



SAHM SPLICE



NICOPRESS



KZ searig



CYCLOPS MARINE

MARINE CATALOGUE

2 0 2 4



Photo by Dean Cooperman

Lisa Blair's Yacht Climate Action Now

Lisa is the fastest person to sail solo, non-stop and unassisted around Antarctica on her yacht Climate Action Now and holds 5 world records.

Welcome to our 2024 Marine catalogue.



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

ARCUS WIRE GROUP

As a recognised leader in stainless steel 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 marine 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.

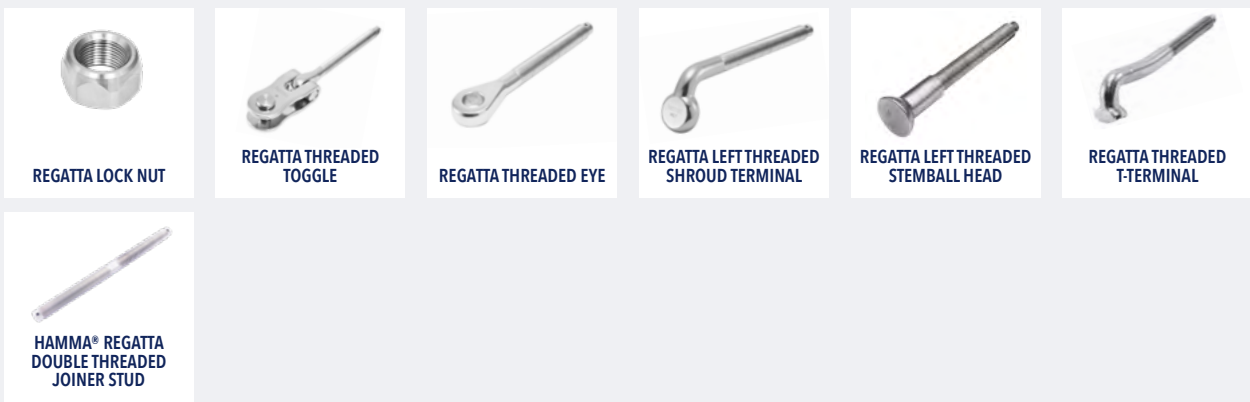
CONTACT US

Call our expert team for help with selecting the right wire rope for your project needs on 1800 272 879 or email sales@arcuswire.com

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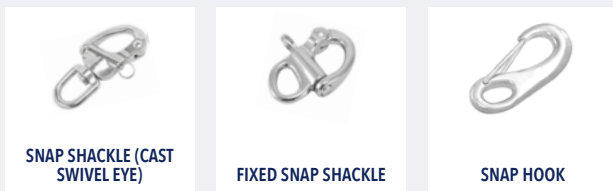
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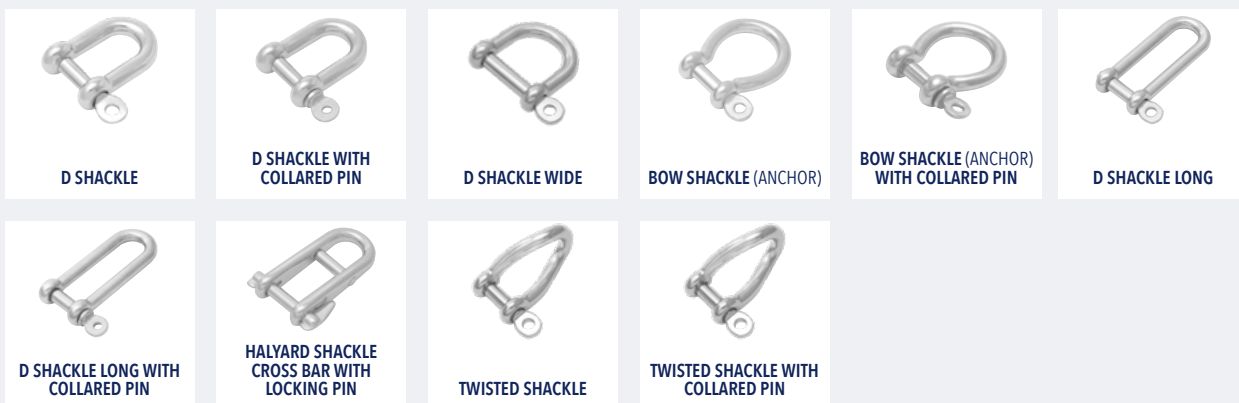
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WIRE ROPE GRIP

THIMBLE (HEAVY DUTY)

THIMBLE (STANDARD)

hamma® Industrial Rings & Pads Page 39



ROUND RING

SQUARE PAD EYE

SINGLE PAD EYE WITH SINGLE RING

DOUBLE PAD EYE WITH DOUBLE RINGS

DIAMOND PAD EYE

hamma® Industrial Turnbuckles & Terminals Page 41



JAW-JAW RIGGING SCREW

JAW-SWAGE

SWAGE STUD (RHT)

SWAGE EYE

SWAGE FORK

New hamma® Products Page 44



HAMMA® REGATTA LONG CLEVIS PIN

hamma® Stainless Steel Wire Rope Page 45



HAMMA® X STRAND 1X19 METRIC

HAMMA® X STRAND 1X19 IMPERIAL

HAMMA® PRO STRAND 1X7

HAMMA® PRO STRAND 1X19

HAMMA® PRO STRAND 1X25

HAMMA® X STRAND 7X7 METRIC

HAMMA® X STRAND 7X19 METRIC

HAMMA® COATED 7X7

HAMMA® COATED 7 X 19

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SAHM



SAHM COPPER FERRULES



SAHM STAINLESS STEEL FERRULES

NICOPRESS



NICOPRESS ZINC PLATED COPPER FERRULES



NICOPRESS COPPER STOP FERRULES



NICOPRESS HAND TOOLS

FELCO



FELCO ONE HAND WIRE CUTTERS



FELCO TWO HAND WIRE CUTTERS



FELCO TWO HAND WIRE CUTTERS



FELCO TWO HAND WIRE CUTTERS



FELCO TWO HAND WIRE CUTTERS

WIRETEKNIK



WIRETEKNIK A100



WIRETEKNIK A200



WIRETEKNIK A270



WIRETEKNIK A350



WIRETEKNIK A400

Cyclops Marine Products Page 58

smarttune®



5/8"

smartlink®



2t

smartlink® ee smarttoggle®



smartbatten®



Digital Direct Pin - Custom



Wireless Pin - Custom Made



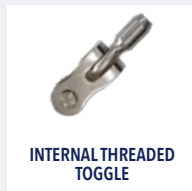
Connectivity



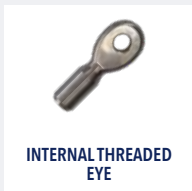
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BALL TANG SWAGE



INTERNAL THREADED TOGGLE



INTERNAL THREADED EYE



AERIAL INSULATORS



BALL TANG BASE



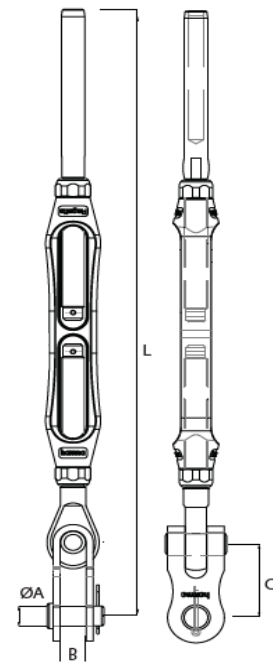
hamma[®] Regatta Turnbuckles

hamma[®] Regatta Turnbuckle Toggle Swage with Nut

HM-TTSNM

| HM-TTSNM CODE | CABLE (MM) | Ø A PIN/THREAD | B (MM) | C (MM) | L (MM) | | MBL (KGF) |
|---------------|------------|----------------|--------|--------|--------|------|-----------|
| | | | | | MIN | MAX | |
| HM-TTSNM-0304 | 3.0mm | 1/4" | 7 | 29.0 | 223 | 290 | 1,550 |
| HM-TTSNM-0404 | 4.0mm | 1/4" | 7 | 29.0 | 234 | 305 | 1,800 |
| HM-TTSNM-0405 | 4.0mm | 5/16" | 9 | 35.0 | 260 | 350 | 2,200 |
| HM-TTSNM-0505 | 5.0mm | 5/16" | 9 | 35.0 | 280 | 370 | 2,600 |
| HM-TTSNM-0506 | 5.0mm | 3/8" | 11 | 40.5 | 315 | 415 | 3,200 |
| HM-TTSNM-0606 | 6.0mm | 3/8" | 11 | 40.5 | 325 | 425 | 3,700 |
| HM-TTSNM-0607 | 6.0mm | 7/16" | 14 | 49.0 | 375 | 495 | 5,000 |
| HM-TTSNM-0608 | 6.0mm | 1/2" | 14 | 49.0 | 385 | 505 | 6,800 |
| HM-TTSNM-0707 | 7.0mm | 7/16" | 14 | 49.0 | 400 | 520 | 5,000 |
| HM-TTSNM-0708 | 7.0mm | 1/2" | 14 | 49.0 | 395 | 515 | 6,800 |
| HM-TTSNM-0808 | 8.0mm | 1/2" | 14 | 49.0 | 410 | 530 | 6,800 |
| HM-TTSNM-0810 | 8.0mm | 5/8" | 18 | 61.0 | 470 | 610 | 10,900 |
| HM-TTSNM-0910 | 9.0mm | 5/8" | 18 | 61.0 | 485 | 625 | 10,900 |
| HM-TTSNM-1010 | 10.0mm | 5/8" | 18 | 61.0 | 495 | 640 | 10,900 |
| HM-TTSNM-1012 | 10.0mm | 3/4" | 22 | 70.0 | 555 | 710 | 15,900 |
| HM-TTSNM-1212 | 12.0mm | 3/4" | 22 | 70.0 | 580 | 740 | 15,900 |
| HM-TTSNM-1414 | 14.0mm | 7/8" | 25 | 75.0 | 660 | 830 | 21,500 |
| HM-TTSNM-1616 | 16.0mm | 1" | 28 | 92.0 | 730 | 920 | 28,300 |
| HM-TTSNM-1918 | 19.0mm | 1 1/8" | 32 | 92.0 | 815 | 1079 | 32,000 |
| HM-TTSNM-1920 | 19.0mm | 1 1/4" | 38 | 110 | 942 | 1205 | 40,500 |
| HM-TTSNM-2220 | 22.0mm | 1 1/4" | 38 | 110 | 986 | 1215 | 40,500 |

| HM-TTSN CODE | CABLE (INCH) | Ø A PIN/THREAD | B (MM) | C (MM) | L (MM) | | MBL (KGF) |
|--------------|--------------|----------------|--------|--------|--------|-----|-----------|
| | | | | | MIN | MAX | |
| HM-TTSN-0706 | 7/32" | 3/8" | 11 | 24.5 | 317 | 420 | 3,600 |
| HM-TTSN-0807 | 1/4" | 7/16" | 14 | 24.5 | 317 | 500 | 5,000 |
| HM-TTSN-0808 | 1/4" | 1/2" | 14 | 26.8 | 385 | 510 | 6,800 |
| HM-TTSN-1210 | 3/8" | 5/8" | 18 | 36.5 | 487 | 628 | 10,900 |
| HM-TTSN-1412 | 7/16" | 3/4" | 18 | 35.8 | 560 | 730 | 14,800 |
| HM-TTSN-1614 | 1/2" | 7/8" | 25 | 38.1 | 625 | 810 | 16,600 |



TECHNICAL DATA

Body material: Forged Bronze
 Surface treatment: Chromed / "E.P." (Electro polished)

hamma® Regatta Turnbuckle Toggle-Toggle with Nut

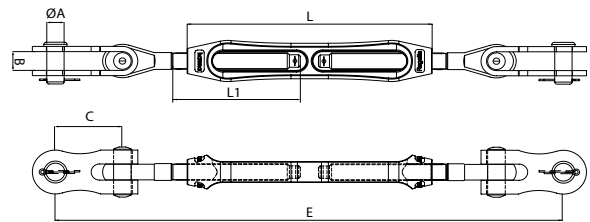
HM-TTTN

| HM-TTTN CODE | SIZE M (THREAD) | ØA (MM) | B (MM) | C (MM) | E MIN/MAX | L (MM) | L1 (MM) | MBL (KGF) |
|--------------|-----------------|---------|--------|--------|-----------|--------|---------|-----------|
| HM-TTTN-04 | 1/4"-28UNF | 6.35 | 7 | 29 | 231/295 | 114 | 59 | 1,800 |
| HM-TTTN-05 | 5/16"-24UNF | 8 | 9 | 35 | 258/348 | 132 | 69 | 2,400 |
| HM-TTTN-06 | 3/8"-24UNF | 9.5 | 11 | 40.5 | 303/403 | 155 | 80 | 3,600 |
| HM-TTTN-07 | 7/16"-20UNF | 11 | 14 | 49 | 371/487 | 180 | 94 | 5,000 |
| HM-TTTN-08 | 1/2"-20UNF | 12.7 | 14 | 49 | 380/580 | 190 | 98 | 6,800 |
| HM-TTTN-10 | 5/8"-18UNF | 15.8 | 18 | 61 | 463/603 | 223 | 117 | 10,900 |
| HM-TTTN-12 | 3/4"-16UNF | 19 | 22 | 70 | 540/696 | 258 | 135 | 15,900 |
| HM-TTTN-14 | 7/8"-14UNF | 22.2 | 25 | 75 | 610/780 | 290 | 149 | 21,500 |
| HM-TTTN-16 | 1"-12UNF | 25.4 | 28 | 92 | 695/885 | 322 | 168 | 28,300 |



TECHNICAL DATA

Forging material: Forged Bronze / AISI316-DIN 1.4401
 Surface treatment: Chromed / "E.P." (Electro polished)



hamma® Regatta Turnbuckle Toggle with Nut

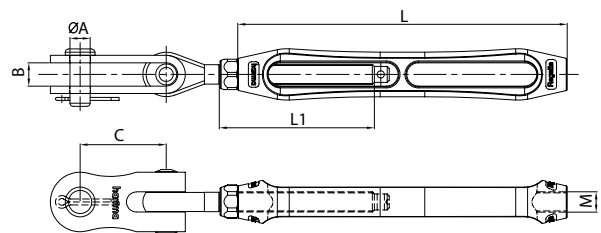
HM-BTN

| HM-BTN CODE | SIZE M (THREAD) | ØA (MM) | B (MM) | C (MM) | L (MM) | L1 (MM) | MBL (KGF) |
|-------------|-----------------|---------|--------|--------|--------|---------|-----------|
| HM-BTN-04 | 1/4"-28UNF | 6.35 | 7 | 29 | 114 | 59 | 1,800 |
| HM-BTN-05 | 5/16"-24UNF | 8 | 9 | 35 | 132 | 69 | 2,400 |
| HM-BTN-06 | 3/8"-24UNF | 9.5 | 11 | 40.5 | 155 | 80 | 3,600 |
| HM-BTN-07 | 7/16"-20UNF | 11 | 14 | 49 | 180 | 94 | 5,000 |
| HM-BTN-08 | 1/2"-20UNF | 12.7 | 14 | 49 | 190 | 98 | 6,800 |
| HM-BTN-10 | 5/8"-18UNF | 15.8 | 18 | 61 | 223 | 117 | 10,900 |
| HM-BTN-12 | 3/4"-16UNF | 19 | 22 | 70 | 258 | 135 | 15,900 |
| HM-BTN-14 | 7/8"-14UNF | 22.2 | 25 | 75 | 290 | 149 | 21,500 |
| HM-BTN-16 | 1"-12UNF | 25.4 | 28 | 92 | 322 | 168 | 28,300 |
| HM-BTN-18 | 1.1"-8UNF | 28.5 | 32 | 92 | 385 | 196 | 32,000 |
| HM-BTN-20 | 1.1"-4UNF | 31.75 | 38 | 110 | 440 | 224 | 40,500 |



TECHNICAL DATA

Forging material: Forged Bronze / AISI316-DIN 1.4401
 Surface treatment: Chromed / "E.P." (Electro polished)



hamma® Regatta Turnbuckle T-Terminal with Nut

HM-BTTN

| HM-BTTN CODE | SIZE M (THREAD) | ØA (MM) | B (MM) | L2 (MM) | L (MM) | L1 (MM) | BACKING PLATE CODE |
|--------------|-----------------|---------|--------|---------|--------|---------|--------------------|
| HM-BTTN-05S | 5/16"-24UNF | 20 | 9 | 110 | 132 | 59 | HM-BPTT-04 |
| HM-BTTN-05 | 5/16"-24UNF | 20 | 11 | 120 | 132 | 69 | HM-BPTT-05 |
| HM-BTTN-06S | 3/8"-24UNF | 20 | 11 | 130 | 155 | 80 | HM-BPTT-05 |
| HM-BTTN-06 | 3/8"-24UNF | 28 | 14 | 140 | 155 | 94 | HM-BPTT-0607 |
| HM-BTTN-07 | 7/16"-20UNF | 28 | 14 | 155 | 180 | 98 | HM-BPTT-0607 |
| HM-BTTN-08S | 1/2"-20UNF | 28 | 14 | 191 | 190 | 117 | HM-BPTT-0607 |
| HM-BTTN-08 | 1/2"-20UNF | 33 | 18 | 150 | 190 | 135 | HM-BPTT-0810 |
| HM-BTTN-10 | 5/8"-18UNF | 33 | 18 | 160 | 223 | 149 | HM-BPTT-0810 |

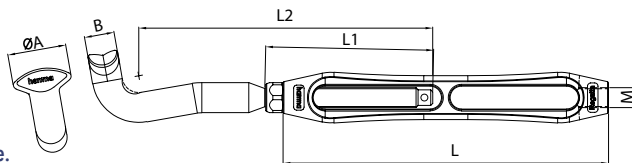


TECHNICAL DATA

Forging material: Forged Bronze / AISI316-DIN 1.4401
 Surface treatment: Chromed / "E.P." (Electro polished)

FIELD OF APPLICATION

Not guaranteed for greater than 40% of break load of hamma®X 1X19 wire.

