite: strands pass from right to left.

Regular lay and lang lay describe the way wires are placed within each strand. Regular lay means that wires in the strands are laid opposite in direction to the lay of the strands. Lang lay means that wires are laid in the same direction as the lay of the strands.

Most of the wire rope used is right lay, regular lay. This specification has the

widest range of applications and meets the requirements of most equipment. In fact, other lay specifications are considered exceptions and must be requested when ordering.

### HERE ARE SOME EXCEPTIONS

Lang lay is recommended for many excavating, construction, and mining applications, including draglines, hoist lines, dredgelines and other similar lines. Here's why: Lang lay ropes are more flexible than regular lay ropes. They also have greater wearing surface per wire than regular lay ropes.

Where properly recommended, installed and used, lang lay ropes can be used to greater advantage than regular lay ropes. However, lang lay ropes are more susceptible to the abuses of bending over small diameter sheaves, pinching in undersize sheave

grooves, crushing when winding on drums, and failing due to excessive rotation. Left lay rope has greatest usage in oil fields on rod and tubing lines, blast hole rigs, and spudders where rotation of right lay rope would

rotation of a left lay rope would cause a left hand coupling.



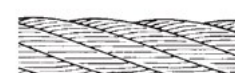
Left Lay REGULAR LAY



Left Lay LANG LAY



Right Alternative Lay



Right Lay REGULAR LAY



Right Lay LANG LAY

# Wire Rope Design & Construction

Wire ropes are composed of independent parts—wires, strands and cores that continuously interact with each other during service.

Wire rope engineers design those parts in differing steel grades, finishes and a variety of constructions to attain the best balance of strength, abrasion resistance, crush resistance, bending fatigue resistance and corrosion resistance for each application.

To select the best wire rope for each application, one must know the required performance characteristics for the job and enough about wire rope design to select the optimum combination of wire rope properties.

The following information is presented as a basic guide. Engineers and field service specialists are available to provide more specific recommendations.

## STRAND CONSTRUCTIONS

Strands are designed with various combinations of wires and wire sizes to produce the desired resistance to fatigue and abrasion. Generally, a small number of large wires will be more abrasion resistant and less fatigue resistant than a large number of small wires.



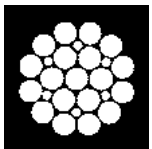
### SINGLE SIZE

The basic strand construction has wires of the same size wound around a centre.



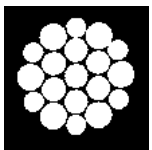
### SEALE

Large outer wires with the same number of smaller inner wires around a core wire. Provides excellent abrasion resistance but less fatigue resistance. When used with an IWRC, it offers excellent crush resistance over drums.



### FILLER WIRE

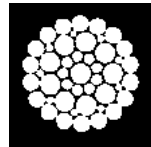
Small wires fill spaces between large wires to produce crush resistance and a good balance of strength, flexibility and resistance to abrasion.



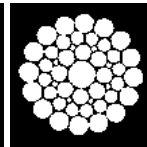
### WARRINGTON

Outer layer of alternately large and small wires provides good flexibility and strength but low abrasion and crush resistance.

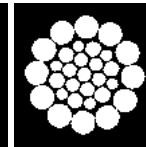
Many commonly used wire ropes use combinations of these basic constructions.



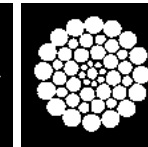
Seale Filler Wire



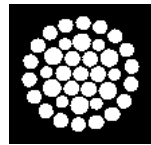
Filler Wire Seale



Warrington Seale



Seale Warrington Seale



### MULTIPLE OPERATION

One of the above strand designs may be covered with one or more layers of uniform-sized wires.

### FINISH

Bright finish is suitable for most applications. Galvanized and stainless steel wire ropes are available for corrosive environments. Plastic jacketing is also available on some constructions.

### WIRE GRADES

The most common steel wire grades are: IPS (Improved Plow Steel), EIP (Extra Improved Plow Steel) and EEIP (Extra Extra Improved Plow Steel). Stainless Steels and other special grades are provided for special applications.

Most wire ropes are made with round wires. Both triangular and shaped wires are also used for special constructions.

Generally, the higher the strength of the wire, the lower its ductility will be.

# Ferrules & Tools

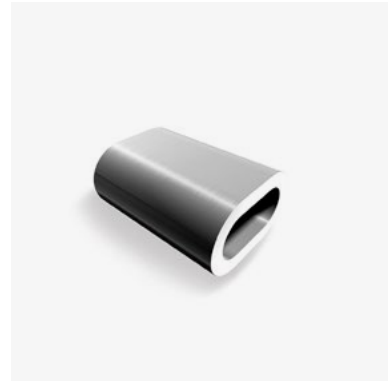
## Sahm Copper Ferrules

Product Code	Fibre Core (Min-Max)	Steel Core (Min-Max)	Swage Die No.	Required Pressure kN
C015	1.1mm - 1.5mm	1.0mm - 1.1mm	1.5	20
C020	1.6mm - 2.0mm	1.2mm - 1.6mm	2	30
C025	2.1mm - 2.6mm	1.7mm - 2.1mm	2.5	45
C030	2.7mm - 3.1mm	2.2mm - 2.6mm	3	60
C035	3.2mm - 3.6mm	2.7mm - 3.1mm	3.5	80
C040	3.7mm - 4.1mm	3.2mm - 3.6mm	4	100
C045	4.2mm - 4.6mm	3.7mm - 4.2mm	4.5	125
C050	4.7mm - 5.1mm	4.3mm - 4.6mm	5	180
C060	5.2mm - 6.1mm	4.7mm - 5.5mm	6	210
C065	6.2mm - 6.6mm	5.6mm - 6.0mm	6.5	250
C070	6.7mm - 7.2mm	6.1mm - 6.5mm	7	320
C080	7.3mm - 8.2mm	6.6mm - 7.2mm	8	410
C090	8.3mm - 9.2mm	7.3mm - 8.0mm	9	500
C100	9.3mm - 10.2mm	8.1mm - 9.0mm	10	600
C110	10.3mm-11.2mm	9.1mm-10.0mm	11	720
C120	11.3mm-12.2mm	10.1mm-11.0mm	12	850
C130	12.3mm-13.2mm	11.1mm-12.0mm	13	1,000
C140	13.3mm-14.2mm	12.1mm-13.0mm	14	1,300
C160	14.3mm-16.2mm	13.1mm-15.0mm	16	1,600
C180	16.6mm-18.2mm	15.1mm-17.0mm	18	2,000
C200	18.3mm-21.2mm	17.1mm-19.0mm	20	2,400
C220	20.3mm-22.2mm	19.1mm-21.0mm	22	2,900



