



GREEN PIN® AQUACULTURE RANGE



WHAT IS BELOW SURFACE **MUST BE ABOVE STANDARD**





GREEN PIN® AQUACULTURE RANGE

Your fish farming cages need to stay secure. What goes down must stay down. You must challenge the laws of nature. The same nature that you invest in and brings prosperity. That nature can be rough and ruthless under extreme marine conditions. Hence, your underwater cages need shackles and chains that are below surface, but above standard. Your cages need to be secured reliably for longer periods of time to safeguard your investments. That is why we humbly believe that our Green Pin® Aquaculture range should be the centrepiece of your rigging.

We create high-end lashing and lifting equipment since 1922. A wide range of 100% failsafe products and with a stock availability of 99%. Providing security and safety has always been our highest priority. Let Green Pin® to be the centrepiece of your mooring system.

TOP PERFORMANCE UNDER EXTREME MARINE CONDITIONS

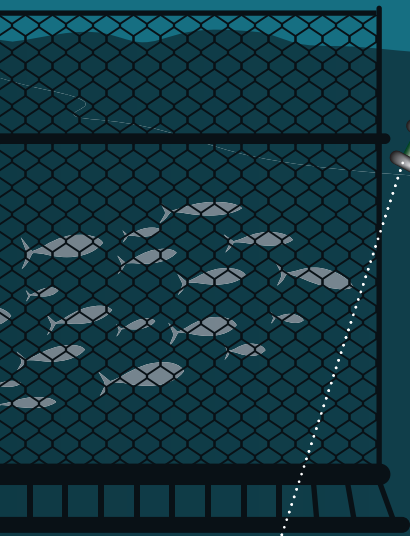




When taking great risks, great responsibility is required. Especially when considering people, products and profits at the same time. Taking that responsibility is key to Green Pin®. We want to reassure our customers by always providing products of the highest quality, as we have done for over a hundred years. We believe that our quality is more important than any stock price. That is exactly why we think that in the aquaculture business our fatigue-rating of twice the minimum requirement is well above standard.