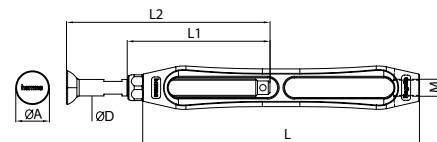


Backing Plates - See Pages 29

hamma® Regatta Turnbuckle Stemball with Nut

HM-BSBN

| HM-BSBN CODE | SIZE M (THREAD) | ØA (MM) | ØD (MM) | L2 (MM) | L (MM) | L1 (MM) |
|--------------|-----------------|---------|---------|---------|--------|---------|
| HM-BSBN-05 | 5/16"24UNF | 18.8 | 9 | 103 | 132 | 69 |
| HM-BSBN-06 | 3/8"24UNF | 18.8 | 9 | 114 | 155 | 80 |
| HM-BSBN-07 | 7/16"-20UNF | 21 | 12.5 | 129 | 180 | 94 |
| HM-BSBN-08S | 1/2"-20UNF | 21 | 12.5 | 133 | 190 | 98 |
| HM-BSBN-08 | 1/2"-20UNF | 27 | 16.1 | 138 | 190 | 98 |
| HM-BSBN-10 | 5/8"-18UNF | 27.7 | 17.8 | 172 | 223 | 117 |
| HM-BSBN-12 | 3/4"-16UNF | 33.3 | 21.4 | 212 | 258 | 135 |
| HM-BSBN-14 | 7/8"-14UNF | 33.3 | 21.4 | 222 | 290 | 149 |



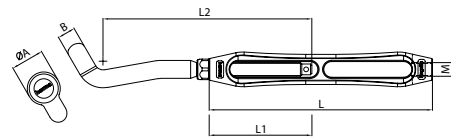
TECHNICAL DATA

Forging material: Forged Bronze / AISI316-DIN 1.4401
 Surface treatment: Chromed / "E.P." (Electro polished)

hamma® Regatta Turnbuckle Shroud Terminal with Nut

HM-BSTN

| HM-BSTN CODE | SIZE M (THREAD) | ØA (MM) | B (MM) | L2 (MM) | L (MM) | L1 (MM) | BACKING PLATE CODE |
|--------------|-----------------|---------|--------|---------|--------|---------|--------------------|
| HM-BSTN-05 | 5/16"-24UNF | 23 | 12.5 | 134 | 132 | 69 | HM-BPST-06 |
| HM-BSTN-06 | 3/8"-24UNF | 23 | 12.5 | 145 | 155 | 80 | HM-BPST-06 |
| HM-BSTN-07 | 7/16"-20UNF | 29 | 13.1 | 164 | 180 | 94 | HM-BPST-08 |
| HM-BSTN-08S | 1/2"-20UNF | 29 | 14.5 | 157 | 190 | 80 | HM-BPST-08 |
| HM-BSTN-08 | 1/2"-20UNF | 30.5 | 16.5 | 174 | 190 | 80 | HM-BPST-10 |
| HM-BSTN-10 | 5/8"-18UNF | 30.5 | 18 | 191 | 223 | 100 | HM-BPST-10 |
| HM-BSTN-10L | 5/8"-18UNF | 33 | 18 | 200 | 258 | 100 | HM-BPST-10 |
| HM-BSTN-12 | 3/4"-16UNF | 33 | 18 | 219 | 290 | 130 | HM-BPST-10 |
| HM-BSTN-12L | 3/4"-16UNF | 39 | 21 | 249 | 322 | 135 | HM-BPST-1112 |
| HM-BSTN-14 | 7/8"-14UNF | 39 | 21 | 249 | 385 | 149 | HM-BPST-1112 |



TECHNICAL DATA

Forging material: Forged Bronze / AISI316-DIN 1.4401
 Surface treatment: Chromed / "E.P." (Electro polished)

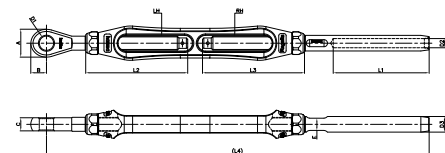


Backing Plates - See Pages 27

hamma® Regatta Eye Rigging Screw

HM-TESNM

| HM-TESNM METRIC | CABLE (SIZE) | SIZE M THREAD (LH&RH) | A | B | C | D1 | ADJUSTER L2 | ADJUSTER L3 | (L4) |
|-----------------|--------------|-----------------------|----|----|------|-------|-------------|-------------|---------|
| HM-TESNM-0405 | 4 mm. | 5/16"-24UNF | 18 | 10 | 7.2 | Ø8.5 | 69±1 | 69±1 | (228) |
| HM-TESNM-0505 | 5 mm. | 5/16"-24UNF | 18 | 10 | 7.2 | Ø8.5 | 69±1 | 69±1 | (246) |
| HM-TESNM-0506 | 5 mm. | 3/8"-24UNF | 21 | 11 | 9 | Ø9.8 | 80±1.5 | 80±1.5 | (276.5) |
| HM-TESNM-0606 | 6 mm. | 3/8"-24UNF | 21 | 11 | 9 | Ø9.8 | 80±1.5 | 80±1.5 | (286.5) |
| HM-TESNM-0607 | 6 mm. | 7/16"-20UNF | 27 | 15 | 10.2 | Ø11.5 | 94±1.5 | 94±1.5 | (331) |
| HM-TESNM-0608 | 6 mm. | 1/2"-20UNF | 27 | 15 | 12 | Ø13.2 | 98±1.5 | 98±1.5 | (338) |
| HM-TESNM-0708 | 7 mm. | 1/2"-20UNF | 27 | 15 | 12 | Ø13.2 | 98±1.5 | 98±1.5 | (350.5) |
| HM-TESNM-0808 | 8 mm. | 1/2"-20UNF | 27 | 15 | 12 | Ø13.2 | 98±1.5 | 98±1.5 | (364.5) |
| HM-TESNM-0810 | 8 mm. | 5/8"-18UNF | 32 | 18 | 15 | Ø16.5 | 117±1.5 | 117±1.5 | (413) |
| HM-TESNM-0910 | 9 mm. | 5/8"-18UNF | 32 | 18 | 15 | Ø16.5 | 117±1.5 | 117±1.5 | (427) |
| HM-TESNM-1010 | 10 mm. | 5/8"-18UNF | 32 | 18 | 15 | Ø16.5 | 117±1.5 | 117±1.5 | (439) |
| HM-TESNM-1012 | 10 mm. | 3/4"-16UNF | 44 | 25 | 18 | Ø20 | 135±1.5 | 135±1.5 | (490) |
| HM-TESNM-1212 | 12 mm. | 3/4"-16UNF | 44 | 25 | 18 | Ø20 | 135±1.5 | 135±1.5 | (516) |
| HM-TESNM-1414 | 14 mm. | 7/8"-14UNF | 46 | 25 | 21 | Ø23 | 149±1.5 | 149±1.5 | (591) |
| HM-TESNM-1616 | 16 mm. | 1"-12UNF | 62 | 34 | 24 | Ø26.5 | 168±1.5 | 168±1.5 | (661) |
| HM-TESNM-1918 | 19 mm. | 1.1/8"-12UNF | 62 | 34 | 24 | Ø30 | 149±1.5 | 149±1.5 | (767) |
| HM-TESNM-1920 | 19 mm. | 1.1/4"-12UNF | 65 | 33 | 30 | Ø34 | 149±1.5 | 149±1.5 | (832.5) |



| HM-TESN IMPERIAL | CABLE (SIZE) | SIZE M THREAD (LH&RH) | A | B | C | D1 | ADJUSTER L2 | ADJUSTER L3 | (L4) |
|------------------|--------------|-----------------------|----|----|------|-------|-------------|-------------|---------|
| HM-TESN-0706 | 7/32" | 3/8"-24UNF | 21 | 11 | 9 | Ø9.8 | 80±1.5 | 80±1.5 | (281.5) |
| HM-TESN-0807 | 1/4" | 7/16"-20UNF | 27 | 15 | 10.2 | Ø11.5 | 94±1.5 | 94±1.5 | (333) |
| HM-TESN-0808 | 1/4" | 1/2"-20UNF | 27 | 15 | 12 | Ø13.2 | 98±1.5 | 98±1.5 | (342.5) |
| HM-TESN-1412 | 7/16" | 3/4"-16UNF | 44 | 25 | 18 | Ø20 | 135±1.5 | 135±1.5 | (506) |
| HM-TESN-1614 | 1/2" | 7/8"-14UNF | 46 | 25 | 21 | Ø23 | 149±1.5 | 149±1.5 | (568.5) |

hamma® Regatta Turnbuckle Body

HM-BODY

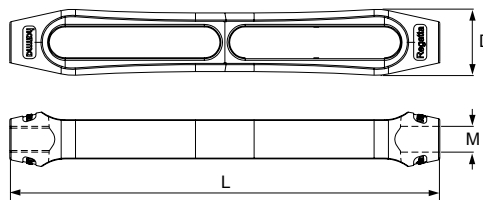
| HM-BODY CODE | SIZE M (THREAD) | D (MM) | L (MM) | MBL (KGF) |
|--------------|-----------------|--------|--------|-----------|
| HM-BODY-04 | 1/4"-28UNF | 18.0 | 114 | 1,550 |
| HM-BODY-05 | 5/16"-24UNF | 20.4 | 132 | 2,400 |
| HM-BODY-06 | 3/8"-24UNF | 24.6 | 155 | 3,750 |
| HM-BODY-07 | 7/16"-20UNF | 28.8 | 180 | 5,000 |
| HM-BODY-08 | 1/2"-20UNF | 31.3 | 190 | 6,800 |
| HM-BODY-10 | 5/8"-18UNF | 39.4 | 223 | 10,900 |
| HM-BODY-12 | 3/4"-16UNF | 46.5 | 258 | 15,900 |
| HM-BODY-14 | 7/8"-14UNF | 52.6 | 290 | 21,500 |
| HM-BODY-16 | 1"-12UNF | 60.7 | 322 | 28,300 |
| HM-BODY-18 | 1.1/8"-12UNF | 68.7 | 385 | 32,000 |
| HM-BODY-20 | 1.1/4"-12UNF | 76.9 | 440 | 40,500 |



TECHNICAL DATA

Body material: Forged Bronze
 Surface treatment: Polished 'ultra' chrome coating

Also available in polished bronze finish.



hamma® Regatta Slimline Turnbuckle Body

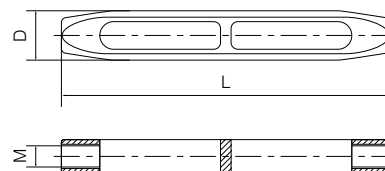
HM-SBODY

| HM-SBODY CODE | SIZE M (THREAD) | D (MM) | L (MM) | MBL (KGF) |
|---------------|-----------------|--------|--------|-----------|
| HM-SBODY-06 | 3/8"-24UNF | 19.0 | 134 | 3,750 |
| HM-SBODY-07 | 7/16"-20UNF | 22.0 | 150 | 5,000 |
| HM-SBODY-08 | 1/2"-20UNF | 25.0 | 165 | 6,800 |
| HM-SBODY-10 | 5/8"-18UNF | 32.0 | 196 | 10,900 |
| HM-SBODY-12 | 3/4"-16UNF | 38.0 | 227 | 15,900 |
| HM-SBODY-14 | 7/8"-14UNF | 44.0 | 286 | 21,500 |



TECHNICAL DATA

Body material: Forged Bronze
 Surface treatment: Polished 'ultra' chrome coating

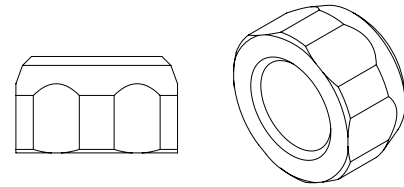


hamma® Regatta Threaded

hamma® Regatta Lock Nut

HM-NUT

| HM-NUT-R RH CODE | NUT/CH-L LH CODE | THREAD |
|---------------------|---------------------|--------------|
| HM-NUT-04R | HM-NUT-04L | 1/4"-28UNF |
| HM-NUT-05R | HM-NUT-05L | 5/16"-24UNF |
| HM-NUT-06R | HM-NUT-06L | 3/8"-24UNF |
| HM-NUT-07R | HM-NUT-07L | 7/16"-20UNF |
| HM-NUT-08R | HM-NUT-08L | 1/2"-20UNF |
| HM-NUT-10R | HM-NUT-10L | 5/8"-18UNF |
| HM-NUT-12R | HM-NUT-12L | 3/4"-16UNF |
| HM-NUT-14R | HM-NUT-14L | 7/8"-14UNF |
| HM-NUT-16R | HM-NUT-16L | 1"-12UNF |
| HM-NUT-18R | HM-NUT-18L | 1.1/8"-12UNF |
| HM-NUT-20R | HM-NUT-20L | 1.1/4"-12UNF |



TECHNICAL DATA

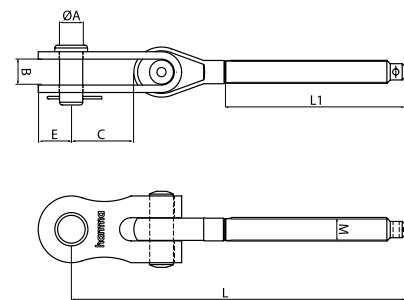
Casing material: AISI316 - DIN 1.4408
Surface treatment: "E.P." (Electro polished)

hamma® Regatta Right and Left Threaded Toggle

HM-THT

| HM-THT-R CODE | SIZE M (THREAD) | ØA (MM) | B (MM) | C (MM) | E (MM) | L (MM) | L1 (MM) |
|------------------|--------------------|------------|-----------|-----------|-----------|-----------|------------|
| HM-THT-04R | 1/4"-28UNF | 6.35 | 7 | 21 | 10 | 108 | 59 |
| HM-THT-05R | 5/16"-24UNF | 8 | 9 | 25 | 12 | 125 | 69 |
| HM-THT-06R | 3/8"-24UNF | 9.5 | 11 | 29.5 | 14 | 145.5 | 80 |
| HM-THT-07R | 7/16"-20UNF | 11 | 14 | 34 | 16 | 178 | 94 |
| HM-THT-08R | 1/2"-20UNF | 12.7 | 14 | 34 | 18 | 181 | 98 |
| HM-THT-10R | 5/8"-18UNF | 15.8 | 18 | 43 | 21 | 223 | 117 |
| HM-THT-12R | 3/4"-16UNF | 19 | 22 | 45 | 24 | 259 | 135 |
| HM-THT-14R | 7/8"-14UNF | 22.2 | 25 | 50 | 29 | 289 | 149 |
| HM-THT-16R | 1"-12UNF | 25.4 | 28 | 58 | 31.5 | 332 | 168 |
| HM-THT-18R | 1.1/8"-12UNF | 28.5 | 32 | 58 | 35 | 360 | 196 |
| HM-THT-20R | 1.1/4"-12UNF | 31.75 | 38 | 77 | 42.5 | 405 | 224 |

| HM-THT-L CODE | SIZE M (THREAD) | ØA (MM) | B (MM) | C (MM) | E (MM) | L (MM) | L1 (MM) |
|------------------|--------------------|------------|-----------|-----------|-----------|-----------|------------|
| HM-THT-04L | 1/4"-28UNF | 6.35 | 7 | 21 | 10 | 108 | 59 |
| HM-THT-05L | 5/16"-24UNF | 8 | 9 | 25 | 12 | 125 | 69 |
| HM-THT-06L | 3/8"-24UNF | 9.5 | 11 | 29.5 | 14 | 145.5 | 80 |
| HM-THT-07L | 7/16"-20UNF | 11 | 14 | 34 | 16 | 178 | 94 |
| HM-THT-08L | 1/2"-20UNF | 12.7 | 14 | 34 | 18 | 181 | 98 |
| HM-THT-10L | 5/8"-18UNF | 15.8 | 18 | 43 | 21 | 223 | 117 |
| HM-THT-12L | 3/4"-16UNF | 19 | 22 | 45 | 24 | 259 | 135 |
| HM-THT-14L | 7/8"-14UNF | 22.2 | 25 | 50 | 29 | 289 | 149 |
| HM-THT-16L | 1"-12UNF | 25.4 | 28 | 58 | 31.5 | 332 | 168 |
| HM-THT-18L | 1.1/8"-12UNF | 28.5 | 32 | 58 | 35 | 360 | 196 |
| HM-THT-20L | 1.1/4"-12UNF | 31.75 | 38 | 77 | 42.5 | 405 | 224 |



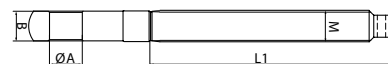
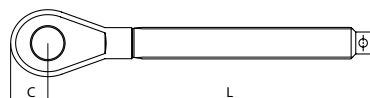
TECHNICAL DATA