## Sahm Stainless Steel Ferrules

PRODUCT CODE	FIBRE CORE (MIN-MAX)	STEEL CORE (MIN-MAX)	SWAGE DIE NO.	REQUIRED PRESSURE KN
STS015	1.5mm - 1.6mm	1.5mm - 1.6mm	1.5	100
STS020	2.0mm - 2.1mm	2.0mm - 2.1mm	2	160
STS025	2.5mm - 2.6mm	2.5mm - 2.6mm	2.5	200
STS030	3.0mm - 3.2mm	3.0mm - 3.2mm	3	250
STS035	3.3mm - 3.7mm	3.3mm - 3.7mm	3.5	300
STS040	4.0mm - 4.2mm	4.0mm - 4.2mm	4	350
STS045	4,3mm - 4.7mm	4,3mm - 4.7mm	4.5	400
STS050	5.0mm - 5.2mm	5.0mm - 5.2mm	5	500
STS060	6.0mm - 6.3mm	6.0mm - 6.3mm	6	600
STS070	7.0mm - 7.3mm	7.0mm - 7.3mm	7	700
STS080	8.0mm - 8.3mm	8.0mm - 8.3mm	8	850
STS100	10.0mm - 10.4mm	10.0mm - 10.4mm	10	1,100
STS120	12.0mm - 12.4mm	12.0mm - 12.4mm	12	1,500
STS140	14.0mm - 14.4mm	14.0mm - 14.4mm	14	2,000
STS160	16.0mm - 16.5mm	16.0mm - 16.5mm	16	2,500
STS180	18.0mm - 18.5mm	18.0mm - 18.5mm	18	3,100
STS200	20.0mm - 20.5mm	20.0mm - 20.5mm	20	3,400



## Sahm Alloy Ferrules

CODE	FIBRE CORE (MIN)	FIBRE CORE (MAX)	STEEL CORE (MIN)	STEEL CORE (MAX)	SWAGE DIE NO.	FERRULE DIA. AFTER SWAGING	FERRULE LENGTH AFTER SWAGING	REQUIRED PRESSURE KN
A015	1.1mm	1.5mm	1.0mm	1.4mm	1.5	3.8mm	-	10
A020	1.6mm	2.0mm	1.5mm	1.9mm	2.0	4.0mm	-	20
A025	2.5mm	2.7mm	2.0mm	2.4mm	2.5	5.0mm	12.0mm	30
A030	2.8mm	3.2mm	2.5mm	2.7mm	3.0	6.0mm	14.0mm	45
A035	3.3mm	3.7mm	2.8mm	3.2mm	3.5	7.0mm	16.0mm	60
A040	3.8mm	4.3mm	3.3mm	3.7mm	4.0	8.0mm	18.0mm	80
A045	4.4mm	4.8mm	3.8mm	4.3mm	4.5	9.0mm	20.0mm	100
A050	4.9mm	5.4mm	4.4mm	4.8mm	5.0	10.0mm	23.0mm	125
A060	5.5mm	6.4mm	4.9mm	5.4mm	6.0	12.0mm	27.0mm	180
A065	6.5mm	6.9mm	5.5mm	6.4mm	6.5	13.0mm	29.0mm	210
A070	7.0mm	7.4mm	6.5mm	6.9mm	7.0	14.0mm	32.0mm	250
A080	7.5mm	8.4mm	7.0mm	7.4mm	8.0	16.0mm	36.0mm	320
A090	8.5mm	9.5mm	7.5mm	8.4mm	9.0	18.0mm	40.0mm	410
A100	9.6mm	10.6mm	8.5mm	9.6mm	10.0	20.0mm	45.0mm	500
A110	10.6mm	11.6mm	9.6mm	10.5mm	11.0	22.0mm	50.0mm	600
A120	11.7mm	12.6mm	10.6mm	11.6mm	12.0	24.0mm	54.0mm	720
A130	12.7mm	13.7mm	11.7mm	12.6mm	13.0	26.0mm	59.0mm	850
A140	13.8mm	14.7mm	12.7mm	13.7mm	14.0	28.0mm	63.0mm	1,000
A160	14.8mm	16.8mm	13.8mm	14.7mm	16.0	32.0mm	72.0mm	1,300
A180	16.9mm	18.9mm	14.8mm	16.8mm	18.0	36.0mm	81.0mm	1,600
A200	19.0mm	21.0mm	16.9mm	18.9mm	20.0	40.0mm	90.0mm	2,000
A220	21.1mm	23.1mm	19.0mm	21.0mm	22.0	44.0mm	99.0mm	2,400