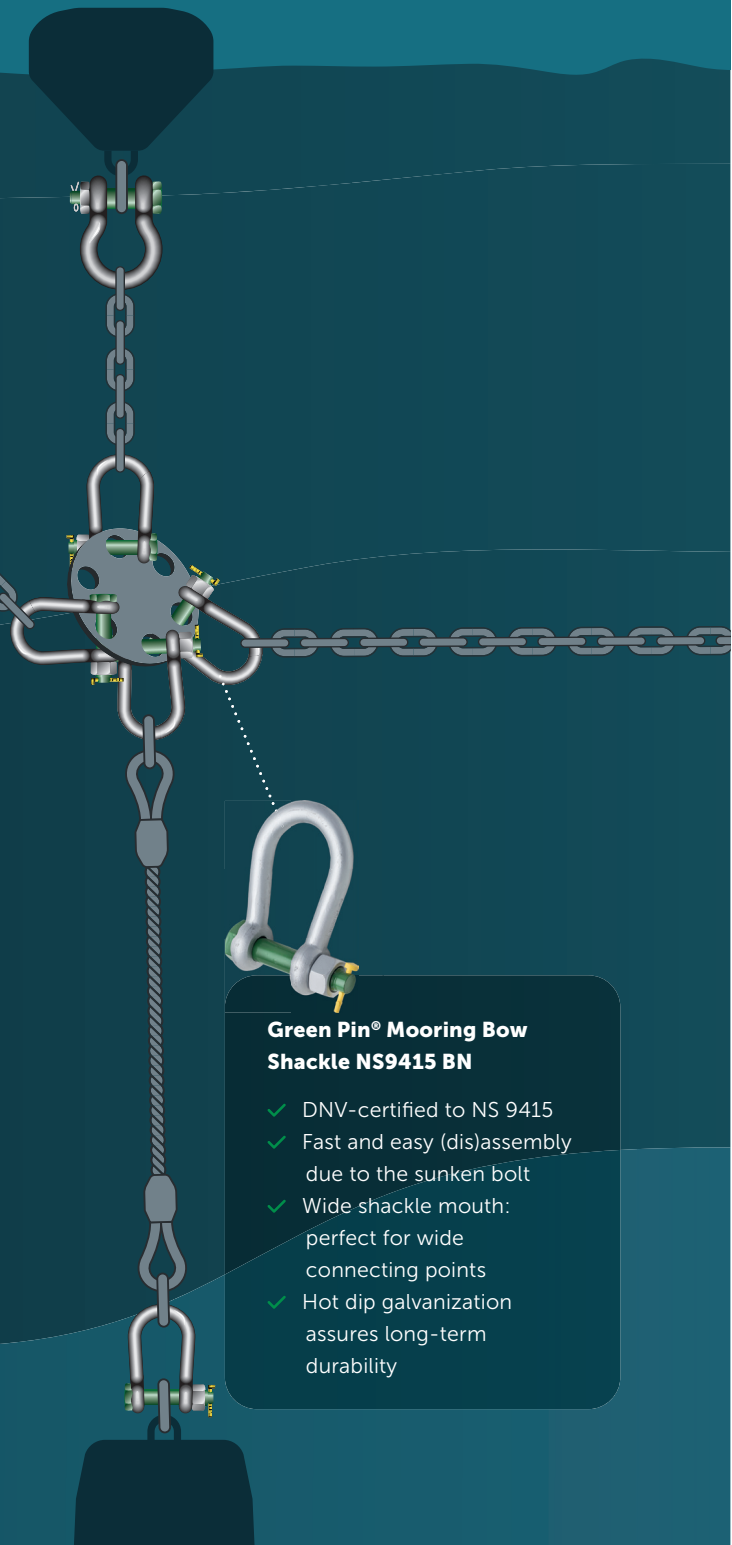
That is why all our products are completely hot dipped galvanized. That is why all our products have smoother surfaces to prevent damage on counter components. And that is why we offer our industry-leading safety factor of 7 x WLL only for the spearhead products in our portfolio. Where, of course, NS 9415 is just the minimum standard for our entire range. That is the Green Pin® standard: what is below surface, must be above standard.