Forging material: AISI316 - DIN 1.4401
Surface treatment: "E.P." (Electro polished)

hamma® Regatta Left Threaded Eye

HM-THE

| HM-THE-L CODE | SIZE M (THREAD) | ØA (MM) | B (MM) | C (MM) | L (MM) | L1 (MM) |
|---------------|-----------------|---------|--------|--------|--------|---------|
| HM-THE-05L | 5/16"-24UNF | 8.5 | 7.2 | 10 | 90 | 69 |
| HM-THE-06L | 3/8"-24UNF | 9.8 | 9 | 11 | 105 | 80 |
| HM-THE-07L | 7/16"-20UNF | 11.5 | 10.2 | 15 | 129 | 94 |
| HM-THE-08L | 1/2"-20UNF | 13.2 | 12 | 15 | 132 | 98 |
| HM-THE-10L | 5/8"-18UNF | 16.5 | 15 | 18 | 162 | 117 |
| HM-THE-12L | 3/4"-16UNF | 20 | 18 | 25 | 189 | 135 |
| HM-THE-14L | 7/8"-14UNF | 23 | 21 | 25 | 214 | 149 |
| HM-THE-16L | 1"-12UNF | 26.5 | 24 | 34 | 240 | 168 |
| HM-THE-18L | 1.1/8"-12UNF | 30 | 24 | 34 | 268 | 196 |
| HM-THE-20L | 1.1/4"-12UNF | 34 | 30 | 33 | 295 | 224 |



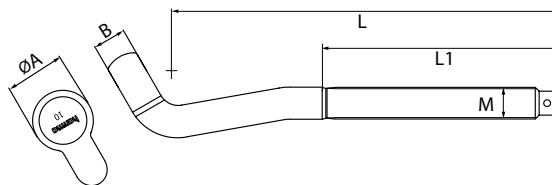
TECHNICAL DATA

Forging material: AISI316 - DIN 1.4401
 Surface treatment: "M.F." (Matte Finished)

hamma® Regatta Left Threaded Shroud Terminal

HM-THST

| HM-THST CODE | SIZE M (THREAD) | ØA (MM) | B (MM) | L (MM) | L1 (MM) | BACKING PLATE CODE |
|--------------|-----------------|---------|--------|--------|---------|--------------------|
| HM-THST-05 | 5/16"-24UNF | 23 | 12.5 | 134 | 69 | HM-BPST-06 |
| HM-THST-06 | 3/8"-24UNF | 23 | 12.5 | 145 | 80 | HM-BPST-06 |
| HM-THST-07 | 7/16"-20UNF | 29 | 13.1 | 164 | 94 | HM-BPST-08 |
| HM-THST-08S | 1/2"-20UNF | 29 | 14.5 | 157 | 80 | HM-BPST-08 |
| HM-THST-08 | 1/2"-20UNF | 30.5 | 16.5 | 174 | 80 | HM-BPST-10 |
| HM-THST-10S | 5/8"-18UNF | 30.5 | 16.5 | 191 | 100 | HM-BPST-10 |
| HM-THST-10 | 5/8"-18UNF | 33 | 18 | 200 | 100 | HM-BPST-10 |
| HM-THST-12S | 3/4"-16UNF | 33 | 18 | 219 | 130 | HM-BPST-10 |
| HM-THST-12 | 3/4"-16UNF | 39 | 21 | 249 | 135 | HM-BPST-1112 |
| HM-THST-14 | 7/8"-14UNF | 39 | 21 | 249 | 149 | HM-BPST-1112 |



TECHNICAL DATA

Forging material: AISI316 - DIN 1.4401
 Surface treatment: "E.P." (Electro polished)

Backing Plates - Page 27



Photo by Dean Cooperman

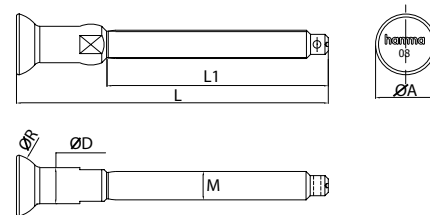
Lisa Blair's Yacht Climate Action Now

Lisa is the fastest person to sail solo, non-stop and unassisted around Antarctica on her yacht Climate Action Now and holds 5 world records.

hamma® Regatta Left Threaded Stemball Head

HM-THSB

| HM-THSB CODE | SIZE M (THREAD) | ØA (MM) | ØD (MM) | L (MM) | L1 (MM) | ØR (MM) |
|--------------|-----------------|---------|---------|--------|---------|---------|
| HM-THSB-05 | 5/16"-24UNF | 18.8 | 9 | 103 | 69 | 10 |
| HM-THSB-06 | 3/8"-24UNF | 18.8 | 9 | 114 | 80 | 10 |
| HM-THSB-07 | 7/16"-20UNF | 21 | 12.5 | 129 | 94 | 11 |
| HM-THSB-08S | 1/2"-20UNF | 21 | 12.5 | 133 | 98 | 11 |
| HM-THSB-08 | 1/2"-20UNF | 27 | 16.1 | 138 | 98 | 14 |
| HM-THSB-10 | 5/8"-18UNF | 27.7 | 17.8 | 172 | 117 | 14 |
| HM-THSB-12 | 3/4"-16UNF | 33.3 | 21.4 | 212 | 135 | 17 |
| HM-THSB-14 | 7/8"-14UNF | 33.3 | 21.4 | 222 | 149 | 17 |



TECHNICAL DATA

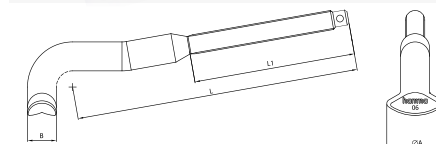
Forging material: AISI316 - DIN 1.4401
 Surface treatment: "E.P." (Electro polished)

Stemball Cups - Page 23

hamma® Regatta Left Threaded T-Terminal

HM-THTT

| HM-THTT CODE | SIZE M (THREAD) | ØA (MM) | B (MM) | L (MM) | L1 (MM) | BACKING PLATE CODE |
|--------------|-----------------|---------|--------|--------|---------|--------------------|
| HM-THTT-05S | 5/16"-24UNF | 20 | 9 | 110 | 69 | HM-BPTT-04 |
| HM-THTT-05 | 5/16"-24UNF | 20 | 11 | 120 | 69 | HM-BPTT-05 |
| HM-THTT-06S | 3/8"-24UNF | 20 | 11 | 130 | 80 | HM-BPTT-05 |
| HM-THTT-06 | 3/8"-24UNF | 28 | 14 | 140 | 80 | HM-BPTT-0607 |
| HM-THTT-07 | 7/16"-20UNF | 28 | 14 | 155 | 94 | HM-BPTT-0607 |
| HM-THTT-08S | 1/2"-20UNF | 28 | 14 | 117 | 100 | HM-BPTT-0607 |
| HM-THTT-08 | 1/2"-20UNF | 33 | 18 | 180 | 110 | HM-BPTT-0810 |
| HM-THTT-10 | 5/8"-18UNF | 33 | 18 | 198 | 118 | HM-BPTT-0810 |



TECHNICAL DATA

Body material: Casting AISI316, EN 1.4401
 Surface treatment: "E.P." (Electro polished)

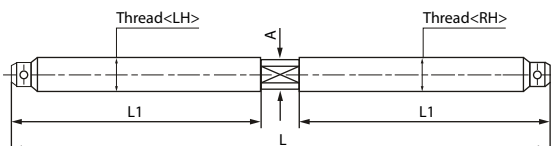
FIELD OF APPLICATION

Not guaranteed for greater than 40% of break load of hamma® X 1X19 wire.

hamma® Regatta Double Threaded Joiner Stud

HM-DTJS

| ITEM | THREAD | A (MM) | L (MM) | L1 (MM) | UNIT WEIGHT (KGS) |
|------------|------------|--------|--------|---------|-------------------|
| HM-DTJS-08 | 1/2"-20UNF | 10 | 211 | 98 | 0.100 |
| HM-DTJS-10 | 5/8"-18UNF | 12 | 250.5 | 117 | 0.331 |
| HM-DTJS-12 | 3/4"-16UNF | 15 | 286.5 | 135 | 0.561 |
| HM-DTJS-14 | 7/8"-14UNF | 18 | 318 | 149 | 0.860 |



TECHNICAL DATA

Material: 316
 Surface treatment: Machine Finish

hamma[®] Regatta Swage Studs

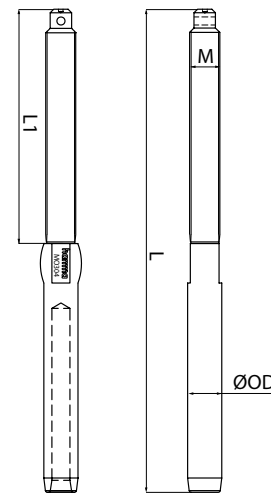
hamma[®] Regatta Right Swage Stud

HM-SWSM Right Hand

RIGHT HAND THREAD

| HM-SWSM/R CODE | SIZE (FOR CABLE) | L (MM) | L1 (MM) | M (THREAD) | ØOD (MM) | MBL (KGF) |
|----------------|------------------|--------|---------|--------------|----------|-----------|
| HM-SWSM-0304R | 3 | 106 | 59 | 1/4"-28UNF | 6.3 | 1,550 |
| HM-SWSM-0404R | 4 | 120 | 59 | 1/4"-28UNF | 7.5 | 1,800 |
| HM-SWSM-0405R | 4 | 130 | 69 | 5/16"-24UNF | 7.5 | 2,400 |
| HM-SWSM-0505R | 5 | 148 | 69 | 5/16"-24UNF | 9 | 2,600 |
| HM-SWSM-0506R | 5 | 160 | 80 | 3/8"-24UNF | 9 | 3,600 |
| HM-SWSM-0606R | 6 | 170 | 80 | 3/8"-24UNF | 12.5 | 3,700 |
| HM-SWSM-0607R | 6 | 190 | 94 | 7/16"-20UNF | 12.5 | 5,000 |
| HM-SWSM-0608R | 6 | 190 | 98 | 1/2"-20UNF | 12.5 | 6,800 |
| HM-SWSM-0707R | 7 | 200 | 94 | 7/16"-20UNF | 14.3 | 5,000 |
| HM-SWSM-0708R | 7 | 202 | 98 | 1/2"-20UNF | 14.3 | 6,800 |
| HM-SWSM-0808R | 8 | 216 | 98 | 1/2"-20UNF | 16.1 | 6,800 |
| HM-SWSM-0810R | 8 | 234 | 117 | 5/8"-48UNF | 16.1 | 10,900 |
| HM-SWSM-0910R | 9 | 248 | 117 | 5/8"-18UNF | 17.8 | 10,900 |
| HM-SWSM-1010R | 10 | 260 | 117 | 5/8"-18UNF | 17.8 | 10,900 |
| HM-SWSM-1012R | 10 | 278 | 135 | 3/4"-16UNF | 17.8 | 15,900 |
| HM-SWSM-1112R | 11 | 295 | 135 | 3/4"-16UNF | 19.8 | 15,900 |
| HM-SWSM-1212R | 12 | 305 | 135 | 3/4"-16UNF | 21.4 | 15,900 |
| HM-SWSM-1214R | 12 | 320 | 149 | 7/8"-14UNF | 21.4 | 21,500 |
| HM-SWSM-1414R | 14 | 345 | 149 | 7/8"-14UNF | 25 | 21,500 |
| HM-SWSM-1616R | 16 | 390 | 168 | 1"-12UNF | 28.1 | 28,300 |
| HM-SWSM-1918R | 19 | 462 | 196 | 1-1/8"-12UNF | 34.5 | 32,000 |
| HM-SWSM-1920R | 19 | 534 | 224 | 1-1/4"-12UNF | 34.5 | 32,000 |
| HM-SWSM-2220R | 22 | 534 | 224 | 1-1/4"-12UNF | 40.21 | 40,500 |

| HM-SWS/R CODE | SIZE (FOR CABLE) | L (MM) | L1 (MM) | M (THREAD) | ØOD (MM) | MBL (KGF) |
|---------------|------------------|--------|---------|-------------|----------|-----------|
| HW-SWS-0706R | 7/32" | 160 | 80 | 3/8"-24UNF | 9 | 3,600 |
| HM-SWS-0807R | 1/4" | 170 | 80 | 7/16"-20UNF | 12.5 | 5,000 |
| HM-SWS-0808R | 1/4" | 194 | 98 | 1/2"-20UNF | 12.5 | 6,800 |
| HM-SWS-1412R | 7/16" | 295 | 135 | 3/4"-16UNF | 19.8 | 15,900 |
| HM-SWS-1614R | 1/2" | 323 | 149 | 7/8"-14UNF | 21.4 | 21,500 |



TECHNICAL DATA

Forging material:
Surface treatment:

AISI316 - DIN 1.4401
"M.F." (Matte finished)



Lock Nuts - See page 14

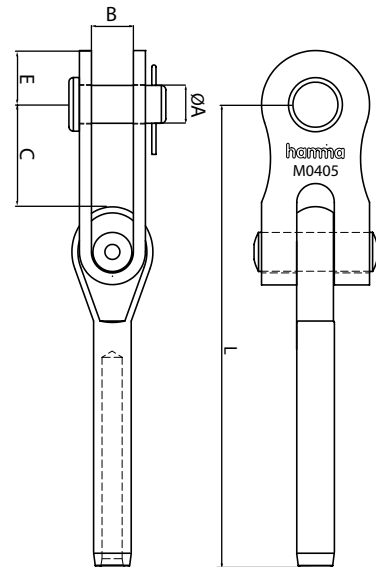
hamma[®] Regatta Swage Toggle

hamma[®] Regatta Toggle Terminal

HM-SWTM

| HM-SWTM CODE | SIZE (FOR CABLE) | ØA (PIN) | B (MM) | C (MM) | E (MM) | L (MM) | MBL (KGF) |
|--------------|------------------|----------|--------|--------|--------|--------|-----------|
| HM-SWTM-0405 | 4 | 5/16" | 9 | 25 | 12 | 105 | 2,400 |
| HM-SWTM-0505 | 5 | 5/16" | 9 | 24 | 12 | 115 | 2,400 |
| HM-SWTM-0506 | 5 | 3/8 | 11 | 29.5 | 14 | 123.5 | 3,600 |
| HM-SWTM-0606 | 6 | 3/8" | 11 | 28 | 14 | 134.5 | 3,600 |
| HM-SWTM-0607 | 6 | 7/16" | 14 | 34 | 16 | 150 | 5,000 |
| HM-SWTM-0608 | 6 | 1/2" | 14 | 34 | 18 | 150 | 6,800 |
| HM-SWTM-0707 | 7 | 7/16" | 14 | 33 | 16 | 162 | 5,000 |
| HM-SWTM-0708 | 7 | 1/2" | 14 | 33 | 18 | 162 | 6,800 |
| HM-SWTM-0808 | 8 | 1/2" | 14 | 33 | 18 | 176 | 6,800 |
| HM-SWTM-0810 | 8 | 5/8" | 18 | 43 | 21 | 194 | 10,900 |
| HM-SWTM-0910 | 9 | 5/8" | 18 | 43 | 21 | 207 | 10,900 |
| HM-SWTM-1010 | 10 | 5/8" | 18 | 43 | 21 | 220 | 10,900 |
| HM-SWTM-1012 | 10 | 3/4" | 22 | 45 | 24 | 235 | 15,900 |
| HM-SWTM-1212 | 12 | 3/4" | 22 | 45 | 24 | 262 | 15,900 |
| HM-SWTM-1214 | 12 | 7/8" | 25 | 50 | 29 | 274 | 21,500 |
| HM-SWTM-1414 | 14 | 7/8" | 25 | 50 | 29 | 297 | 21,500 |
| HM-SWTM-1616 | 16 | 1" | 28 | 58 | 31.5 | 344 | 28,300 |
| HM-SWTM-1918 | 19 | 1.1/8" | 32 | 58 | 35 | 373 | 32,000 |
| HM-SWTM-2220 | 22 | 1.1/4" | 38 | 77 | 42.5 | 437 | 40,500 |

| HM-SWT CODE | SIZE (FOR CABLE) | ØA (PIN) | B (MM) | C (MM) | E (MM) | L (MM) | MBL (KGF) |
|-------------|------------------|----------|--------|--------|--------|--------|-----------|
| HM-SWT-0706 | 7/32" | 3/8" | 11 | 28 | 14 | 137.5 | 3,600 |
| HM-SWT-0807 | 1/4" | 7/16" | 14 | 34 | 16 | 154 | 5,000 |
| HM-SWT-0808 | 1/4" | 1/2" | 14 | 34 | 18 | 154 | 6,800 |
| HM-SWT-1412 | 7/16" | 3/4" | 22 | 45 | 24 | 253 | 15,900 |
| HM-SWT-1614 | 1/2" | 7/8" | 25 | 50 | 29 | 282 | 21,500 |



TECHNICAL DATA

Forging material:
Surface treatment:

AISI316 - DIN 1.4401
"E.P." (Electro polished)