## Nicopress Zinc Plated Copper Ferrules

Hand Swage

PRODUCT CODE	WIRE SIZE (MM)	WIRE SIZE (INCH)	SLEEVE LENGTH (BEFORE/AFTER)	TOOL REQUIRED	WEIGHT PER 1000
N12C	1.0mm to 1.2mm	3/64	9.5mm/11mm	N17-B4B, N33V or N64CG	0.09
N16C	1.5mm to 2.0mm	1/16"	9.5mm/11mm	N33V or N64CG	0.14
N24C	2.4mm to 2.5mm	3/32	9.5mm/11mm	N33V or N64CG	0.27
N32C	3.0mm to 3.5mm	1/8"	14mm/19mm	N33V or N64CG	0.77
N40C	4.0mm	5/32	16mm/22mm	N63V	1.04
N48C	4.8mm to 5.0mm	3/16"	24mm/30mm	N63V	2.22
N55C	5.5mm to 6.0mm	7/32"	22mm/27mm	N51F	2.68
N64C	6.4mm to 7.0mm	1/4"	25mm/35mm	N3F6	3.67
N80C	7.2mm to 8.0mm	9/32" & 5/16"	27mm/35mm	N3G9	5.44
N95C	9.5mm to 10.0mm	3/8"	30mm/38mm	N3512HT or N635HT	7.03



## Nicopress Copper Stop Ferrules

Hand Swage

PRODUCT CODE	WIRE SIZE (MM)	WIRE SIZE (INCH)	SLEEVE LENGTH	SLEEVE	TOOL REQUIRED	WEIGHT PER 1000
N12ST	1.0mm - 1.2mm	3/64	5.5mm	4.0mm	N17-B4B	0.03
N16ST	1.5mm - 2.0mm	1/16	11.0mm	5.0mm	N33V	0.05
N24ST	2.4mm - 2.5mm	3/32	8.0mm	8.0mm	N51M	0.09
N32ST	3.0mm - 3.5mm	1/8	8.0mm	8.0mm	N51M	0.09
N40ST	4.0mm	5/32	8.0mm	10.7mm	N51M	0.36
N48ST	4.8mm - 5.0mm	3/16	8.0mm	10.7mm	N51M	0.09



## Nicopress Hand Tools

PRODUCT CODE	WIRE SIZE (MM)	WIRE SIZE (INCH)	NO OF GROOVES	TOOL LENGTH	TOOL WEIGHT	SUPPLIED WITH CHECK GAUGE
N33V	1.0 - 2.5mm	3/64", 5/64", 3/32"	3	300mm	1.1kgs	Yes
N63V	3.0mm - 5.0mm	1/8", 5/32", 3/16"	3	508mm	2.7kgs	Yes
N64CG	1.5mm - 3.5mm	1/16", 5/64", 3/32", 1/8"	4	508mm	2.7kgs	Yes
N3F6	6.0mm	1/4"	1	85cm	6.8kgs	Yes



## Nicopress Hand Tools

PRODUCT CODE	WIRE SIZE (MM)	WIRE SIZE (INCH)	NO OF GROOVES	TOOL LENGTH	TOOL WEIGHT
N64CG	2mm, 3mm, 4mm, 5mm	1/16" to 5/32"	4	508mm	



## Nicopress Hand Tools

PRODUCT CODE	WIRE SIZE (MM)	WIRE SIZE (INCH)	NO OF GROOVES	TOOL LENGTH	TOOL WEIGHT
N510	1.5mm to 6mm	1/16" to 7/32"	4	530mm	2.7kgs



## Nicopress Hand Tools

PRODUCT CODE	WIRE SIZE (MM)	WIRE SIZE (INCH)	NO OF GROOVES	TOOL LENGTH	TOOL WEIGHT
N300	1.5mm to 10mm	1/16" to 3/8"	4	890mm	8.6kgs



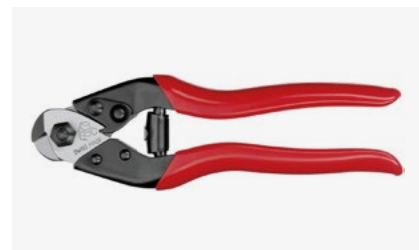
## Nicopress Battery Tool

PRODUCT CODE	WIRE SIZE (MM)	WIRE SIZE (INCH)	DIMENSIONS	TOOL WEIGHT WITH BATTERY	INCLUSIONS
N5606M	1mm to 10mm	3/64" to 3/8"	457mm L x 102mm H x 76mm W	3.6kgs	<ul style="list-style-type: none"> <li>• 2 Makita batteries</li> <li>• 120VAC charger</li> </ul>



## Felco One Hand Wire Cutters

PRODUCT CODE	MAX DIAMETER (MM)	WEIGHT (G)	LENGTH (MM)
FC007	7	270	190



## Felco Two Hand Wire Cutters

PRODUCT CODE	MAX DIAMETER (MM)	WEIGHT (G)	LENGTH (MM)
FC009	9	753	325



## Felco Two Hand Wire Cutters

PRODUCT CODE	MAX DIAMETER (MM)	WEIGHT (G)	LENGTH (MM)
FC012	12	1500	500



## Felco Two Hand Wire Cutters

PRODUCT CODE	MAX DIAMETER (MM)	WEIGHT (G)	LENGTH (MM)
FC016	16	2,300	590



## Felco Two Hand Wire Cutters

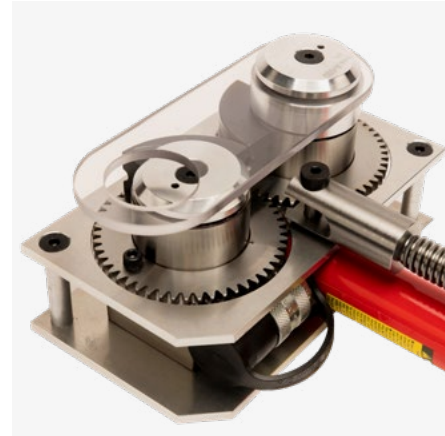
PRODUCT CODE	MAX DIAMETER (MM)	WEIGHT (G)	LENGTH (MM)
FC112	12.7	3,600	730



## Wiretechnik A100

A100

PRODUCT CODE	DESCRIPTION
WTA100	Wiretechnik A100 No Pump
WTA100P	Wiretechnik A100 with Hand Pump
WT-D100-2.5MM	Wiretechnik 2.5mm Roll Dies A100
WT-D100-3MM	Wiretechnik 3mm Roll Dies A100
WT-D100-4MM	Wiretechnik 4mm Roll Dies A100
WT-D100-5MM	Wiretechnik 5mm Roll Dies A100