PRODUCT FEATURES



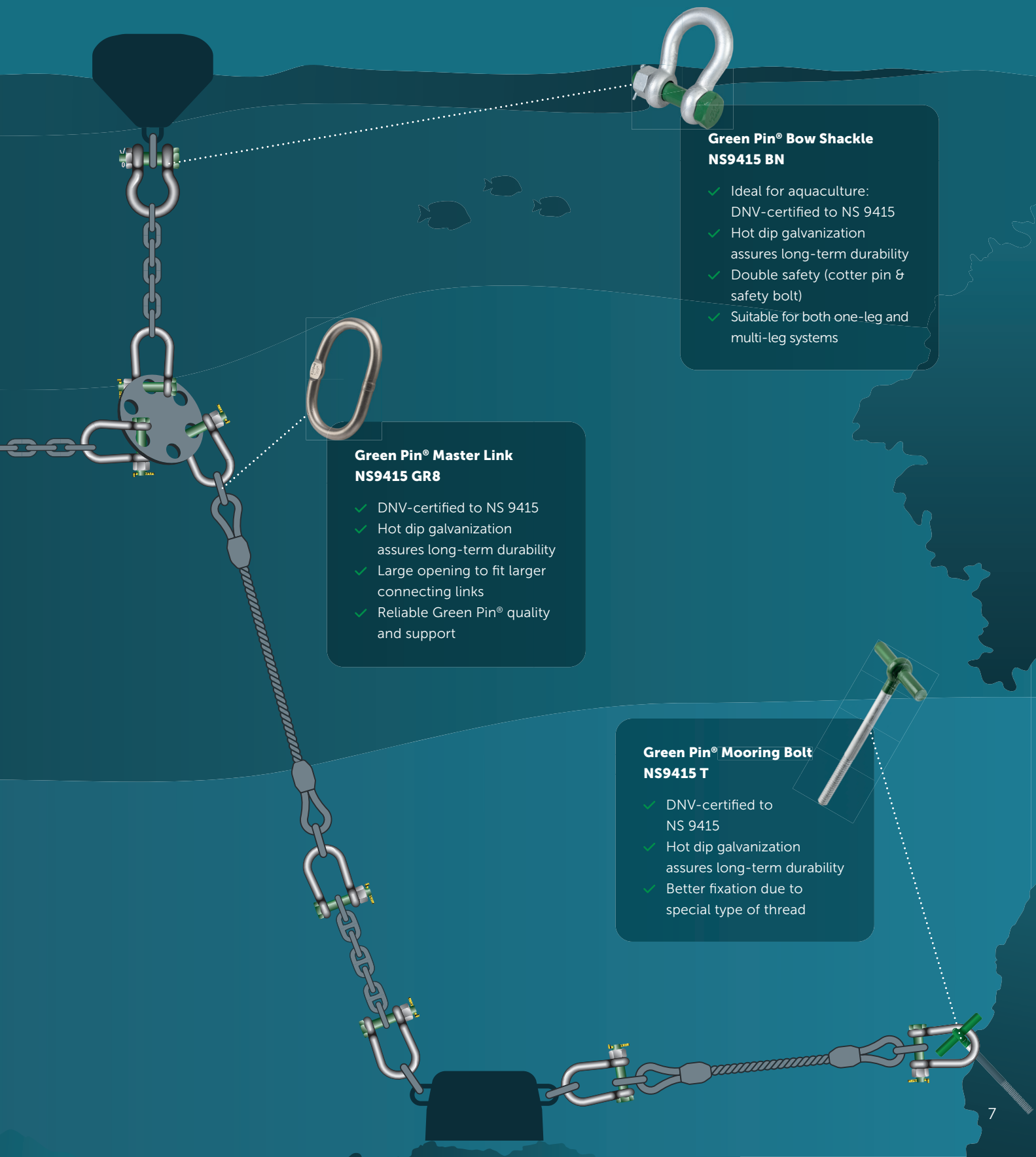
Green Pin® Dee Shackle NS9415 FP

- ✓ Double safety according to NS 9415
- ✓ Industry-leading safety factor of 7 x WLL
- ✓ Superior mooring security: 40.000 cycle fatigue rating
- ✓ Hot dip galvanization assures long-term durability
- ✓ Fast and easy (dis)assembly



Green Pin® Mooring Bow Shackle NS9415 BN

- ✓ DNV-certified to NS 9415
- ✓ Fast and easy (dis)assembly due to the sunken bolt
- ✓ Wide shackle mouth: perfect for wide connecting points
- ✓ Hot dip galvanization assures long-term durability



**Green Pin® Bow Shackle
NS9415 BN**

- ✓ Ideal for aquaculture:
DNV-certified to NS 9415
- ✓ Hot dip galvanization
assures long-term durability
- ✓ Double safety (cotter pin &
safety bolt)
- ✓ Suitable for both one-leg and
multi-leg systems

**Green Pin® Master Link
NS9415 GR8**

- ✓ DNV-certified to NS 9415
- ✓ Hot dip galvanization
assures long-term durability
- ✓ Large opening to fit larger
connecting links
- ✓ Reliable Green Pin® quality
and support

**Green Pin® Mooring Bolt
NS9415 T**

- ✓ DNV-certified to
NS 9415
- ✓ Hot dip galvanization
assures long-term durability
- ✓ Better fixation due to
special type of thread

SHACKLES

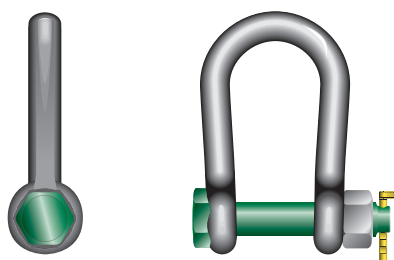
GREEN PIN® MOORING BOW SHACKLE NS9415 BN