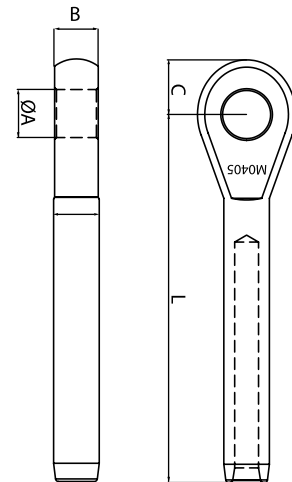
hamma[®] Regatta Swage Eyes

hamma[®] Regatta Eye Terminal

HM-SWEM

| HM-SWEM CODE | SIZE (FOR CABLE) | ØA (MM) | B (MM) | C (MM) | L (MM) | SUIT PIN | MBL (KGF) |
|--------------|------------------|---------|--------|--------|--------|----------|-----------|
| HM-SWEM-0405 | 4 | 8.5 | 7.2 | 10 | 70 | 5/16" | 2,400 |
| HM-SWEM-0505 | 5 | 8.5 | 7.2 | 11 | 80 | 5/16" | 2,400 |
| HM-SWEM-0506 | 5 | 9.8 | 9 | 11 | 83 | 3/8" | 3,600 |
| HM-SWEM-0606 | 6 | 9.8 | 9 | 12.5 | 94 | 3/8" | 3,600 |
| HM-SWEM-0607 | 6 | 11.5 | 10.2 | 15 | 101 | 7/16" | 5,000 |
| HM-SWEM-0608 | 6 | 13.2 | 12 | 15 | 101 | 1/2" | 6,800 |
| HM-SWEM-0707 | 7 | 11.5 | 12 | 16 | 113 | 7/16" | 5,000 |
| HM-SWEM-0708 | 7 | 13.2 | 12 | 16 | 113 | 1/2" | 6,800 |
| HM-SWEM-0808 | 8 | 13.2 | 12 | 16 | 127 | 1/2" | 6,800 |
| HM-SWEM-0810 | 8 | 16.5 | 15 | 18 | 133 | 5/8" | 10,900 |
| HM-SWEM-0910 | 9 | 16.5 | 15 | 18 | 146 | 5/8" | 10,900 |
| HM-SWEM-1010 | 10 | 16.5 | 15 | 18 | 159 | 5/8" | 10,900 |
| HM-SWEM-1012 | 10 | 20 | 18 | 25 | 165 | 3/4" | 15,900 |
| HM-SWEM-1112 | 11 | 20 | 18 | 25 | 183 | 3/4" | 15,900 |
| HM-SWEM-1212 | 12 | 20 | 18 | 25 | 192 | 3/4" | 15,900 |
| HM-SWEM-1214 | 12 | 23 | 21 | 25 | 199 | 7/8" | 21,500 |
| HM-SWEM-1414 | 14 | 23 | 21 | 25 | 222 | 7/8" | 21,500 |
| HM-SWEM-1616 | 16 | 26.5 | 24 | 34 | 252 | 1" | 28,300 |
| HM-SWEM-1918 | 19 | 30 | 24 | 34 | 281 | 1.1/8" | 32,000 |
| HM-SWEM-2220 | 22 | 35 | 30 | 33 | 327 | 1.1/4" | 40,500 |

| HM-SWE CODE | SIZE (FOR CABLE) | ØA (MM) | B (MM) | C (MM) | L (MM) | SUIT PIN | MBL (KGF) |
|-------------|------------------|---------|--------|--------|--------|----------|-----------|
| HM-SWE-0706 | 7/32" | 9.8 | 9 | 12.5 | 97 | 3/8" | 3,600 |
| HM-SWE-0807 | 1/4" | 11.5 | 10.2 | 15 | 105 | 7/16" | 5,000 |
| HM-SWE-0808 | 1/4" | 13.2 | 12 | 15 | 105 | 1/2" | 6,800 |
| HM-SWE-1412 | 7/16" | 20 | 18 | 25 | 183 | 3/4" | 15,900 |
| HM-SWE-1614 | 1/2" | 23 | 21 | 25 | 207 | 7/8" | 21,500 |



TECHNICAL DATA

Forging material:
Surface treatment:

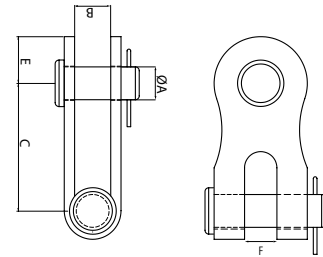
AISI316 - DIN 1.4401
"M.F." (Matte finished)

hamma[®] Regatta Hardware

hamma[®] Regatta Double Jaw Toggle Plate

HM-DJTP

| HM-DJTP CODE | SIZE PIN (INCH) | ØA (MM) | B (MM) | C (MM) | E (MM) | F (MM) | MBL (KFG) |
|--------------|-----------------|---------|--------|--------|--------|--------|-----------|
| HM-DJTP-05 | 5/16" | 8 | 9 | 35 | 12 | 7.5 | 2,400 |
| HM-DJTP-06 | 3/8" | 9.5 | 11 | 40.5 | 14 | 9.7 | 3,600 |
| HM-DJTP-07 | 7/16" | 11 | 14 | 49 | 16 | 10.8 | 5,000 |
| HM-DJTP-08 | 1/2" | 12.7 | 14 | 49 | 18 | 12.6 | 6,800 |
| HM-DJTP-10 | 5/8" | 15.8 | 18 | 61 | 21 | 15.7 | 10,900 |
| HM-DJTP-12 | 3/4" | 19 | 22 | 70 | 24 | 18.7 | 15,900 |
| HM-DJTP-14 | 7/8" | 22.2 | 25 | 75 | 29 | 22.4 | 21,500 |
| HM-DJTP-16 | 1" | 25.4 | 28 | 92 | 31.5 | 26 | 28,300 |
| HM-DJTP-18 | 1.1/8" | 28.5 | 32 | 92 | 35 | 28 | 32,000 |
| HM-DJTP-20 | 1.1/4" | 31.75 | 38 | 110 | 42.5 | 32 | 40,500 |



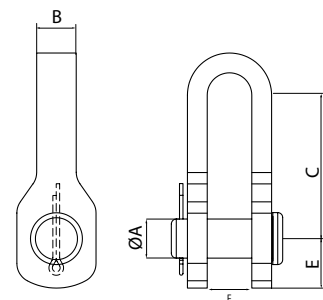
TECHNICAL DATA

Sheet material: AISI316 - DIN 1.4401
 Surface treatment: "E.P." (Electro polished)

hamma[®] Regatta Eye Jaw Toggle

HM-EJT

| HM-EJT CODE | SIZE PIN (INCH) | ØA (MM) | B (MM) | C (MM) | E (MM) | F (MM) | MBL (KFG) |
|-------------|-----------------|---------|--------|--------|--------|--------|-----------|
| HM-EJT-07 | 7/16" | 11 | 13 | 50 | 15 | 12 | 5,000 |
| HM-EJT-08 | 1/2" | 12.7 | 15 | 53 | 19 | 14 | 6,800 |
| HM-EJT-10 | 5/8" | 15.8 | 16 | 58 | 20 | 19 | 10,900 |
| HM-EJT-12 | 3/4" | 19 | 19 | 76.5 | 25 | 22 | 15,900 |
| HM-EJT-14 | 7/8" | 22.2 | 22 | 85 | 30 | 24 | 21,500 |
| HM-EJT-16 | 1" | 25.4 | 25 | 96.5 | 30 | 27 | 28,300 |



TECHNICAL DATA

Sheet material: AISI316 - DIN 1.4401
 Surface treatment: "E.P." (Electro polished)

hamma® Regatta Extended Toggle Terminal

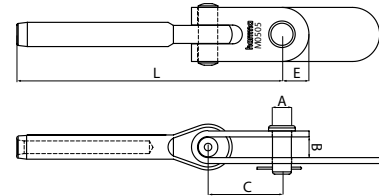
HM-TEXM

| HM-TEXM CODE | SIZE C (FOR CABLE) | A (PIN) | B (MM) | C (MM) | E (MM) | L (MM) |
|--------------|--------------------|---------|--------|--------|--------|--------|
| HM-TEXM-0505 | 5 | 5/16" | 9 | 35 | 12 | 115 |
| HM-TEXM-0606 | 6 | 3/8" | 11 | 40.5 | 14 | 134.5 |
| HM-TEXM-0708 | 7 | 1/2" | 14 | 49 | 18 | 162 |
| HM-TEXM-0808 | 8 | 1/2" | 14 | 49 | 18 | 176 |
| HM-TEXM-0810 | 8 | 5/8" | 18 | 61 | 21 | 194 |
| HM-TEXM-1010 | 10 | 5/8" | 18 | 61 | 21 | 220 |
| HM-TEXM-1212 | 12 | 3/4" | 22 | 70 | 24 | 262 |
| HM-TEXM-1412 | 14 | 3/4" | 22 | 75 | 29 | 297 |



TECHNICAL DATA

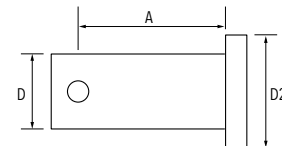
Forging material: AISI316 - DIN 1.4401
 Surface treatment: "E.P." (Electro polished)



hamma® Regatta Clevis Pins

HM-CP

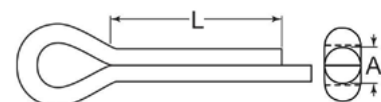
| HM-CP CODE | SIZE (INCH) | A (MM) | D (MM) | D2 (MM) |
|------------|-------------|--------|--------|---------|
| HM-CP-05 | 5/16" | 14 | 7.8 | 12 |
| HM-CP-06 | 3/8" | 18 | 9.4 | 14 |
| HM-CP-07 | 7/16" | 23 | 10.8 | 16 |
| HM-CP-08 | 1/2" | 23 | 12.6 | 18 |
| HM-CP-10 | 5/8" | 30 | 15.7 | 20 |
| HM-CP-12 | 3/4" | 34 | 18.9 | 24 |
| HM-CP-14 | 7/8" | 43 | 22 | 27.2 |
| HM-CP-16 | 1" | 42 | 25 | 31 |
| HM-CP-18 | 1 1/8" | 73 | 28.4 | 33 |



hamma® Regatta Split Pins

HM-SPLIT

| HM-SPLIT CODE | A (MM) | L (MM) | GRADE |
|---------------|--------|--------|-------|
| HM-SPLIT-1620 | 1.6 | 20 | 316 |
| HM-SPLIT-2520 | 2.5 | 20 | 316 |
| HM-SPLIT-3232 | 3.2 | 32 | 316 |
| HM-SPLIT-0440 | 4.0 | 40 | 316 |

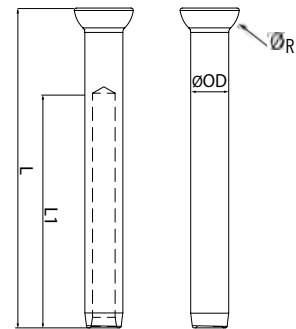


hamma[®] Regatta Stemballs/Cups

hamma[®] Regatta Stemball Swage

HM-SWSB

| HM-SWSB CODE | SIZE (FOR CABLE) | ØA (MM) | L (MM) | L1 (MM) | ØOD (MM) | ØR (MM) |
|----------------|------------------|---------|--------|---------|----------|---------|
| HM-SWSB-03 | 3 | 13.4 | 50 | 33 | 6.3 | 7 |
| HM-SWSB-04 | 4 | 16.3 | 66 | 44 | 7.5 | 9 |
| HM-SWSB-05 | 5 | 18.8 | 80 | 55 | 9.1 | 10 |
| HM-SWSB-06 | 6 | 21 | 94 | 66 | 12.5 | 11 |
| HM-SWSB-07 | 7 | 21.5 | 103 | 77 | 14.3 | 11 |
| HM-SWSB-08 | 8 | 27 | 122 | 88 | 16.1 | 14 |
| HM-SWSB-10 | 10 | 27.7 | 150 | 110 | 17.8 | 14 |
| HM-SWSB-11 | 11 | 27.7 | 170 | 123 | 19.8 | 14 |
| HM-SWSB-12 | 12 | 33.3 | 183 | 132 | 21.4 | 17 |
| HM-SWSB-14 | 14 | 32.5 | 216 | 154 | 25 | 17 |
| HM-SWSB-16 | 16 | 39.4 | 244 | 176 | 28.1 | 20 |
| HM-SWSB-Z CODE | SIZE (CABLE) | ØA (MM) | L (MM) | L1 (MM) | ØD (MM) | ØR (MM) |
| HM-SWSB-05Z | 5 | 14.4 | 80 | 55 | 9.1 | 7.2 |
| HM-SWSB-07Z | 7 | 26 | 103 | 77 | 14.2 | 13 |



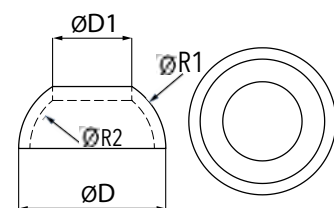
TECHNICAL DATA

Forging material: AISI316 - DIN 1.4401
 Surface treatment: "E.P." (Electro polished)

hamma[®] Regatta Stemball Cup

HM-CUP




| HM-CUP CODE | SIZE ØD1 (MM) | ØD (MM) | ØR1 (MM) | ØR2 (MM) |
|-------------|---------------|---------|----------|----------|
| HM-CUP-0818 | 8.0 | 18 | 9 | 7 |
| HM-CUP-0926 | 9.0 | 26 | 13 | 11 |
| HM-CUP-1126 | 11.2 | 26 | 13 | 11 |
| HM-CUP-1226 | 12.5 | 26 | 13 | 11 |
| HM-CUP-1426 | 14.0 | 26 | 13 | 11 |
| HM-CUP-1626 | 16.0 | 26 | 13 | 11 |
| HM-CUP-2034 | 20.0 | 34 | 17 | 14 |



TECHNICAL DATA

Casting: AISI316 - DIN 1.4401
 Surface treatment: "E.P." (Electro polished)

MATCH TABLE

|  |  Stem ball head swage | Connect with |  Stem ball cup |
|---|---|--------------|--|
| SIZE CABLE | HM-SWSB CODE | SIZE | HM-CUP CODE |
| 3MM | HM-SWSB-03 | 8.0 | HM-CUP-0818 |
| 4MM (5/32") | HM-SWSB-04 | 9.0 | HM-CUP-0926 |
| 5MM | HM-SWSB-05 | 11.2 | HM-CUP-11226 |
| 6MM | HM-SWSB-06 | 14.0 | HM-CUP-1426 |
| 7MM | HM-SWSB-07 | 16.0 | HM-CUP-1626 |
| 8MM (5/16") | HM-SWSB-08 | 20 | HM-CUP-2034 |
| 10MM | HM-SWSB-10 | | |

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 |

hamma[®] Regatta Shroud Terminals

hamma[®] Regatta Shroud Terminal

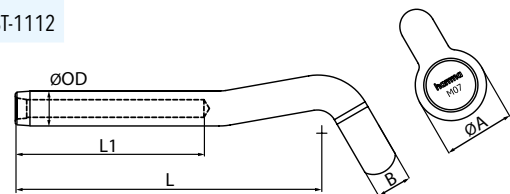
HM-SWST

| HM-SWST CODE | SIZE C (FOR CABLE) | ØA (MM) | B (MM) | L (MM) | L1 (MM) | ØOD (MM) | BACKING PLATE CODE |
|--------------|--------------------|---------|--------|--------|---------|----------|--------------------|
| HM-SWST-04 | 4 | 18 | 9 | 84 | 44 | 7.5 | HM-BPST-0405 |
| HM-SWST-05 | 5 | 18 | 9 | 93 | 55 | 9 | HM-BPST-0405 |
| HM-SWST-06 | 6 | 23 | 12.5 | 112 | 66 | 12.5 | HM-BPST-06 |
| HM-SWST-07 | 7 | 29 | 14.5 | 123 | 77 | 14.3 | HM-BPST-07 |
| HM-SWST-08 | 8 | 30.5 | 16.5 | 152 | 88 | 16.1 | HM-BPST-08 |
| HM-SWST-10 | 10 | 33 | 18 | 178 | 110 | 17.8 | HM-BPST-10 |
| HM-SWST-11 | 11 | 39 | 21 | 220 | 123 | 19.8 | HM-BPST-1112 |
| HM-SWST-12 | 12 | 39 | 21 | 220 | 132 | 21.4 | HM-BPST-1112 |



TECHNICAL DATA

Forging material: AISI316 - DIN 1.4401
 Surface treatment: "E.P." (Electro polished)



hamma[®] Regatta Shroud Terminal Backing Plate

HM-BPST

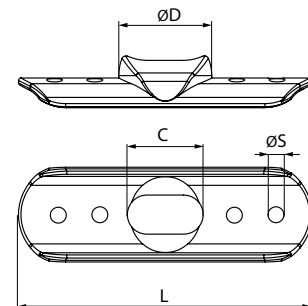
| HM-BPST CODE | SIZE | C (MM) | D (MM) | L (MM) | ØS (MM) | TERMINAL |
|--------------|------|--------|--------|--------|---------|-----------|
| HM-BPST-0405 | 19 | 19 | 25 | 88 | 5.2 | 4.0-5.0mm |
| HM-BPST-06 | 24 | 24 | 30 | 95 | 6.5 | 6mm |
| HM-BPST-07 | 31 | 31 | 38 | 120 | 6.5 | 7mm |
| HM-BPST-08 | 32 | 32 | 39.5 | 120 | 6.5 | 8mm |
| HM-BPST-10 | 34 | 34 | 43.5 | 150 | 6.5 | 10mm |
| HM-BPST-1112 | 40 | 40 | 50 | 176 | 6.5 | 11-12mm |



BPST-0405

TECHNICAL DATA

Casting: AISI316 - DIN 1.4401
 Surface treatment: "E.P." (Electro polished)



hamma[®] Regatta Swage T-Terminals

hamma[®] Regatta T-Terminal

HM-SWTT

| HM-SWTT CODE | SIZE (CABLE) | A (MM) | B (MM) | ØD (MM) | L1 (MM) | BACKING PLATE CODE |
|--------------|--------------|--------|--------|---------|---------|--------------------|
| HM-SWTT-02 | 2.0 | 15 | 6.35 | 6.2 | 33 | HM-BPTT-0235 |
| HM-SWTT-025 | 2.5 | 15 | 6.35 | 6.3 | 33 | HM-BPTT-0235 |
| HM-SWTT-03 | 3.0 | 15 | 6.35 | 6.3 | 33 | HM-BPTT-0235 |
| HM-SWTT-035 | 3.5 | 15 | 6.35 | 6.3 | 38 | HM-BPTT-0235 |
| HM-SWTT-04 | 4 | 20 | 9.0 | 9.0 | 44 | HM-BPTT-04 |
| HM-SWTT-05 | 5 | 20 | 11 | 11.0 | 55 | HM-BPTT-05 |
| HM-SWTT-06 | 6 | 28 | 14.3 | 14.3 | 66 | HM-BPTT-0607 |
| HM-SWTT-07 | 7 | 28 | 14.3 | 14.3 | 77 | HM-BPTT-0607 |
| HM-SWTT-08 | 8 | 33 | 18 | 17.8 | 88 | HM-BPTT-0810 |
| HM-SWTT-10 | 10 | 33 | 18 | 17.8 | 110 | HM-BPTT-0810 |