## Wiretechnik A200

A200

PRODUCT CODE	DESCRIPTION
WTA200	Wiretechnik A200 No Pump
WTA200P	Wiretechnik A200 with Pump
WT-D2.5-200	Wiretechnik Roll Die 2.5mm
WT-D3-200	Wiretechnik Roll Die 3mm
WT-D4-200	Wiretechnik Roll Die 4mm
WT-D5-200	Wiretechnik Roll Die 5mm
WT-D5.5-200	Wiretechnik Roll Die 5.5mm A200
WT-D6-200	Wiretechnik Roll Die 6mm for A200
WT-D7-200	Wiretechnik Roll Die 7mm
WT-D8-200	Wiretechnik Roll Die 8mm A200



## Wiretechnik A270

A270

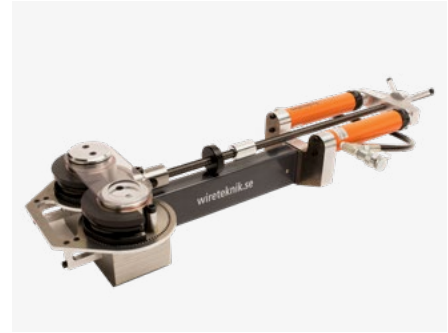
PRODUCT CODE	DESCRIPTION
WTA270	Wiretechnik A270 No Pump
WTA270P	Wiretechnik A270 with Pump
WT-D2.5-270	Wiretechnik Roll Die 2.5mm
WT-D3-270	Wiretechnik Roll Die 3mm
WT-D4-270	Wiretechnik Roll Die 4mm
WT-D5-270	Wiretechnik Roll Die 5mm
WT-D5.5-270	Wiretechnik Roll Die 5.5mm
WT-D6-270	Wiretechnik Roll Die 6mm
WT-D7-270	Wiretechnik Roll Die 7mm
WT-D8-270	Wiretechnik Roll Die 8mm
WT-D10-270	Wiretechnik Roll Die 10mm
WT-D11-270	Wiretechnik Roll Die 11mm
WT-D12-270	Wiretechnik Roll Die 12mm



## Wiretechnik A350

A350

PRODUCT CODE	DESCRIPTION
WTA350	Wiretechnik A350 No Pump
WTA350P	Wiretechnik A350 with Pump
WT-D2.5MM-350	Wiretechnik 2.5mm Roll Dies A350
WT-D3MM-350	Wiretechnik 3mm Roll Dies A350
WT-D4MM-350	Wiretechnik 4mm Roll Dies A350
WT-D5MM-350	Wiretechnik 5mm Roll Dies A350
WT-D6MM-350	Wiretechnik 6mm Roll Dies A350
WT-D7MM-350	Wiretechnik 7mm Roll Dies A350
WT-D8MM-350	Wiretechnik 8mm Roll Dies A350
WT-D10MM-350	Wiretechnik 10mm Roll Dies
WT-D11MM-350	Wiretechnik 11mm Roll Dies
WT-D12MM-350	Wiretechnik 12mm Roll Dies A350
WT-D14MM-350	Wiretechnik 14mm Roll Dies A350
WT-D16MM-350	Wiretechnik 16mm Roll Dies A350



## Wiretechnik A400

A400

PRODUCT CODE	DESCRIPTION
WTA400	Wiretechnik A400 No Pump
WTA400P	Wiretechnik A400 with Pump
WT-D8-400	Wiretechnik 8mm Roll Dies A400
WT-D10-400	Wiretechnik 10mm Roll Dies A400
WT-D11-400	Wiretechnik 11mm Roll Dies A400
WT-D12-400	Wiretechnik 12mm Roll Dies A400
WT-D14-400	Wiretechnik 14mm Roll Dies A400
WT-D16-400	Wiretechnik 16mm Roll Dies A400
WT-D19-400	Wiretechnik 19mm Roll Dies A400
WT-D22-400	Wiretechnik 22mm Roll Dies A400
WT-D25-26-400	Wiretechnik 25-26mm Roll Dies A400
WT-D28-400	Wiretechnik 28mm Roll Dies A400
WT-D14MM-350	Wiretechnik 14mm Roll Dies A350
WT-D16MM-350	Wiretechnik 16mm Roll Dies A350



# Stainless Steel Cleaning and Maintenance Guidelines

## CLEANING AND MAINTENANCE OF STAINLESS STEEL

The visual performance of stainless steel depends on five interrelated factors:

- Surface finish- smooth and clean and free of crevices
- Grade selection- appropriate and economical for the environment.
- Good design-rain washing of exterior surfaces and uniform draining with no ponding.
- Maintenance program- regular cleaning
- End user expectations

These technical guidelines outline and suggest how to perform and implement a maintenance program for the cleaning of stainless steel, for removing common stains and also some recommendations for remedial action if stains occur beyond regular maintenance or where such maintenance has not been performed.

## MAINTENANCE: ROUTINE REMOVAL OF GRIME

Stainless steel holds its appearance best when it is cleaned and washed regularly. When washing it is best to use a soap or detergent or 1% ammonia solution in warm, low chloride water with cloths or soft brushes to avoid the scratching of the surface. Smears will be reduced if the surface is dried afterwards. This treatment best applies to bare stainless steel. Bleaches or abrasive powders or pastes are not recommended. Simply wiping with a damp cloth is not adequate as it smears corrosive deposits without removing them. Routine cleaning prevents stubborn stains building up. As a rule of thumb, if a window nearby is to be cleaned, then so should the stainless.