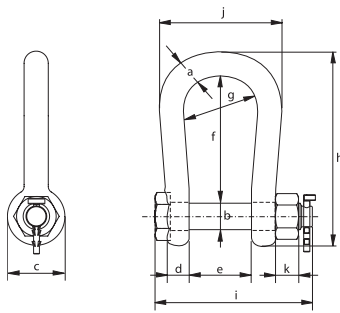


Grade 8 mooring bow shackle with safety bolt and sunken bolt head

The Green Pin® Mooring Bow Shackle NS 9415 BN is a bow shackle with a safety bolt and a sunken bolt head that has been designed for mooring applications. The shackle offers a double safety (safety bolt and synthetic cotter pin) which prevents accidental unscrewing of the pin. The sunken bolt prevents rotation of the bolt, making it much easier to assemble. It also minimizes possible damage to nets or mooring lines. The wider shackle mouth enables you to connect the shackle to a mooring or connecting plate which is wider than usual. The shackle offers best-in-class quality, guaranteeing absolute security for your mooring system. The hot dipped galvanization ensures long-term durability even under severe environmental conditions, as required by the NS 9415 standard and in compliance with NYTEK23-regulation (as certified by DNV). The Mooring Bow Shackle NS9415 BN is suitable for both one-leg and multi-leg systems and is available in a range of minimum breaking load from 30 up to 150 t.

| | |
|----------------------|--|
| Productcode | G-4863 |
| Material | bow and pin alloy steel, grade 8, quenched and tempered |
| Finish | hot dipped galvanized |
| Temp. range | -20 °C up to +200 °C (-4 °F up to +392 °F) |
| Certification | 2.1 2.2 3.1 MTC ^a CE IIA DNV NS 9415 |
| Standard | NYTEK23 regulation and NS 9415 |
| Note | the synthetic cotter pin is available for sizes WLL 4.75 t up to 12 t and must be ordered separately |





| minimum breaking load | diameter bow | diameter pin | diameter eye | width eye | width inside | length inside | width bow | length | length bolt | width | thickness nut | weight each |
|-----------------------------|-----------------|-----------------|-----------------|--------------|-----------------|------------------|--------------|---------|----------------|---------|------------------|----------------|
| t | a mm | b mm | c mm | d mm | e mm | f mm | g mm | h mm | i mm | j mm | k mm | kg |
| 30 | 19 | 22 | 48 | 19 | 44 | 100 | 58 | 154 | 125 | 96 | 19 | 1.34 |
| 40 | 22 | 25 | 54 | 22 | 52 | 125 | 68 | 187 | 142 | 112 | 22 | 2.08 |
| 60 | 28 | 32 | 66 | 28 | 62 | 150 | 89 | 227 | 178 | 145 | 27 | 4.07 |
| 90 | 32 | 35 | 76 | 32 | 82 | 170 | 98 | 258 | 207 | 162 | 30 | 5.95 |
| 110 | 42 | 45 | 90 | 42 | 112 | 200 | 150 | 310 | 261 | 234 | 25 | 14.7 |
| 150 | 45 | 50 | 105 | 45 | 125 | 225 | 175 | 348 | 288 | 265 | 23 | 16.7 |

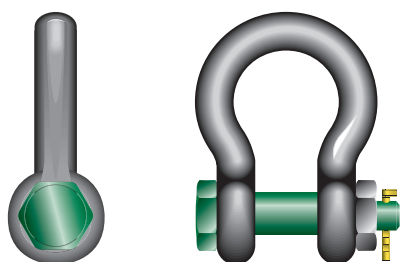
SHACKLES

GREEN PIN® BOW SHACKLE NS9415 BN

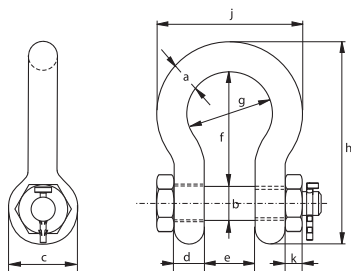


Standard bow shackle with safety bolt according to NS 9415

The Green Pin® Bow Shackle BN is a bow shackle with a safety bolt. The shackle offers a double safety (split pin and safety bolt) which prevents accidental unscrewing of the pin. The shackle's hot dipped galvanization ensures long-term durability as required by the NS 9415 standard, in compliance with NYTEK23 regulation. The Green Pin® Bow Shackle BN is suitable for both one-leg and multi-leg systems and is available in a range with a working load limit from 2 up to 25 t.