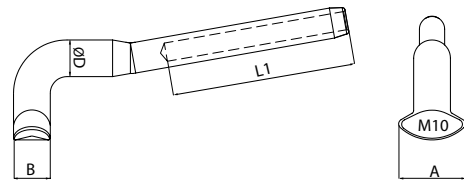


TECHNICAL DATA

Body material: Casting AISI316, EN 1.4401
 Surface treatment: "M.P." (Machine Polished)

FIELD OF APPLICATION

Not guaranteed for greater than 40% of break load of hamma[®]X 1x19 wire.



hamma[®] Regatta T-Terminal - XS

HM-SWTX

| HM-SWTX CODE | SIZE (CABLE) | A (MM) | B (MM) | ØD (MM) | L1 (MM) | BACKING PLATE CODE |
|--------------|--------------|--------|--------|---------|---------|--------------------|
| HM-SWTX-02 | 2.0 | 13.5 | 6.0 | 6.4 | 35 | HM-BPTT-0235 |
| HM-SWTX-025 | 2.5 | 13.5 | 6.0 | 6.4 | 35 | HM-BPTT-0235 |
| HM-SWTX-03 | 3.0 | 13.5 | 6.0 | 6.4 | 35 | HM-BPTT-0235 |
| HM-SWTX-035 | 3.5 | 13.5 | 6.0 | 6.4 | 35 | HM-BPTT-0235 |

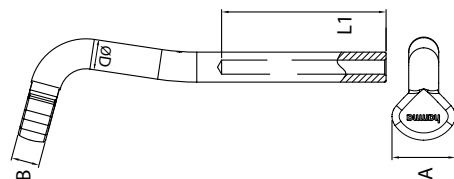


TECHNICAL DATA

Body material: Casting AISI316, EN 1.4401
 Surface treatment: "M.P." (Machine Polished)

FIELD OF APPLICATION

Xtra long shank for use with thick wall carbon or composite dinghy and skiff masts



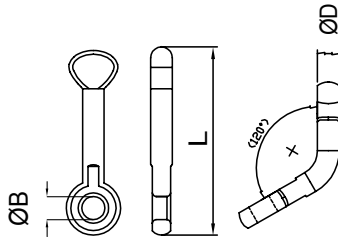
hamma® Regatta T-Terminal Eye

HM-TTE

| HM-TTE CODE | SIZE (MM) | ØB (MM) | ØD (MM) | L (MM) | BACKING PLATE CODE |
|-------------|-----------|---------|---------|--------|--------------------|
| HM-TTE-6MM | 6 | 6.4 | 6 | 46.7 | HM-BPTT-0235 |

TECHNICAL DATA

Forging material: AISI316 - DIN 1.4401
 Surface treatment: "E.P." (Electro polished)
 Fits Backing Plate - HM-BPTT-0235



hamma® Regatta T-Terminal Backing Plate

HM-BPTT

| HM-BPTT CODE | SIZE (MM) | C (MM) | L (MM) | ØS (MM) | TERMINAL |
|--------------|-------------|--------|--------|---------|------------|
| HM-BPTT-0235 | 7MM*12.8MM | 12.8 | 51 | 5 | 2.0-3.5mm |
| HM-BPTT-04 | 9.5MM*26MM | 26 | 88 | 5.2 | 4.0mm |
| HM-BPTT-05 | 13MM*23MM | 23 | 68 | 6.5 | 5.0mm |
| HM-BPTT-0607 | 15MM*34.5MM | 34.5 | 123 | 6.3 | 6.0-7.0mm |
| HM-BPTT-0810 | 19MM*36MM | 41 | 152 | 6.0 | 8.0-10.0mm |

HM-BPTT-0607 suits terminal 6-7mm
 HM-BPTT-0810 suits terminal 8-10mm

TECHNICAL DATA

Casting material: AISI316 - DIN 1.4408
 Forging material: AISI316 - DIN 1.4401
 Production: SF8282S - Terminal Plate - Forged
 Surface treatment: "M.P." (Machine polished)

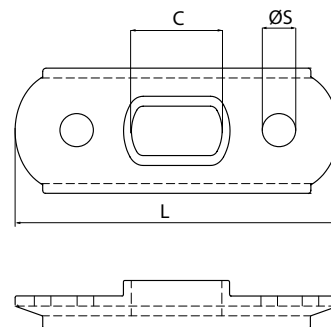


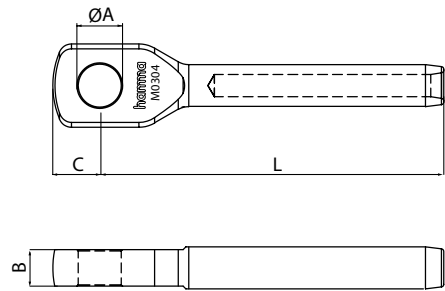
Photo courtesy Southport Yacht Club

hamma® Regatta Machined Terminals

hamma® Regatta Machined Eye Terminal

HM-SMEM

| HM-SMEM CODE | SIZE (FOR CABLE) | ØA (MM) | B (MM) | C (MM) | L (MM) | SUIT PIN |
|--------------|------------------|---------|--------|--------|--------|----------|
| HM-SMEM-0304 | 3 | 6.8 | 5.8 | 8 | 52 | 1/4" |
| HM-SMEM-0405 | 4 | 8.5 | 6.8 | 10 | 65 | 5/16" |
| HM-SMEM-0505 | 5 | 8.5 | 6.8 | 10 | 80 | 5/16" |
| HM-SMEM-0506 | 5 | 9.8 | 6.8 | 10 | 80 | 3/8" |
| HM-SMEM-0606 | 6 | 9.8 | 9.5 | 12 | 98 | 3/8" |
| HM-SMEM-0607 | 6 | 11.5 | 9.5 | 14 | 98 | 7/16" |
| HM-SMEM-0708 | 7 | 13.2 | 12 | 15 | 112 | 1/2" |
| HM-SMEM-0808 | 8 | 13.2 | 12 | 15 | 125 | 1/2" |
| HM-SMEM-0810 | 8 | 16.5 | 14 | 18 | 132 | 5/8" |
| HM-SMEM-1010 | 10 | 16.5 | 14 | 18 | 158 | 5/8" |
| HM-SMEM-1112 | 11 | 20 | 18 | 21 | 179 | 3/4" |
| HM-SMEM-1212 | 12 | 20 | 18 | 21 | 189 | 3/4" |
| HM-SMEM-1414 | 14 | 23 | 21.5 | 25 | 220 | 7/8" |
| HM-SMEM-1616 | 16 | 26.5 | 23 | 28 | 250 | 1" |
| HM-SMEM-1918 | 19 | 30 | 26 | 30 | 295 | 1-1/8" |
| HM-SMEM-2220 | 22 | 33 | 31 | 38 | 336 | 1-1/4" |



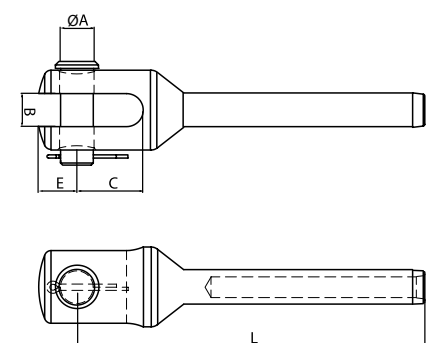
TECHNICAL DATA

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

hamma® Regatta Machined Fork Terminal

HM-SMFM

| HM-SMFM CODE | SIZE (FOR CABLE) | ØA (MM) | B (MM) | C (MM) | E (MM) | L (MM) |
|--------------|------------------|---------|--------|--------|--------|--------|
| HM-SMFM-0405 | 4 | 8 | 8 | 17 | 9.1 | 78 |
| HM-SMFM-0505 | 5 | 8 | 8 | 17 | 9.1 | 89 |
| HM-SMFM-0506 | 5 | 9.5 | 10 | 20 | 10.5 | 100 |
| HM-SMFM-0606 | 6 | 9.5 | 10 | 20 | 10.5 | 110 |
| HM-SMFM-0607 | 6 | 11 | 11 | 22 | 12 | 115 |
| HM-SMFM-0708 | 7 | 12.7 | 13 | 26 | 14.4 | 135 |
| HM-SMFM-0808 | 8 | 12.7 | 13 | 26 | 14.4 | 145 |
| HM-SMFM-0810 | 8 | 16 | 16 | 32 | 17.2 | 157 |
| HM-SMFM-1010 | 10 | 16 | 16 | 32 | 17.2 | 182 |
| HM-SMFM-1112 | 11 | 19 | 19 | 38 | 22 | 218 |
| HM-SMFM-1212 | 12 | 19 | 19 | 38 | 22 | 218 |
| HM-SMFM-1414 | 14 | 22 | 22 | 45 | 25 | 250 |
| HM-SMFM-1616 | 16 | 25 | 25 | 50 | 28.3 | 284 |
| HM-SMFM-1918 | 19 | 28 | 28.5 | 58 | 30.9 | 325 |
| HM-SMFM-2222 | 22 | 32 | 32 | 65 | 34.9 | 375 |
| HM-SMFM-2626 | 26 | 35 | 35 | 70 | 40 | 430 |



TECHNICAL DATA

Forging material: AISI316 - DIN 1.4401
 Surface treatment: "E.P." (Electro polished)

hamma[®] Regatta Swage Eyes/Forks

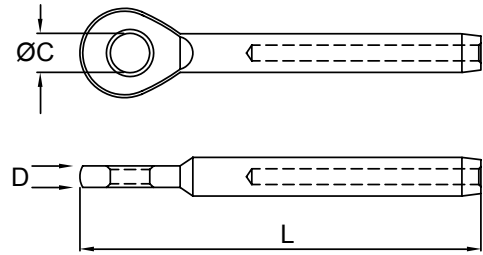
hamma[®] Regatta Narrow Eye Terminal

HM-SWNE

| HM-SWNE CODE | SIZE (CABLE) | ØC (MM) | D (MM) | L (MM) | MBL (KGF) |
|--------------|--------------|---------|--------|--------|-----------|
| HM-SWNE-02 | 2.0 | 5.5 | 5.5 | 56 | 850 |
| HM-SWNE-025 | 2.5 | 5.5 | 5.5 | 56 | 850 |
| HM-SWNE-03 | 3.0 | 6.5 | 6.3 | 62 | 1,000 |
| HM-SWNE-04 | 4.0 | 8.5 | 7.5 | 77 | 1,350 |
| HM-SWNE-05 | 5.0 | 10.5 | 9.1 | 87 | 2,500 |

TECHNICAL DATA

Forging material: AISI316 - DIN 1.4401
 Production: SF7802 - Eye - Forged
 Surface treatment: "M.F." (Matte finished)



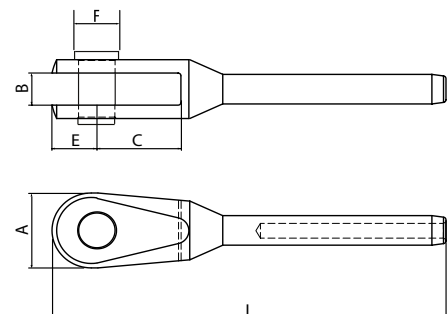
hamma[®] Regatta Low Profile Swage Fork

HM-SWLF

| HM-SWLF CODE | SIZE (CABLE) | A (MM) | B (MM) | C (MM) | E (MM) | L (MM) | F PIN |
|--------------|--------------|--------|--------|--------|--------|--------|-------|
| HM-SWLF-025 | 2.5 | 14 | 6.4 | 15 | 8 | 70 | 5.5 |
| HM-SWLF-03 | 3 | 14 | 6.4 | 15 | 8 | 70 | 6.4 |

TECHNICAL DATA

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



hamma® Industrial Life Line Fittings

hamma® Industrial Pelican Hook with Stud Terminal

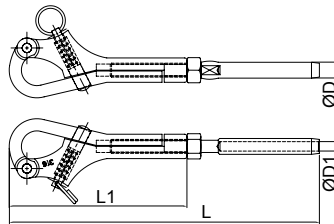
HM-S2831/S7801

| 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)



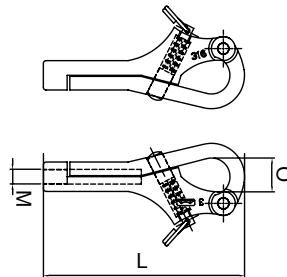
hamma® Industrial Pelican Hook

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)



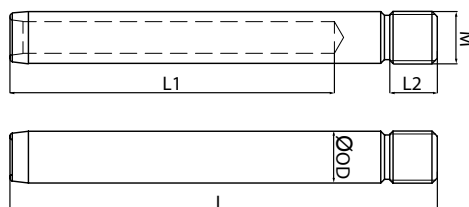
hamma® Industrial Short Swage Stud

HM-SF7801

| HM-2780 CODE | SIZE (CABLE) | L (MM) | L1 (MM) | L2 (MM) | M (THREAD) | ØD (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)



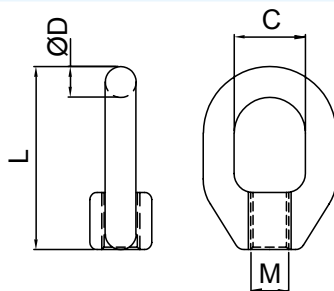
hamma® Industrial Gate Eye

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)



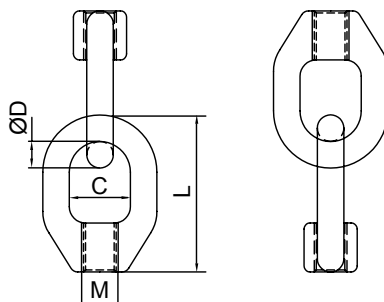
hamma® Industrial Interlocking Gate Eye

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® Industrial Snap Shackles

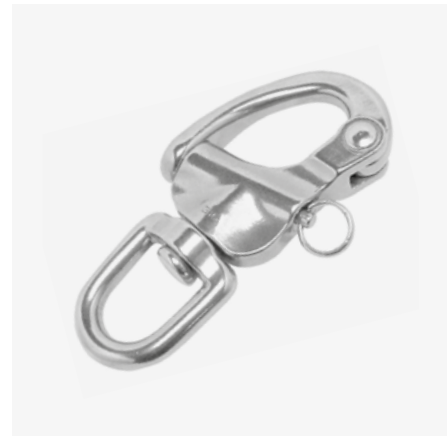
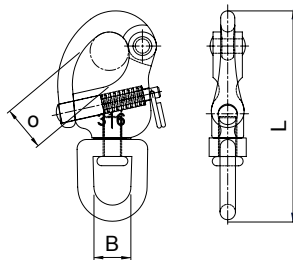
hamma® Industrial Snap Shackle (Cast Swivel Eye)

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)



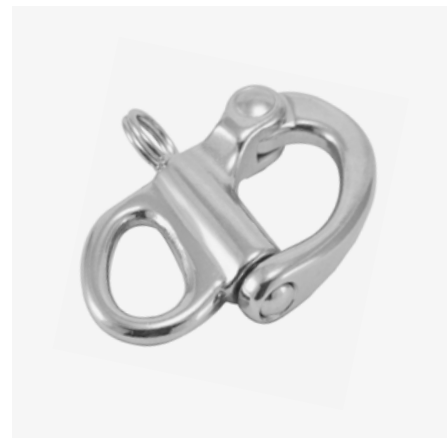
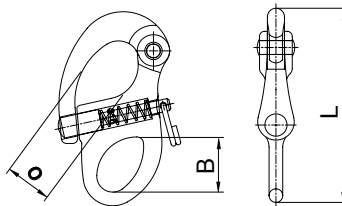
hamma® Industrial Fixed Snap Shackle

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 materia: AISI316 - DIN 1.4401
 Production: S2483
 Shackle - Cast
 Pin - Forged
 Surface treatment : "E.P." (Electro polished)



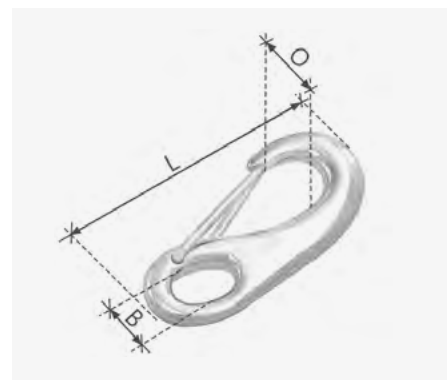
hamma® Industrial Snap Hook

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 materia: AISI316 - DIN 1.4401
 Production: S2470
 SNAP - Cast
 Surface treatment : "E.P." (Electro polished)



hamma[®] Industrial Shackles

hamma[®] Industrial D Shackle

S360

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



hamma[®] Industrial D Shackle with Collared Pin

S360CP

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



hamma[®] Industrial D Shackle Wide

S360WO

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



Wire Ropes available in cut lengths and a range of reel lengths. Please talk to your sales representative for pricing and availability.

hamma® Industrial Bow Shackle (Anchor)