- Do not use harsh scrubbing tools scourers or chemicals
  - Do not rub with steel wool or scrape with steel tools. Stainless steel wool scouring pads are available for heavy duty work. They will scratch the stainless steel surface but won't leave fragments to go rusty (cross contamination).
  - Do not use scourers or cleaning cloths that have been used on ordinary steel. If using a scourer, test an inconspicuous area first as you could end up with a bright polished spot that doesn't match the rest of the surface. A scourer (such as Scotchbrite™) is simply plastic fibres with abrasive glued to the fibres. It will scratch the surface.
  - Do not rub plastic or other scourers across the grain of brushed or finished surfaces as this will form crevices which will trap contaminants and may cause corrosion.
  - Do not use concentrated bleach or hydrochloric acid-based cleaning products.
  - Do not drag rough items across a stainless surface. Remember that grit under smooth objects can scratch quite badly.
  - Avoid extended contact with salts or carbon steel items especially if wet. All can stain.

## REMOVING SPECIFIC STAINING

The following procedures are recommended for getting rid of the most common types of staining.

### FINGERPRINTS, OIL & GREASE AND OTHER ORGANIC CONTAMINATION

If mild detergents or strong alkaline formulations don't shift finger marks, you can remove them with glass cleaner on a soft cloth. Alternatively, you can use a small amount of alcohol, methylated spirits, acetone, mineral turpentine or eucalyptus oil. Then rinse with water then preferably dry.

You can give longer protection to high traffic areas by lightly rubbing with olive oil or baby oil followed by a polish and shine using a soft cloth. Proprietary formulations including lanolin based gels are available and are used extensively by the marine industry.

### REMOVING PAINT

Apply paint stripper, taking care to follow all safety instructions. You may need to use a nylon brush or a scourer, but avoid metal scrapers as they will damage the surface.

### ADHERENT SCALES AND MORTAR

Cement and mortar splashes should be washed off immediately before they set. Scales from hard water and dried mortar can be removed chemically but not using chemicals that contain hydrochloric acid. Hot 25% acetic acid (vinegar) or warm 10% phosphoric acids are very effective. Following the acid wash, the surface should be neutralised with dilute ammonia or sodium bicarbonate solution, rinsed and dried.

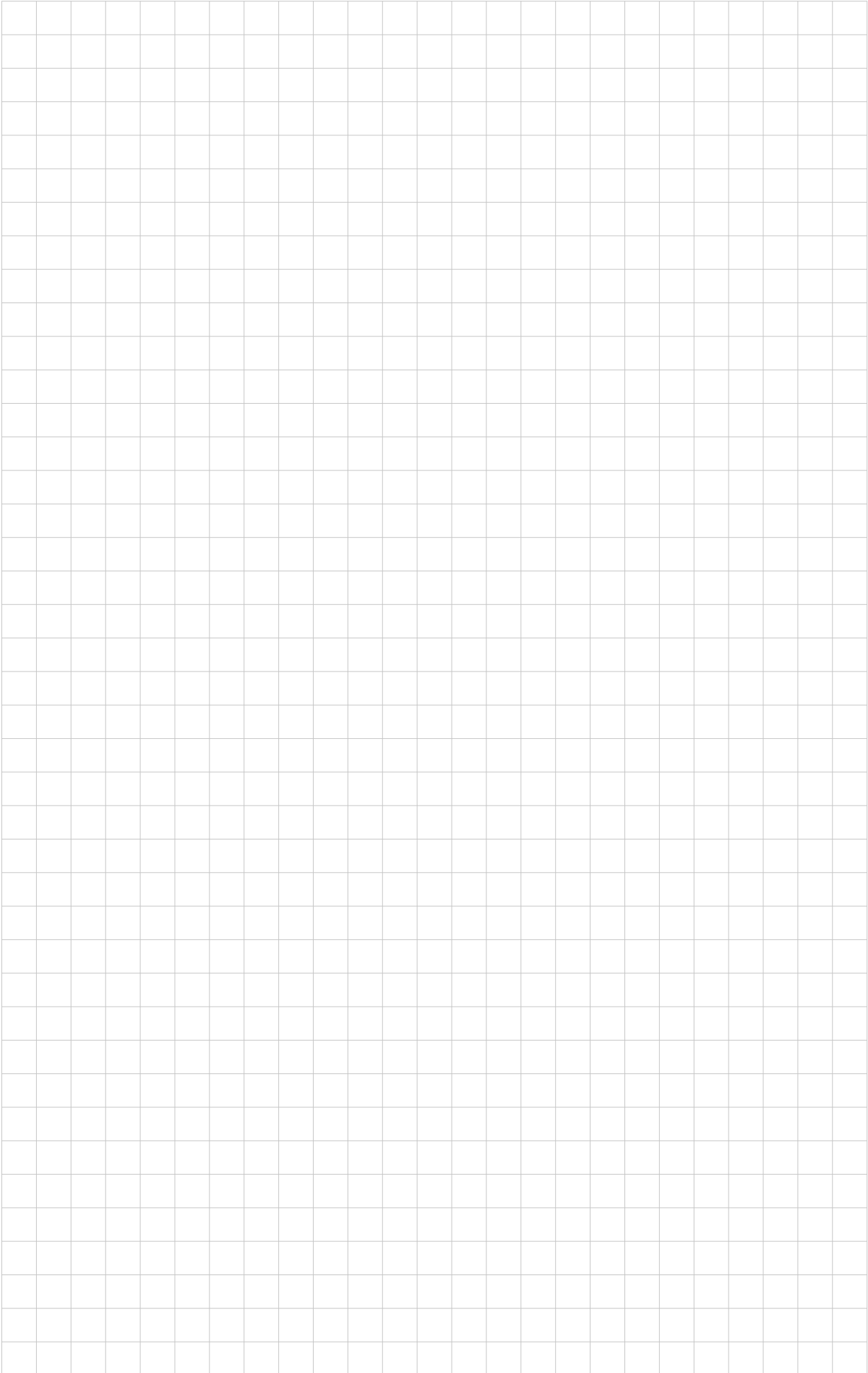
### RUST MARKS (TEA STAIN)