| | |
|----------------------|---|
| Productcode | G-4163BG |
| Material | bow and pin high tensile steel, grade 6, quenched and tempered |
| Safety factor | MBL equals 6 x WLL |
| Finish | hot dipped galvanized |
| Temp. range | -40 °C up to +200 °C (-40 °F up to +392 °F) |
| Certification | 2.1 2.2 3.1 MTC ^a CE IIA DNV NS 9415 |
| Standard | NYTEK23 regulation and DNV NS 9415, EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271, Type IVA, Class 3, Grade A. From 2 t and upward these shackles comply with ASME B30.26 |
| Note | the synthetic cotter pin is available for sizes WLL 4.75 t up to 12 t and must be ordered separately |



| working load limit | diameter bow | diameter pin | diameter eye | width eye | width inside | length inside | width bow | length | length bolt | width | thickness nut | weight each |
|--------------------------|-----------------|-----------------|-----------------|--------------|-----------------|------------------|--------------|---------|----------------|---------|------------------|----------------|
| t | a mm | b mm | c mm | d mm | e mm | f mm | g mm | h mm | i mm | j mm | k mm | kg |
| 0.5 | 7 | 8 | 16 | 7 | 12 | 29 | 20 | 48 | 42 | 34 | 4 | 0.06 |
| 0.75 | 9 | 10 | 20 | 9 | 13.5 | 32 | 22 | 56 | 50 | 40 | 5 | 0.11 |
| 1 | 10 | 11 | 23 | 10 | 17 | 37 | 26 | 64 | 60 | 46 | 8 | 0.16 |
| 1.5 | 11 | 13 | 25 | 11 | 19 | 43 | 29 | 73 | 67 | 51 | 11 | 0.22 |
| 2 | 13.5 | 16 | 34 | 13 | 22 | 51 | 32 | 90 | 80 | 59 | 13 | 0.42 |
| 3.25 | 16 | 19 | 40 | 16 | 27 | 64 | 43 | 110 | 98 | 75 | 17 | 0.74 |
| 4.75 | 19 | 22 | 46 | 19 | 31 | 76 | 51 | 129 | 115 | 89 | 19 | 1.18 |
| 6.5 | 22 | 25 | 52 | 22 | 36 | 83 | 58 | 144 | 130 | 102 | 22 | 1.77 |
| 8.5 | 25 | 28 | 59 | 25 | 43 | 95 | 68 | 164 | 150 | 118 | 25 | 2.58 |
| 9.5 | 28 | 32 | 67 | 28 | 47 | 108 | 75 | 186 | 166 | 131 | 27 | 3.66 |
| 12 | 32 | 35 | 73 | 32 | 51 | 115 | 83 | 201 | 184 | 147 | 30 | 4.91 |
| 13.5 | 35 | 38 | 79 | 35 | 57 | 133 | 92 | 227 | 197 | 162 | 33 | 6.54 |
| 17 | 38 | 42 | 88 | 38 | 60 | 146 | 99 | 249 | 202 | 175 | 19 | 8.19 |
| 25 | 45 | 50 | 104 | 45 | 74 | 178 | 126 | 300 | 243 | 216 | 23 | 14 |
| 35 | 50 | 57 | 112 | 50 | 83 | 197 | 138 | 332 | 269 | 238 | 26 | 18.8 |
| 42.5 | 57 | 65 | 132 | 57 | 95 | 222 | 160 | 378 | 301 | 274 | 29 | 28.3 |
| 55 | 65 | 70 | 145 | 65 | 105 | 260 | 180 | 433 | 329 | 310 | 32 | 39.6 |
| 85 | 75 | 83 | 167 | 75 | 127 | 330 | 190 | 530 | 381 | 340 | 39 | 62 |