S370

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



hamma® Industrial Bow Shackle (Anchor) with Collared Pin

S370CP

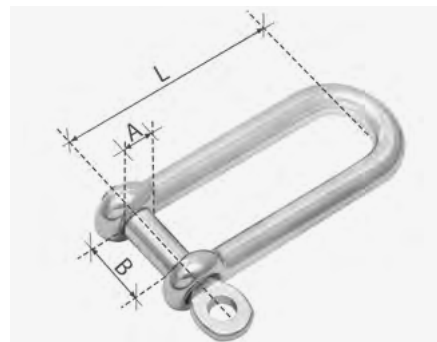
| PRODUCT CODE | SIZE | A (MM) | B (MM) | L (MM) | B.L. (KGS) |
|--------------|------|--------|--------|--------|------------|
| HM-6370-3010 | 10 | 10 | 20 | 51.0 | 4500 |
| HM-6370-3012 | 12 | 12 | 24 | 61.0 | 6,000 |
| HM-6370-3016 | 16 | 16 | 32 | 82.0 | 10,000 |
| HM-6370-3019 | 19 | 19 | 38 |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



hamma® Industrial D Shackle Long

S362

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



hamma® Industrial D Shackle Long with Collared Pin

S362CP

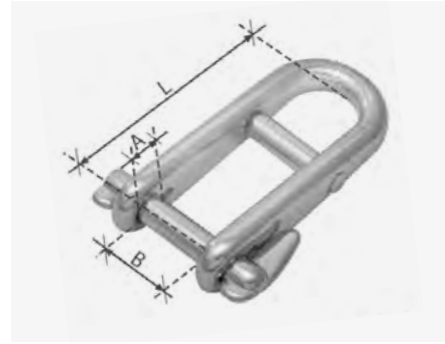
| PRODUCT CODE | SIZE | A (MM) | B (MM) | L (MM) | B.L. (KGS) |
|--------------|------|--------|--------|--------|------------|
| HM-6362-3010 | 10 | 10 | 20 | 80 | 3,500 |
| HM-6362-3012 | 12 | 12 | 24 | 96 | 5,400 |



hamma® Industrial Halyard Shackle Cross Bar with Locking Pin

S365DLK

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



hamma® Industrial Twisted Shackle

S380

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



hamma® Industrial Twisted Shackle with Collared Pin

S380CP

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




Lisa Blair's Yacht Climate Action Now

At the launch of Lisa's epic adventure to be the first woman to sail solo, non-stop and unassisted around Antarctica

hamma[®] Industrial Wire Rope Grips & Thimbles

hamma[®] Industrial Wire Rope Grip


S260

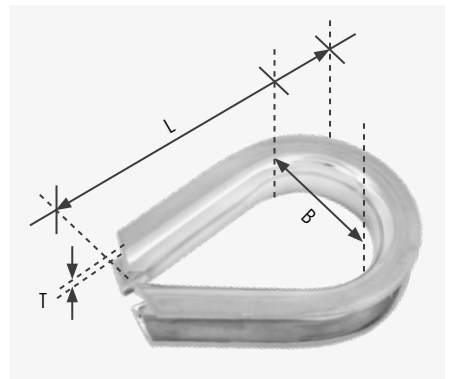
| PRODUCT CODE | SIZE | B (MM) | L (MM) | M (MM) |  |
|--------------|------|--------|--------|--------|---|
| HM-6260-0002 | 2 | 7 | 17.5 | M3 | 3,000 |
| HM-6260-0003 | 3 | 8 | 21 | M3 | 2,500 |
| HM-6260-0004 | 4 | 10 | 23 | M4 | 1,200 |
| HM-6260-0005 | 5 | 12 | 29 | M5 | 800 |
| HM-6260-0006 | 6 | 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 |



hamma[®] Industrial Thimble (Heavy Duty)


SF414

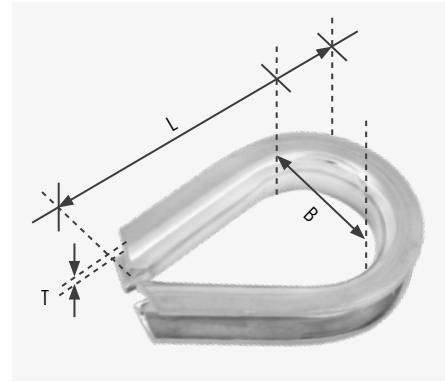
| PRODUCT CODE | SIZE (INCH) | B (MM) | L (MM) | T (MM) |  |
|--------------|-------------|--------|--------|--------|---|
| HM-6414-0615 | 5/16" | 27.3 | 63 | 2 | 300 |
| HM-6414-0803 | 3/8" | 29 | 73 | 2.5 | 160 |
| HM-6414-0201 | 1/2" | 38 | 92 | 4 | 80 |
| HM-6414-0805 | 5/8" | 45 | 106 | 4 | 70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



hamma® Industrial 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 |

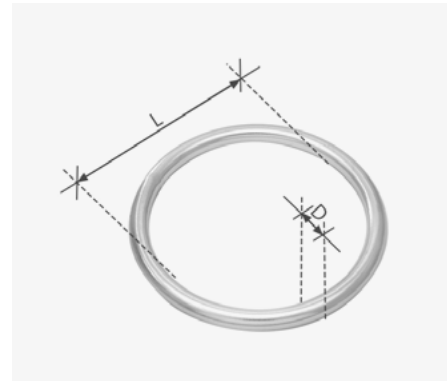


hamma[®] Industrial Rings & Pads

hamma[®] Industrial Round Ring

SF317 * This item is G304 only

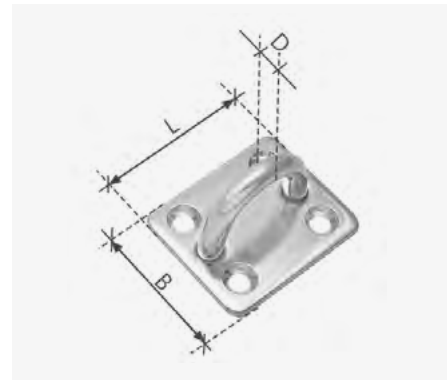
| PRODUCT CODE | SIZE (MM) | D (MM) | L (MM) | B.L. (KGS) |
|--------------|-----------|--------|--------|------------|
| HM-6317-0535 | 5*35 | 5 | 35 | 2,000 |
| HM-6317-0540 | 5*40 | 5 | 40 | 2,000 |
| HM-6317-0640 | 6*40 | 6 | 40 | 2,700 |
| HM-6317-0650 | 6*50 | 6 | 50 | 2,700 |
| HM-6317-0850 |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



hamma[®] Industrial Square Pad Eye

SF321 * This item is G304 only

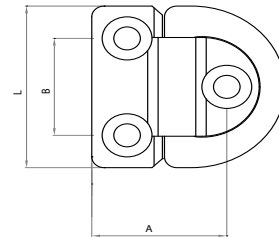
| PRODUCT CODE | SIZE (MM) | B (MM) | D (MM) | L (MM) | B.L. (KGS) |
|--------------|-----------|--------|--------|--------|------------|
| HM-4321-0006 | 6 | 34 | 6 | 40 | 1,000 |
| HM-4321-0008 | 8 | 39 | 8 | 50 | 1,600 |



hamma® Industrial Single Pad Eye with Single Ring

SPE/SINGLE/EP

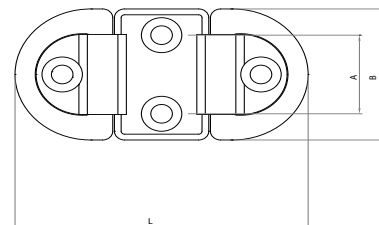
| PRODUCT CODE | SIZE (MM) | A (MM) | B (MM) | L (MM) | SCREW USE | B.L. (KGS) |
|--------------|-----------|--------|--------|--------|-----------|------------|
| HM-6106-4546 | 6x46.5 | 27 | 45 | 46.5 | M6 | 2,200 |
| HM-6108-5961 | 8x61 | 35 | 59 | 61 | M8 | 4,000 |
| HM-6001-0757 | 10x77 | 45 | 75 | 77 | M10 | 7,000 |



hamma® Industrial Double Pad Eye with Double Rings

SPE/DOUBLE/EP

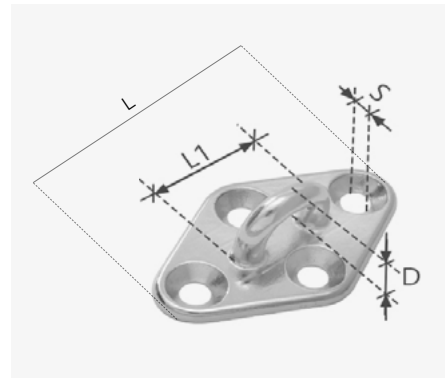
| PRODUCT CODE | SIZE (MM) | A (MM) | B (MM) | L (MM) | SCREW USE | B.L. (KGS) |
|--------------|-----------|--------|--------|--------|-----------|------------|
| HM-6106-4587 | 6 | 27 | 45 | 87 | M6 | 3,600 |
| HM-6108-5999 | 8 | 35 | 59 | 99 | M8 | 6,800 |
| HM-6101-0751 | 10 | 45 | 75 | 126 | M10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



hamma® Industrial Diamond Pad Eye

SF3211 * This item is G304 only

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

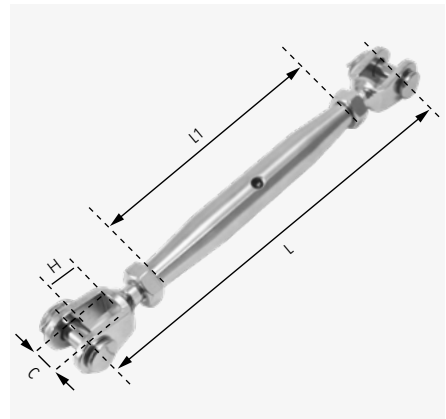


hamma[®] Industrial Turnbuckles & Terminals

hamma[®] Industrial Jaw-Jaw Rigging Screw

SF312P

| PRODUCT CODE | SIZE | MIN LENGTH (MM) | MAX LENGTH (MM) | L1 (MM) | H (MM) | C (MM) | B.L. (KGS) |
|--------------|------|-----------------|-----------------|---------|--------|--------|------------|
| HM-6312-0505 | M5 | 115 | 185 | 80 | 12 | 8 | 750 |
| HM-6312-0506 | M6 | 142 | 215 | 90 | 12.5 | 8 | 1,400 |
| HM-6312-0508 | M8 | 160 | 259 | 105 | 15 | 11 | 2,200 |
| HM-6312-0510 | M10 | 200 | 310 | 125 | 18 | 12 | 3,450 |
| HM-6312-0512 | M12 | 245 | 380 | 150 | 27 | 14 | 5,000 |
| HM-6312-0616 | M16 | 304 | 440 | 190 | 32 | 17 | 8,000 |



hamma[®] Industrial Jaw-Swage

SF3121P

| PRODUCT CODE | WIRE SIZE (MM) | M (THREAD) | MIN LENGTH (MM) | MAX LENGTH (MM) | C (MM) | H (MM) | B.L. (KGS) |
|--------------|----------------|------------|-----------------|-----------------|--------|--------|------------|
| HM-6312-1122 | 3mm | M5 | 142 | 193 | 7 | 11 | 600 |
| HM-6312-1007 | 3.2mm | M5 | 156 | 225 | 7 | 12 | 600 |
| HM-6312-1008 | 3.2mm | M6 | 170 | 250 | 8 | 12 | 1,000 |
| HM-6312-1050 | 4mm | M6 | 185 | 260 | 8 | 12 | 1,000 |
| HM-6312-1018 | 4mm | M8 | 205 | 295 | 11 | 15 | 1,400 |
| HM-6312-1064 | 5mm | M8 | 210 | 300 | 11 | 15 | 1,400 |
| HM-6312-1010 | 6mm | M12 | 295 | 430 | 14 | 28 | 4,000 |
| HM-6312-1098 | 8mm | M12 | 303 | 435 | 14 | 28 | 4,500 |
| HM-6312-1073 | 8mm | M14 | 328 | 580 | 15 | 28 | 6,000 |



hamma® Industrial Swage Stud (RHT)

SF7801

| PRODUCT CODE | SIZE (MM) | M (THREAD) | L (MM) | L2 (MM) |
|--------------|-----------|------------|--------|---------|
| HM-6780-1068 | 3mm | M5 | 80 | 40 |
| HM-6780-1020 | 3mm | M6 | 97 | 48 |
| HM-6780-1073 | 3.2mm | M5 | 90 | 40 |
| HM-6780-1007 | 3.2mm | M6 | 90 | 40 |
| HM-6780-1061 | 4mm | M6 | 117 | 57 |
| HM-6780-1076 | 4mm | M8 | 115 | 57 |
| HM-6780-1095 | 5mm | M8 | 128 | 57 |
| HM-6780-1026 | 5mm | M10 | 128 | 61 |
| HM-6780-1134 | 6mm | M10 | 162 | 80 |
| HM-6780-1028 | 6mm | M12 | 162 | 79 |
| HM-6780-1056 | 8mm | M12 | 175 | 76 |
| HM-6780-1171 | 8mm | M14 | 180 | 90 |



hamma® Industrial Swage Eye

SF7802

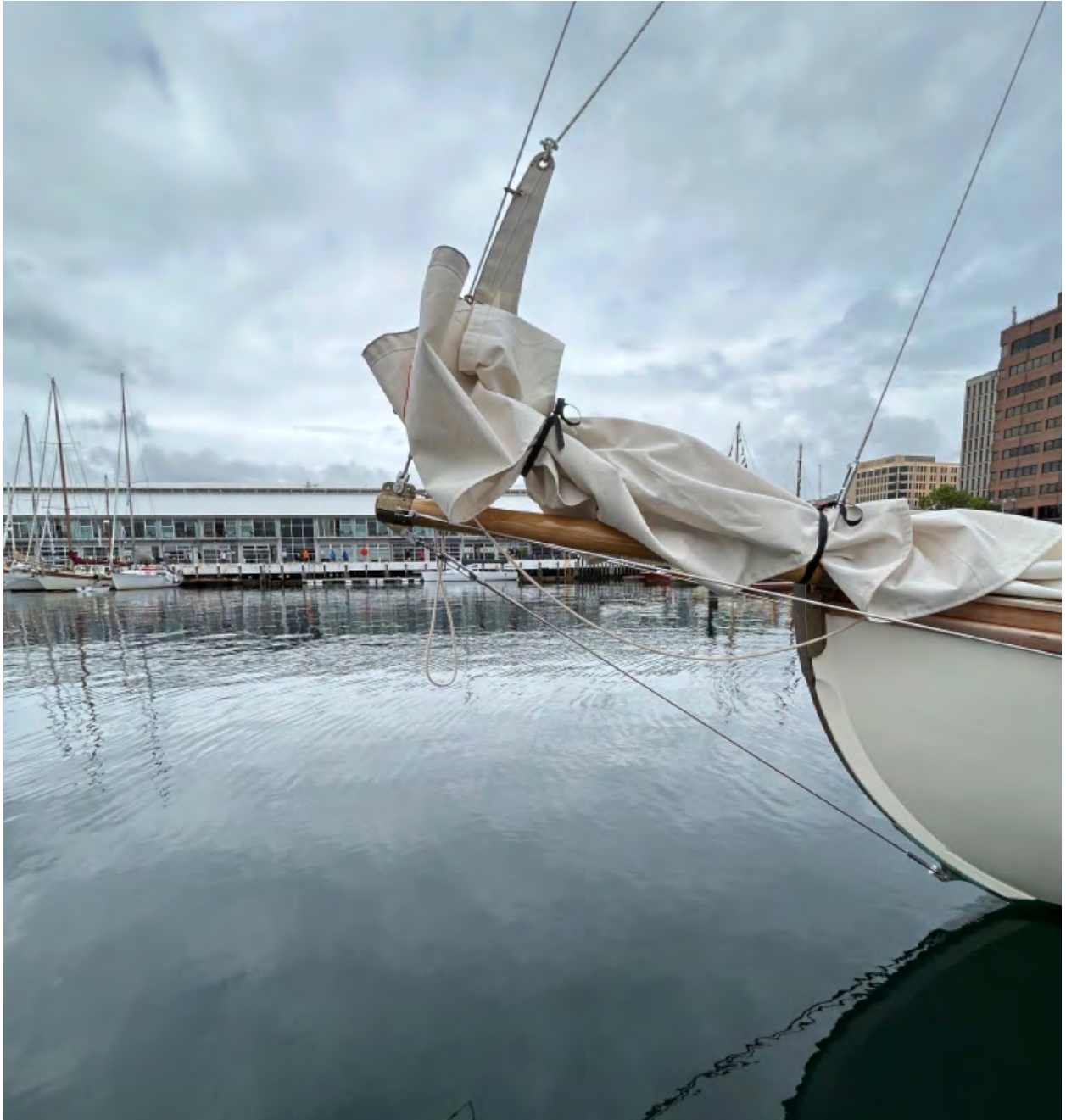
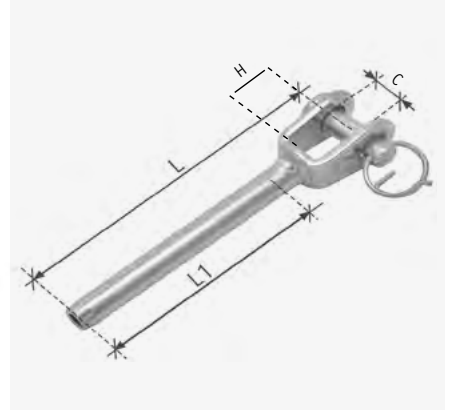
| PRODUCT CODE | SIZE (MM/INCH) | C (MM) | D (MM) | L (MM) | B.L. (KGS) |
|--------------|----------------|--------|--------|--------|------------|
| HM-6780-2202 | 2mm | 5.5 | 5.53 | 56 | 850 |
| HM-6780-2225 | 2.5mm | 5.5 | 5.53 | 56 | 850 |
| HM-6780-2203 | 3mm | 6.5 | 6.35 | 62 | 1,000 |
| HM-6780-2718 | 1/8" | 6.5 | 6.35 | 62 | 1,000 |
| HM-6780-2204 | 4mm | 8.5 | 7.54 | 77 | 1,350 |
| HM-6780-2731 | 3/16" | 10.5 | 9.12 | 87 | 2,500 |
| HM-6780-2205 | 5mm | 10.5 | 9.12 | 87 | 2,500 |
| HM-6780-2306 | 6mm | 13 | 12.54 | 107.5 | 4,500 |
| HM-6780-2714 | 1/4" | 13 | 12.54 | 107.5 | 4,500 |
| HM-6780-2208 | 8mm | 14.5 | 16.13 | 133 | 6,700 |



hamma® Industrial Swage Fork

SF7803

| PRODUCT CODE | SIZE (MM) | PIN (MM) | C (MM) | H (MM) | L (MM) | L1 (MM) | B.L. (KGS) |
|--------------|-----------|----------|--------|--------|--------|---------|------------|
| HM-6780-3418 | 3.2mm | 5 | 7 | 12.5 | 68 | 38 | 700 |
| HM-6780-3718 | 3.2mm | 6 | 8 | 12.5 | 68 | 38 | 1,250 |
| HM-6780-3904 | 4mm | 6 | 8 | 12.5 | 77 | 45 | 1,250 |
| HM-6780-3004 | 4mm | 11 | 8 | 15.5 | 77 | 45 | 1,800 |
| HM-6780-3006 | 6mm | 12 | 14 | 27.0 | 109 | 64 | 4,000 |
| HM-6780-3908 | 8mm | 12 | 14 | 28.0 | 148 | 80 | 4,000 |