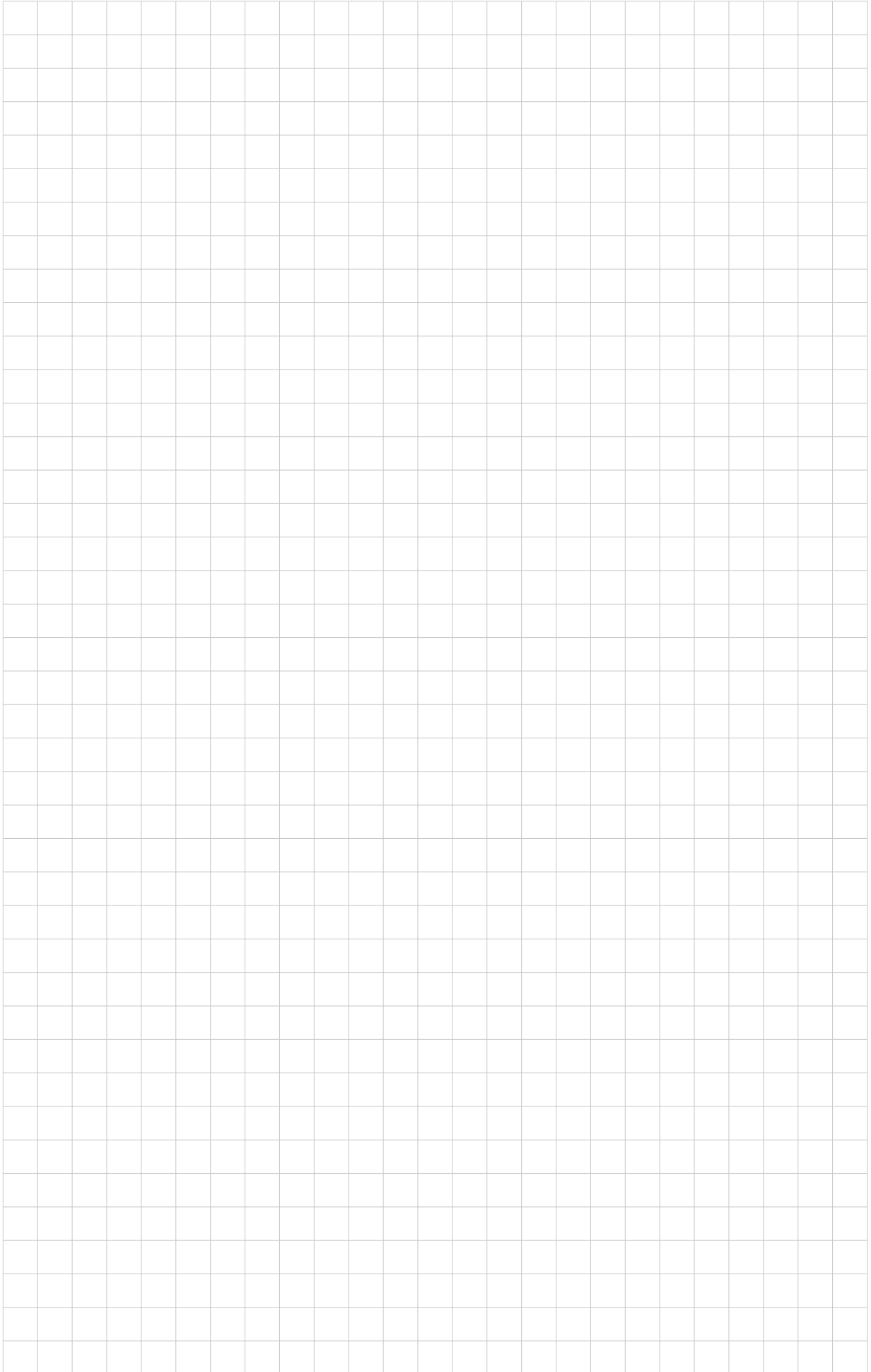
The brown surface stains that can occur on stainless steel during the atmospheric exposure are simply cosmetic rust stains. This brown 'tea staining' on stainless steels will not progress to potential structural damage as could occur with a carbon steel structure. As a first step, apply a chalk based, bleach free, cream cleanser with a soft damp cloth and rub gently. If the mark still won't shift, it might be necessary to use a proprietary stainless steel cleaner. These are usually based on dangerous chemicals (such as phosphoric, oxalic or sulphuric acids) and must be handled with care according to the manufacturer's directions. After cleaning it is important to neutralise the acid with a 1% ammonia or sodium bicarbonate solution, rinse with clean water and wipe dry. If the rust has pitted the surface, it can be repaired with professional polishing and expert advice.

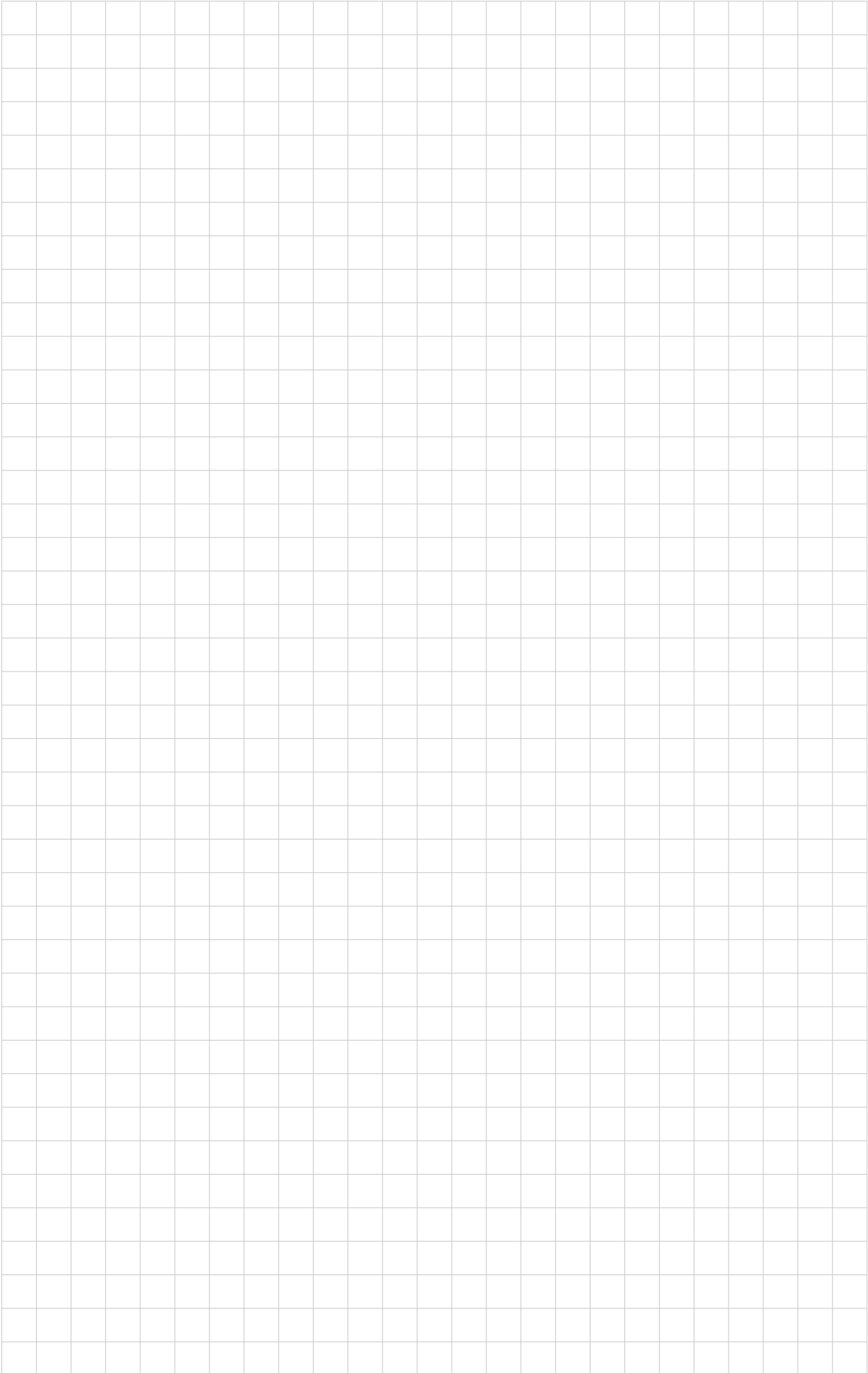
### REMEDIAL WORK: CLEANING RUST STAINED FLAT SURFACES

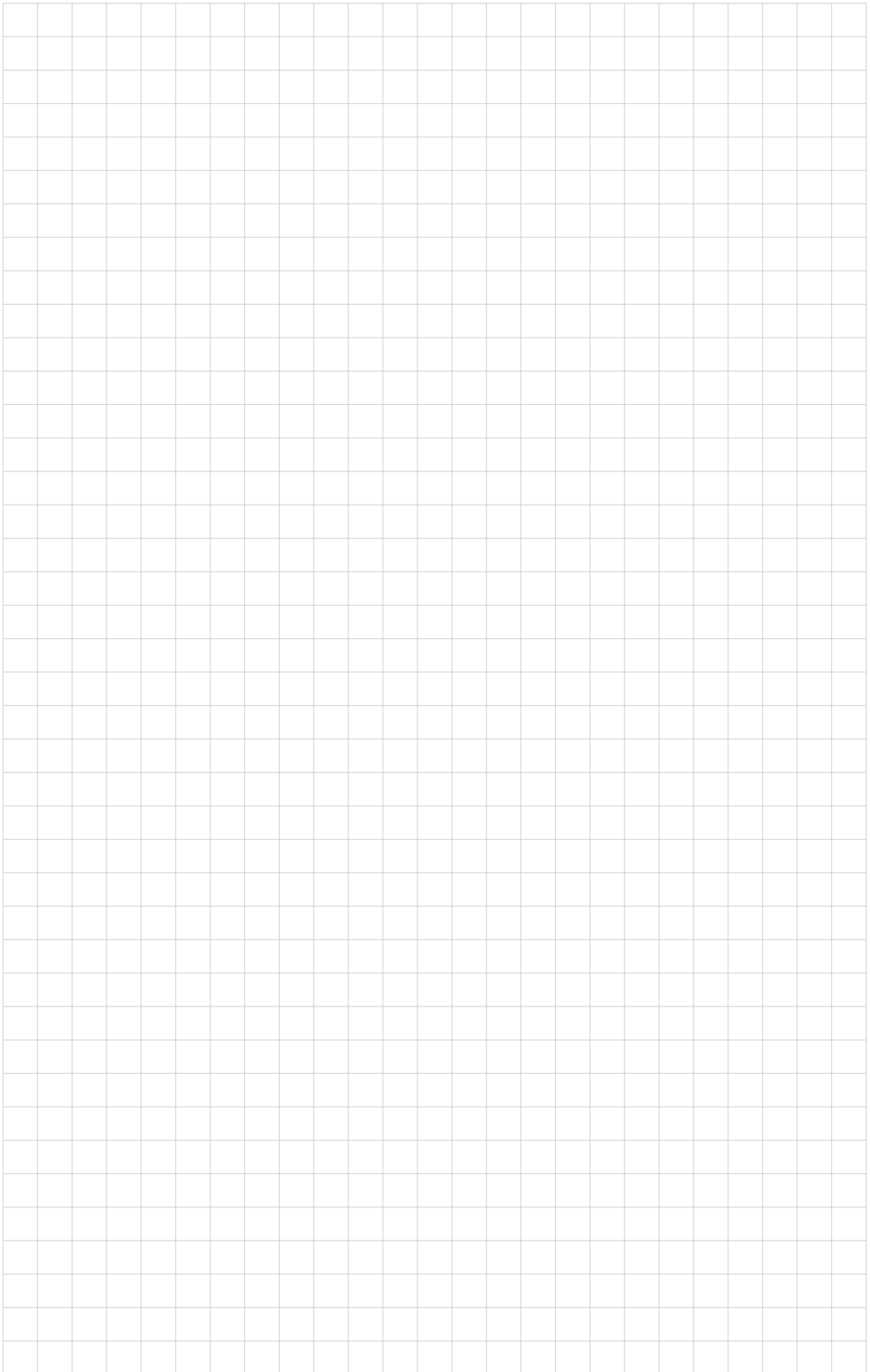
Early action after the onset of tea staining is desirable, before the appearance of the underlying surface is changed. If the surface is pitted then it is probable that it will require mechanical repolishing. After mechanically cleaning off tea staining, it is preferable to passivate the surface by using nitric acid gel or, if the item is portable, by immersion in a nitric acid bath.