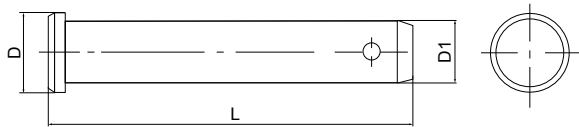


New hamma® Products

hamma® Regatta Long Clevis Pin

HM-LCLE

| ITEM | Ø D (MM) | Ø D1 (MM) | L (MM) | UNIT WEIGHT (KGS) |
|------------|----------|-----------|--------|-------------------|
| HM-LCLE-06 | 11.1 | 9.5 | 83 | 0.047 |
| HM-LCLE-07 | 12.7 | 11 | 83 | 0.063 |
| HM-LCLE-08 | 15.8 | 12.6 | 100 | 0.101 |
| HM-LCLE-10 | 19 | 15.8 | 100 | 0.156 |
| HM-LCLE-12 | 22.2 | 18.8 | 100 | 0.221 |



TECHNICAL DATA

Material: 316

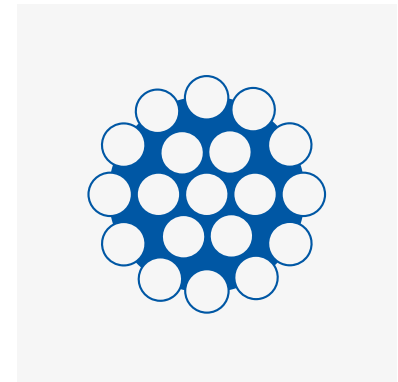
Surface treatment: Machine Finish

hamma[®] Stainless Steel Wire Rope

hamma[®] X Strand 1x19

Global leader in 1x19 wire rope

| 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 |
| 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 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:

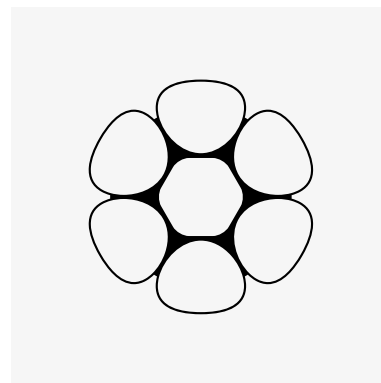
- Architectural
- Shade Structure's and Tensile Membranes
- Marine
- Yacht Rigging
- Offshore Oil & Gas
- Subsea Engineering
- Mining
- Glass Facade
- Cable Net Structures

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

hamma® 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.

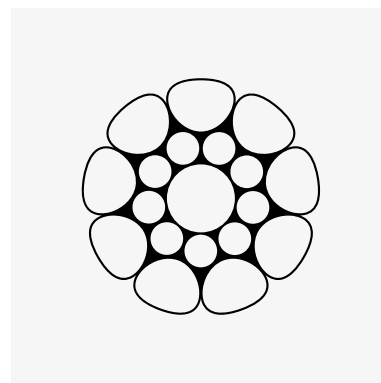
This process of strand compaction decreases the constructional stretch of the wire which also results in breaking loads approximately 30% higher than conventional strands.

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.

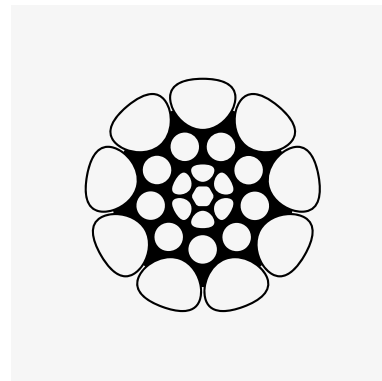
This process of strand compaction decreases the constructional stretch of the wire which also results in breaking loads approximately 30% higher than conventional strands.

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.

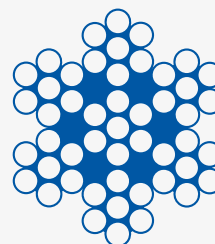


Arcus Wire Group won the 2022 ASSDA (Australian Stainless Steel Development Association) Fabricator Project of the Year Award for a hamma® Duplex 2205 Cable Assembly Project which was delivered for a Guiding System at a Hydroelectric Power Station in Israel. The same project was awarded an international Silver Award from World Stainless Association for Market Development in 2023.

hamma® X Strand 7x7

Global leader in 7x7 wire rope

| 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 |
| 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

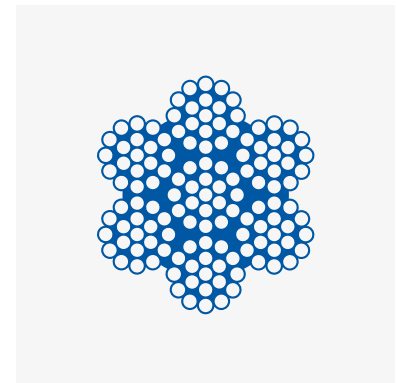
Wire lengths are available in the following Cut, 305m, 500m, 1000m and 3000m. Other lengths are available upon request.

hamma® X Strand 7x19

Global leader in 7x19 wire rope

| 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 |
| 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 |

See Rigging information on page 55



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® 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 |

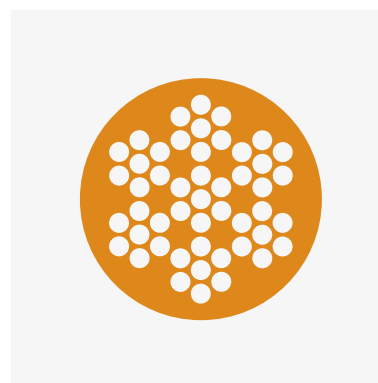
hamma® Coated 7x7 is a PVC coated wire which has the hamma® X Strand coated with UV stabilised PVC. The wire strand has the same workings of a 7x7 strand which is semi-flexible. It is available in many internal and external diameter combinations.

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

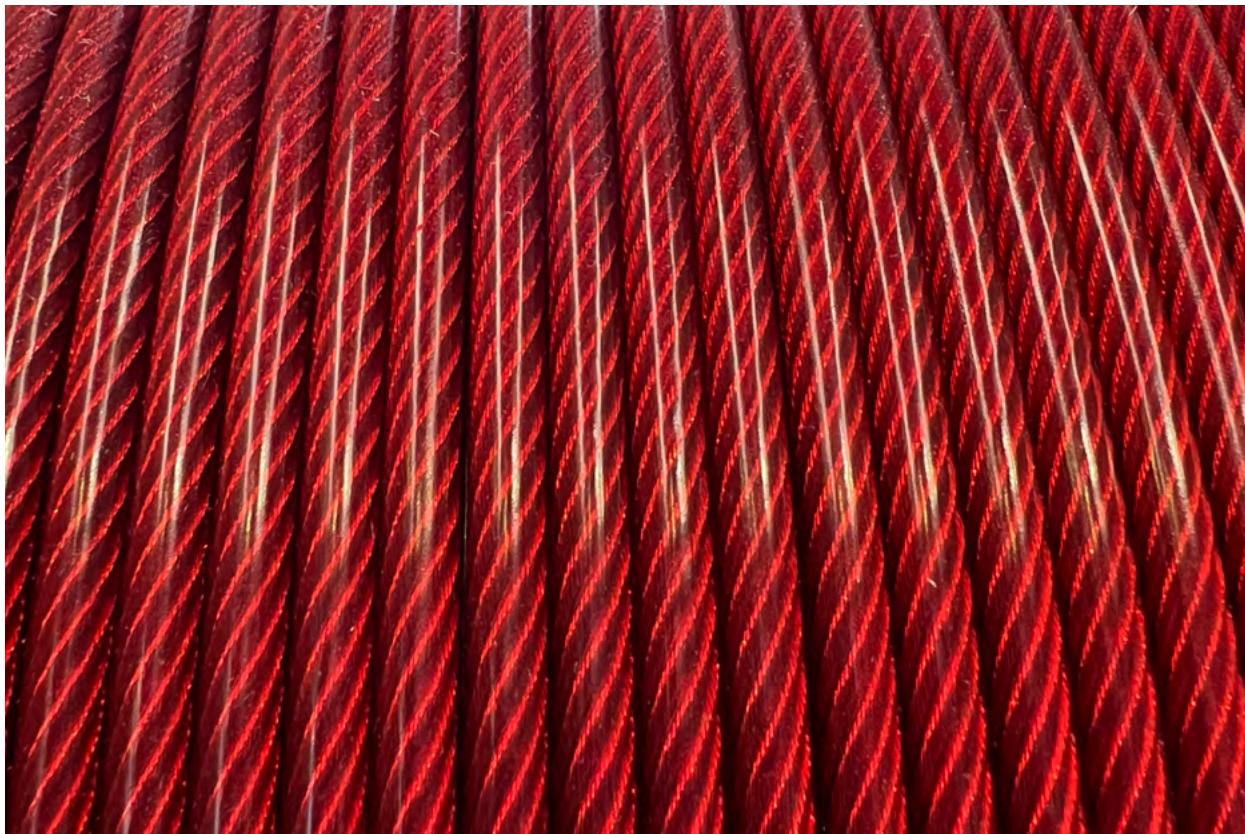
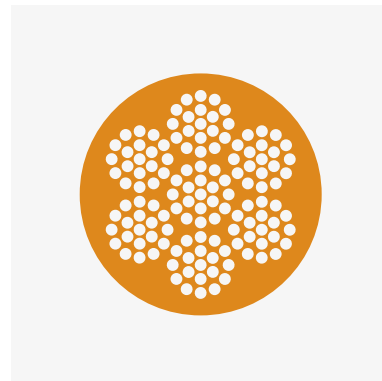
hamma® Coated 7x19 is coated hamma® X Strand Wire

| 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



Ferrules & Tools

Sahm Copper Ferrules

| Product Code | Fibre Core (Min-Max) | Steel Core (Min-Max) | Swage Die No. | Required Pressure kN | Weight (g) |
|--------------|----------------------|----------------------|---------------|----------------------|------------|
| C015 | 1.1mm - 1.5mm | 1.0mm - 1.1mm | 1.5 | 20 | 0.001 |
| C020 | 1.6mm - 2.0mm | 1.2mm - 1.6mm | 2 | 30 | 0.001 |
| C025 | 2.1mm - 2.6mm | 1.7mm - 2.1mm | 2.5 | 45 | 0.001 |
| C030 | 2.7mm - 3.1mm | 2.2mm - 2.6mm | 3 | 60 | 0.001 |
| C035 | 3.2mm - 3.6mm | 2.7mm - 3.1mm | 3.5 | 80 | 0.004 |
| C040 | 3.7mm - 4.1mm | 3.2mm - 3.6mm | 4 | 100 | 0.006 |
| C045 | 4.2mm - 4.6mm | 3.7mm - 4.2mm | 4.5 | 125 | 0.009 |
| C050 | 4.7mm - 5.1mm | 4.3mm - 4.6mm | 5 | 180 | 0.012 |
| C060 | 5.2mm - 6.1mm | 4.7mm - 5.5mm | 6 | 210 | 0.021 |
| C065 | 6.2mm - 6.6mm | 5.6mm - 6.0mm | 6.5 | 250 | 0.025 |
| C070 | 6.7mm - 7.2mm | 6.1mm - 6.5mm | 7 | 320 | 0.032 |
| C080 | 7.3mm - 8.2mm | 6.6mm - 7.2mm | 8 | 410 | 0.047 |
| C090 | 8.3mm - 9.2mm | 7.3mm - 8.0mm | 9 | 500 | 0.066 |



Sahm Stainless Steel Ferrules

| PRODUCT CODE | FIBRE CORE (MIN-MAX) | STEEL CORE (MIN-MAX) | SWAGE DIE NO. | REQUIRED PRESSURE KN | WEIGHT (G) |
|--------------|----------------------|----------------------|---------------|----------------------|------------|
| STS015 | 1.5mm - 1.6mm | 1.5mm - 1.6mm | 1.5 | 100 | 0.005 |
| STS020 | 2.0mm - 2.1mm | 2.0mm - 2.1mm | 2 | 160 | 0.005 |
| STS025 | 2.5mm - 2.6mm | 2.5mm - 2.6mm | 2.5 | 200 | 0.010 |
| STS030 | 3.0mm - 3.2mm | 3.0mm - 3.2mm | 3 | 250 | 0.020 |
| STS035 | 3.3mm - 3.7mm | 3.3mm - 3.7mm | 3.5 | 300 | 0.035 |
| STS040 | 4.0mm - 4.2mm | 4.0mm - 4.2mm | 4 | 350 | 0.050 |
| STS045 | 4.3mm - 4.7mm | 4.3mm - 4.7mm | 4.5 | 400 | 0.070 |
| STS050 | 5.0mm - 5.2mm | 5.0mm - 5.2mm | 5 | 500 | 0.100 |
| STS060 | 6.0mm - 6.3mm | 6.0mm - 6.3mm | 6 | 600 | 0.118 |
| STS070 | 7.0mm - 7.3mm | 7.0mm - 7.3mm | 7 | 700 | 0.129 |
| STS080 | 8.0mm - 8.3mm | 8.0mm - 8.3mm | 8 | 850 | 0.139 |



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 |



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

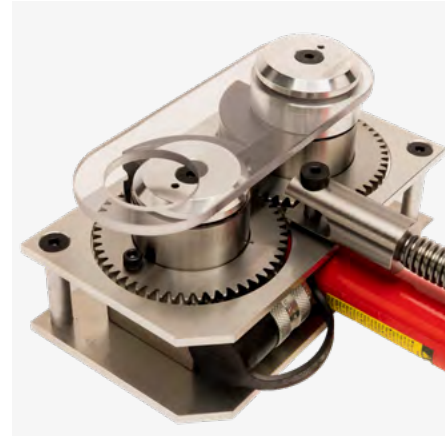
| PRODUCT CODE | MAX DIAMETER (MM) | WEIGHT (G) | LENGTH (MM) |
|--------------|-------------------|------------|-------------|
| FC112 | 12.7 | 3,600 | 730 |



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 |



Cyclops Marine Products

Load Sensors for Yachts and Dinghies

Founded In 2018, Cyclops Marine brings together sailing expertise and wireless load sensing technology into a range of products, all designed and manufactured in the UK.

Smarttune®

Swap your existing 'dumb' turnscrew into your best tuning and safety tool with the Cyclops smarttune®. Accurate load sensing and Bluetooth technology is housed in a low windage cover. Essential for forestays, the real time loads are an ideal indicator of both headsail shape and also the impact of backstay and mainsheet on the mainsail.

Further gains can be made utilizing the side stays for refined rig balance and achieving repeatable fast settings. With standard imperial thread sizes, the devices are simple to specify and quick to install. With the addition of a Cyclops gateway, the loads can be viewed on your boat electronics as well as your phone within minutes.

| Thread size | 1/4" | 5/16" | 7/16" | 1/2" | 5/8" | 3/4" | 7/8" | 1" |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Calibrated load | 500kg | 750kg | 1,900kg | 2,500kg | 3,800kg | 5,000kg | 8,000kg | 12,000kg |
| Weight | 180g | 180g | 390g | 390g | 620g | 1,500g | 1,530g | 1,900g |
| Dimensions | 55x112x18mm | 55x112x18mm | 60x170x26mm | 60x170x26mm | 65x230x31mm | 70.5x275x40mm | 70.5x275x40mm | 68x400x40mm |
| Power | Internal LiPo | Internal LiPo | AAA batteries | AAA batteries | AAA batteries | AAA batteries | AAA batteries | Internal LiPo |
| Battery life | 80 days | 80 days | 16 months | 16 months | 16 months | 16 months | 16 months | 100 days |
| On/off control | Yes | Yes | n/a | n/a | n/a | n/a | n/a | Yes |



Smartlink®

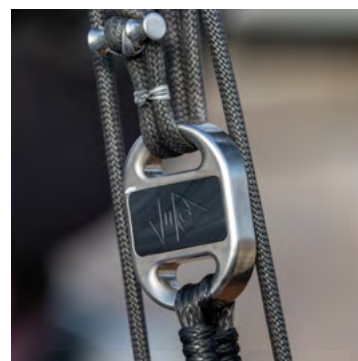
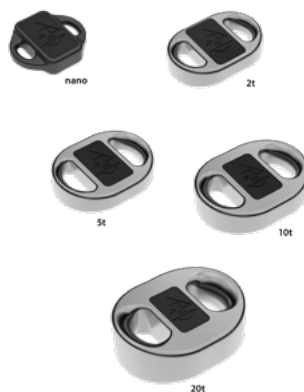
smartlink2® brings you the smallest, lightest and strongest range of wireless load sensors for running rigging. The new Mk2 version delivers better range, battery life, app experience and the ability to synchronise directly with leading boat electronics systems. Multiple sensors can relay directly to wireless displays or our app, or via a gateway to your boat displays. Manufactured from high performance titanium or aluminium, smartlink2® delivers real time load information for any performance or safety critical line. Find and repeat the fastest settings, enabling you to quantify adjustments as the wind speed and angle changes.

Accurately calibrated to give you repeatable settings, this is the preferred load measurement device for leading America's Cup Team American Magic, as well as several Olympic and IMOCA teams. Available in five sizes dependent on your load requirement, applicable from sheets to halyards, tack lines to backstays, vang to runners.

| Model | nano | 2t | 5t | 10t | 20t |
|------------------|------------|------------|------------|------------|-------------|
| Max working load | 600kg | 2,000kg | 5,000kg | 10,000kg | 20,000kg |
| dimensions | 64x55x17mm | 79x55x19mm | 83x66x22mm | 93x74x25mm | 107x88x39mm |
| Strop diameter | 4mm | 9mm | 10.7mm | 12.4mm | 15mm |
| Weight | 72g | 160g | 210g | 360g | 798g |



2t



smartlink® ee

The smartlink®ee range is designed for live pin to pin load sensing. Light, strong and robust, the new Mk2 version delivering even better range, longer battery life, improved app experience with simple wireless charging.

Manufactured from titanium, the range is designed for integration into standing rigging, ideally suited to 'Metre' boats and classic dayboats, delivering real time load information to enable precision and accurate rig set up to these traditional boats.

Find and repeat the fast settings, quantify adjustments as the wind speed and angle changes. Complete with logging feature for post race analysis. Multiple sensors can be viewed on either our app or your boat displays.

| Model | 2t ee | 5t ee | 10t ee |
|------------------|------------|-------------|-------------|
| Max working load | 2,000kg | 5,000kg | 10,000kg |
| Dimensions | 97x52x17mm | 120x66x19mm | 140x72x28mm |
| Pin diameter | 12mm | 19mm | 28.5mm |
| Weight | 160g | 390g | 710g |



smarttoggle®

smarttoggle® is the secret to flawless furling and optimal performance of non-structural furling sails. Precision load data from smarttoggle® allows you to find your fastest setting quickly and reliably for Code sails and reachers. The load share ratio between the sail luff and the furling cable is key to maximum performance. Leading sailmakers provide recommended sail and cable load settings for each sail. smarttoggle® gives the crew live loads, while the Cyclops Marine app and Gateway both log this data for review. This makes the learning process quick and easy, allowing the crew to hit and repeat the fastest settings every time. smarttoggle® also assists with ensuring the cable is at optimum load for most effective furling, ensuring you can safely reduce sail area when needed.

| Model | FE-02 | FE-03 |
|------------------|-------------|-------------|
| Max working load | 4.5t | 7t |
| Dimensions | 140x50x35mm | 160x55x50mm |
| Pin diameter | 12 | 16 |
| Mass | 230g | 530g |
| Accuracy range | ±45kg | ±70kg |



Digital Direct Pin – Custom Made

Digital direct pins are designed to replace existing pins, measuring loads in standing rigging such as forestays and shrouds. This gives sailors highly reliable data to optimise performance and avoid catastrophic rig overload.

Each pin is custom designed to your exact boat dimensions, unique to Cyclops is enclosing the digitisation of the load within the pin. This digital direct feature removes the need for additional amplifiers, simplifies install and ensures the factory calibration is maintained.

Load pins are supplied with custom made solutions to prevent pin rotation, this avoids misalignment and maximises accuracy.

KEY FEATURES

- Factory calibrated (no in-situ calibration required)
- No amplifiers required
- Custom designed
- Starting at 20mm diameter
- 17-4/PH stainless steel as standard (other materials available)
- Temperature compensated within -10° to +40°C range
- Rated IP68
- Digital output from pin connector
- NMEA2000, NMEA0183, RS485 output options
- Multiple anti-rotation options
- High accuracy calibration at ±1% of MWL
- Other outputs such as mV/V, 0-5V and 4-20mA available
- Barrelling option
- Calibration certificates available on request



smartbatten® – Nextgen Data Driven Sail Performance!

Despite advancements in sail technology, the traditional visual determination of batten compression settings often results in inaccuracies. In response, Cyclops Marine has developed a smart solution - smartbatten - placed between the batten and 'rocket' tightener, providing real-time compressive load data. This ensures sailing teams consistently achieve optimal settings.

KEY FEATURES

- Factory calibrated (no in-situ Ensures Optimal Sail Performance)
- Accurately monitors the load in the sail battens
- Helps sailors hit fast, repeatable settings more precisely
- Gives live compressive load data
- Can be re-charged in less than one hour



Wireless Pin – Custom Made

Cyclops Marine Wireless Load Pins take the performance of load pins into the future, enabling wireless installations, revolutionary in the sailing industry. Designed as drop-in replacements for existing pins in standing rigging, all electronic parts are contained within the sealed pin body, eliminating the risk of water ingress and allowing the simplest of installations. Wireless load pins open up the possibilities in load sensing technology as they are unrestricted by wired connections, providing opportunities to monitor loads in locations previously deemed impossible such as above furler installations. Ideally suited to a plug & play safety warning system for the fast growing multihull cruising market, easily integrating into B&G's new warning dial system.

KEY FEATURES

- First wireless load pin in sailing
- Wireless charging
- Available for above furler installations
- Custom made to your specification
- Plug and play into safety warning system
- Starting at 20mm diameter
- Custom designed
- 17-4/PH stainless steel as standard (other materials available)
- Temperature compensated within -10° to +40°C range
- Multiple anti-rotation options
- Barrelling option
- Calibration certificates available on request



Connectivity

PHONE APP

iOS and Android options, live, easy to read loads directly to your phone. Up to 16 sensors, intuitive logging function for post sailing analysis. 'Load Talk' feature to hear your loads through headphones. New feature to connect to sensor and ability to change sensor frequency.



ELECTRONICS DIRECT

Both Sailmon and Vakaros Atlas 2 deliver live loads directly to the display, essential for any dinghy or sportsboat sailor to optimise their sailing. The highly intuitive Sailmon App enables the direct load data to be analysed alongside other performance metrics to help super charge an improvement path.



GATEWAY CONNECTION

Enables sailors to see live loads in real time on to the boat displays. Compatible with all major electronic brands, plugging directly into your existing displays or processor, our Gateway installs below deck, receiving signals from sensors and converts them into useful second-by-second information at sailor's finger tips.



SeaRig

Ball Tang Swage

BTSM

| CODE | SIZE (FOR CABLE) | A (MM) | B (MM) | H (UNF) |
|--------|---------------------|-----------|-----------|------------|
| BTSM04 | 4 | 110 | 62 | 1/2 |
| BTSM05 | 5 | 110 | 52 | 1/2 |
| BTSM06 | 6 | 122 | 46 | 1/2 |
| BTSM07 | 7 | 132 | 50 | 1/2 |
| BTSM08 | 8 | 142 | 52 | 5/8 |
| BTSM09 | 9 | 169 | 52 | 5/8 |
| BTSM10 | 10 | 169 | 52 | 5/8 |
| BTSM11 | 11 | 200 | 59 | 3/4 |
| BTSM12 | 12 | 2235 | 74 | 7/8 |
| BTSM14 | 14 | 230 | 67 | 7/8 |
| BTSM16 | 16 | 281 | 69 | 1 |
| BTSM19 | 19 | 305 | 66 | 1 1/4 |



Internal Threaded Toggle

INTHT

| CODE | SUIT WIRE DIA | A (MM) | B (MM) | C (MM) | D (MM) | E (UNF) | F (MM) | H (UNF) | I (MM) | J (MM) |
|---------|---------------------|-----------|-----------|-----------|-----------|------------|-----------|------------|-----------|-----------|
| INTHT08 | 5,6,7 | 140 | 20 | 30 | 93 | 1/2 | 18 | 1/2 | 12.7 | 38 |
| INTHT10 | 8,9,10 | 175 | 26 | 50 | 113 | 5/8 | 22 | 5/8 | 16 | 45 |
| INTHT12 | 11 | 180 | 26 | 50 | 113 | 3/4 | 27 | 3/4 | 19 | 45 |
| INTHT14 | 12,14 | 205 | 32 | 55 | 127 | 7/8 | 31 | 7/8 | 22.2 | 55 |



Internal Threaded Eye

INTHE

| CODE | SUIT WIRE DIA | A (MM) | B (MM) | C (MM) | E (UNF) | F (MM) | G (MM) | H (UNF) | I (MM) | J (MM) |
|-----------|---------------|--------|--------|--------|---------|--------|--------|---------|--------|--------|
| INTHE08 | 5,6,7 | 90 | 14 | 22 | 1/2 | 18 | 27 | 1/2 | 12.7 | 38 |
| INTHE10 | 8,9,10 | 96 | 19 | 27 | 5/8 | 22 | 35 | 5/8 | 16 | 45 |
| INTHE12 | 11 | 110 | 22 | 29 | 3/4 | 27 | 41 | 3/4 | 19 | 45 |
| INTHE1412 | 12,14 | 120 | 26 | 31 | 3/4 | 31 | 45 | 7/8 | 19 | 45 |
| INTHE14 | 12,14 | 120 | 26 | 31 | 7/8 | 31 | 45 | 7/8 | 22.2 | 55 |



Aerial Insulators

AIB

| CODE | SUIT WIRE DIA | A (MM) | B (MM) | C (MM) | E (UNF) |
|-------|---------------|--------|--------|--------|---------|
| AIB08 | 5,6,7 | 38 | 165 | 207 | 1/2 |
| AIB10 | 8,10 | 48 | 198 | 265 | 5/8 |
| AIB12 | 11 | 50 | 229 | 289 | 3/4 |
| AIB14 | 12,14 | 54 | 240 | 315 | 7/8 |



Ball Tang Base

BTB

| CODE | SUIT WIRE DIA | A (MM) | B (MM) | C (MM) | D (MM) | E (MM) | F (MM) | G (MM) | H (UNF) | I (MM) | J (DEG) |
|-------|---------------|--------|--------|--------|--------|--------|--------|--------|---------|--------|---------|
| BTB08 | 5,6,7 | 98 | 83 | 30 | 19 | 4.8 | 22 | 32 | 1/2 | 5 | 32 |
| BTB10 | 8,9,10 | 99 | 87 | 37 | 20 | 6.4 | 28 | 40 | 5/8 | 5 | 36 |
| BTB12 | 11 | 150 | 135 | 42 | 28 | 5.3 | 35 | 45 | 7/8 | 6 | 42 |
| BTB14 | 12,14 | 145 | 120 | 46 | 26 | 6 | 42 | 55 | 7/8 | 6 | 42 |

| CODE | L (MM) | M (DEG) | N (MM) | O (MM) | BL (KGF) |
|-------|--------|---------|--------|--------|----------|
| BTB08 | 2.4 | 5 | 49 | 49 | 5120 |
| BTB10 | 4.2 | 5 | 49 | 49 | 9935 |
| BTB12 | 7 | 5 | 80 | 68 | 12591 |
| BTB14 | 14 | 5 | 73 | 72 | 20693 |



Conversions & Codes

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 |

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 |

FORCE AND TENSILE STRENGTH CONVERSIONS

| | | | | | |
|-------|---|---------------------|------|---|--------------------|
| 1 kg | = | 9.81N | 1 N | = | 9.81N |
| 1 Mpa | = | 1 N/mm ² | 1 Pa | = | 1 N/m ² |

FORCE AND TENSILE STRENGTH CONVERSIONS

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

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 linished 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

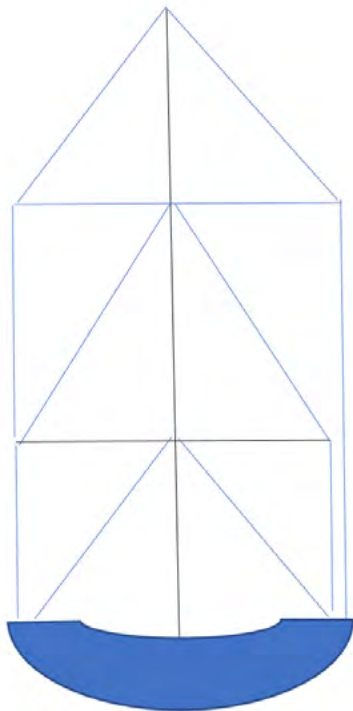
Cement and mortar splashes should be washed off immediately before they set. Scales from hard water and dried mortar can be removed chemically but not using chemicals that contain hydrochloric acid. Hot 25% acetic acid (vinegar) or warm 10% phosphoric acids are very effective. Following the acid wash,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



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.



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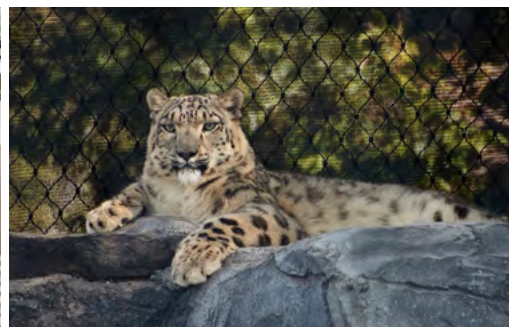
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David Sheedy, CEO

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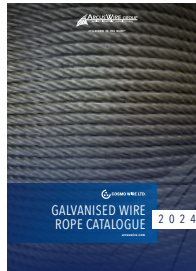
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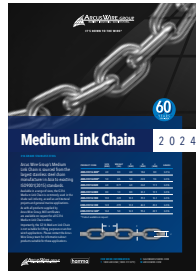
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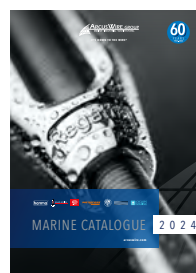
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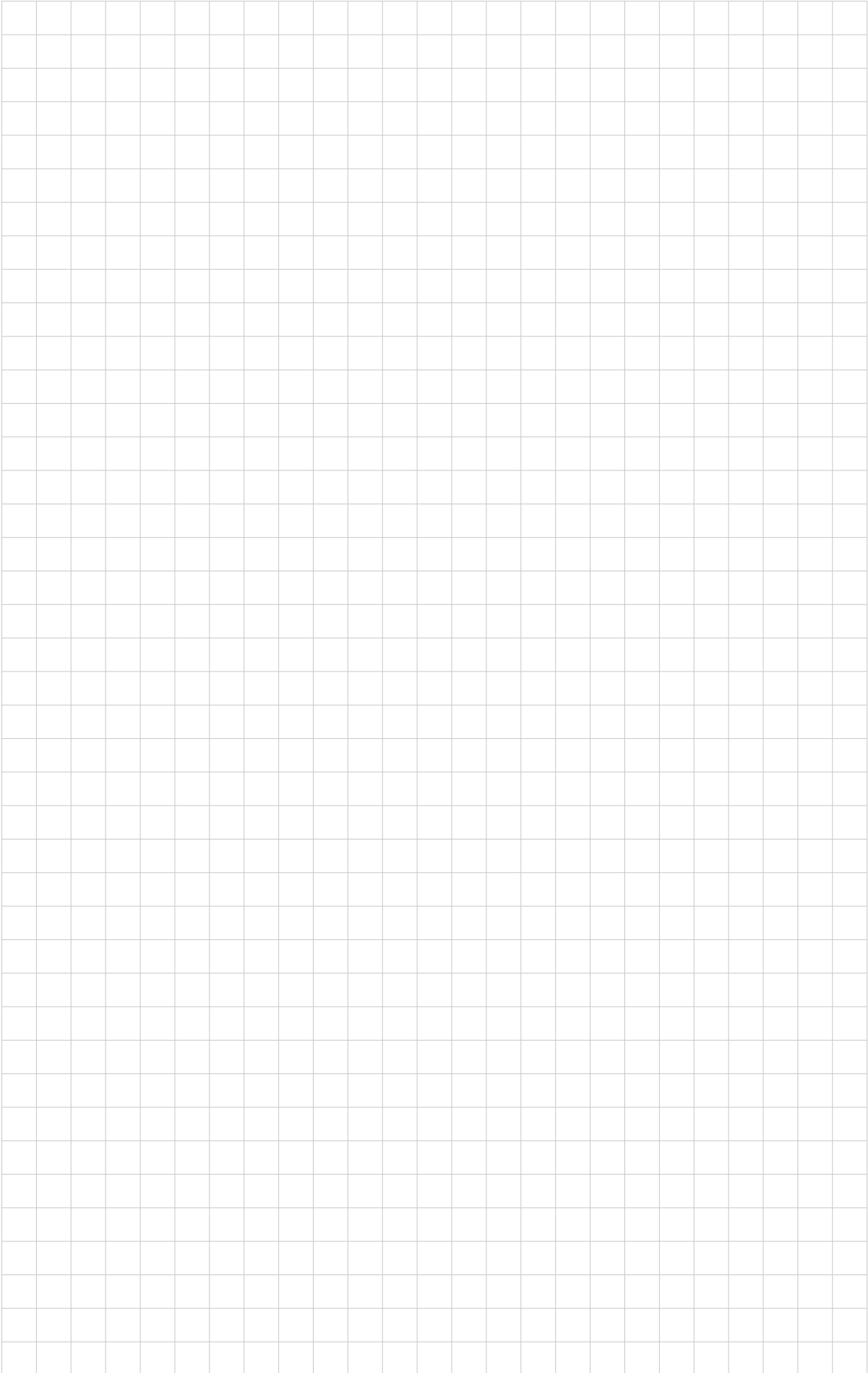


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Main Image: Port Campbell Pedestrian Bridge
Client: Parks Victoria

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