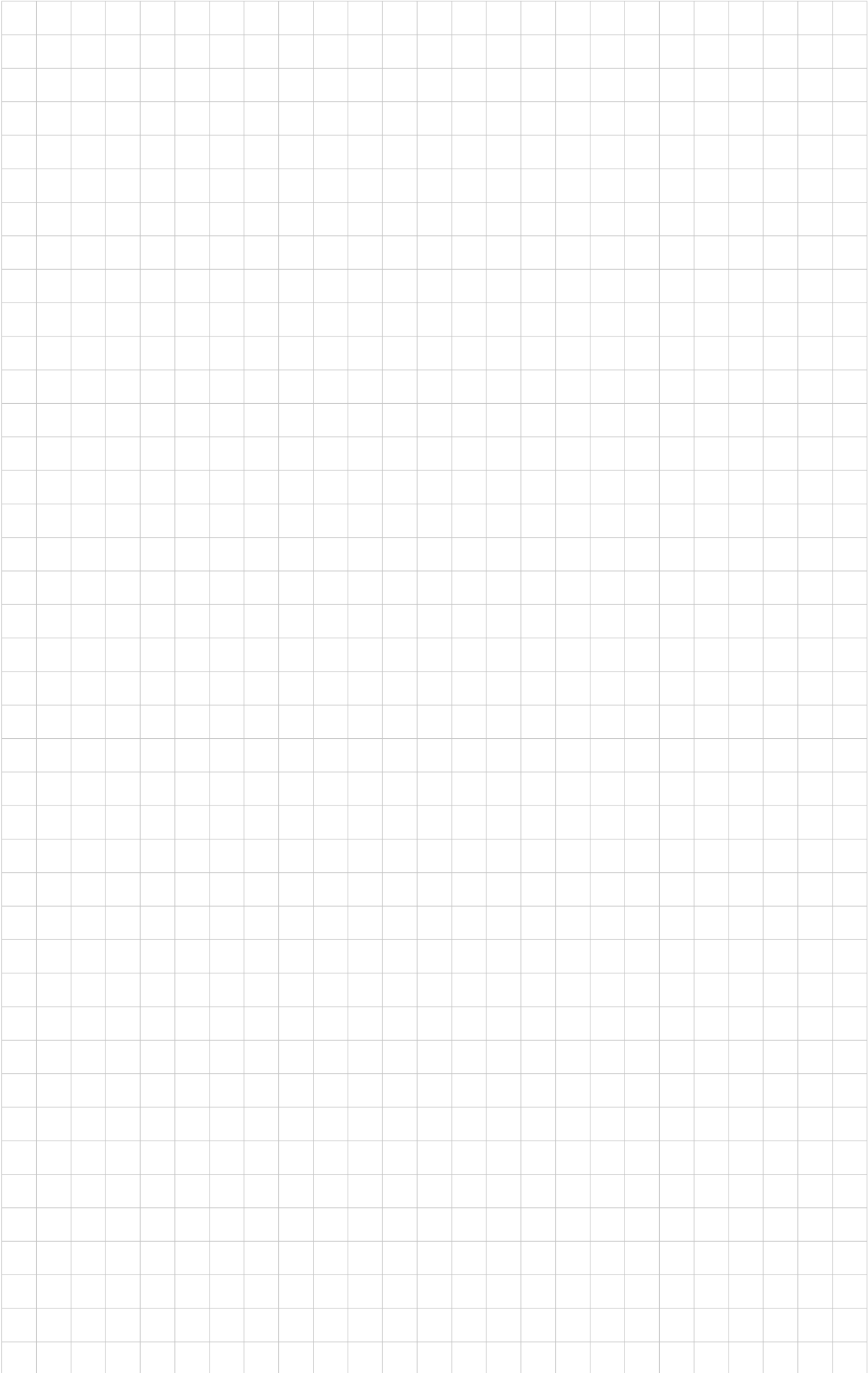














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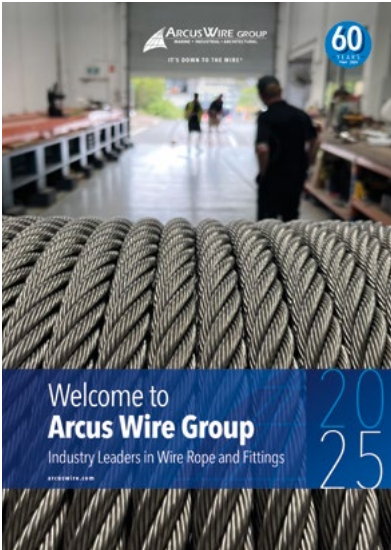
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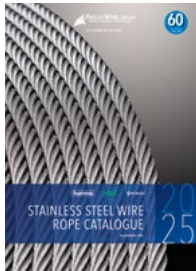
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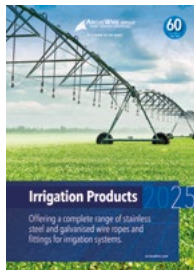


ARCHITECTURAL SOLUTIONS

## INDUSTRY SOLUTIONS



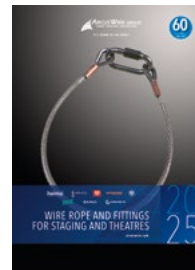
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