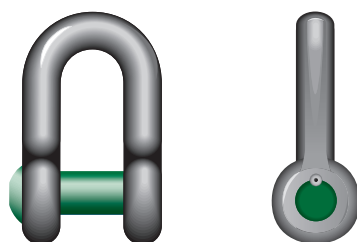
SHACKLES

GREEN PIN® DEE SHACKLE NS9415 FP

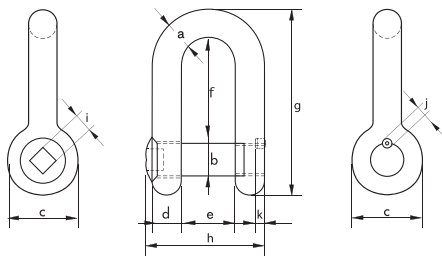


Dee shackle with square sunken hole screw pin (flush) and double safety plug

The Green Pin® Dee Shackle NS9415 FP is a dee shackle with a square sunken hole screw pin (flush pin) which provides best-in-class quality, guaranteeing absolute security for your mooring system. The Green Pin® Dee Shackle NS9415 FP is an exemplary shackle in this product line. Its square, sunken hole screw pin combined with a safety plug makes it a double safety product that is easy to assemble and disassemble with the Green Pin® Sunken Hole Key. The shackle's hot dipped galvanization ensures long-term durability as required by the NS 9415 standard. Testifying to its superior record when it comes to mooring safety, the 40.000 cycle fatigue rating is twice that required by NS 9415 and unparalleled in the market. What is more, the safety factor leads the industry with an MBL of seven times the WLL. The Dee Shackle NS9415 FP is certified by DNV on compliancy with NYTEK23 regulation and NS 9415. It is suitable for one-leg mooring systems only, and is available in a range of working load limits from 2 up to 8.5 t.



| | |
|----------------------|---|
| Productcode | G-4139 |
| Material | bow and pin high tensile steel, grade 6, quenched and tempered |
| Safety factor | MBL equals 7 x WLL |
| Finish | hot dipped galvanized |
| Temp. range | -40 °C up to +200 °C (-40 °F up to +392 °F) |
| Certification | 2.1 2.2 3.1 MTC ^a CE IIA DNV NS 9415 |
| Standard | NYTEK23 regulation and NS 9415, ISO 2415, EN 13889, ASME B30.26 |
| Note | key for unscrewing the pin (E-4170) and additional plugs (GPPLUG) must be ordered separately |



| working load limit | diameter bow | diameter pin | diameter eye | width eye | width inside | length inside | length | length bolt | size square hole | diameter plug hole | depth plug hole | weight each |
|--------------------------|-----------------|-----------------|-----------------|--------------|-----------------|------------------|---------|----------------|------------------------|--------------------------|-----------------------|----------------|
| t | a mm | b mm | c mm | d mm | e mm | f mm | g mm | h mm | i mm | j mm | k mm | kg |
| 2 | 13.5 | 16 | 34 | 13 | 22 | 43 | 81 | 51 | 11 | 8 | 8 | 0.29 |
| 3.25 | 16 | 19 | 40 | 16 | 27 | 51 | 97 | 63 | 11 | 8 | 8 | 0.60 |
| 4.75 | 19 | 22 | 46 | 19 | 31 | 59 | 112 | 74 | 11 | 8 | 8 | 0.98 |
| 6.5 | 22 | 25 | 52 | 22 | 36 | 73 | 134 | 85 | 13 | 8 | 8 | 1.26 |
| 8.5 | 25 | 28 | 59 | 25 | 43 | 85 | 154 | 99 | 13 | 8 | 8 | 2.14 |

MOORING BOLTS

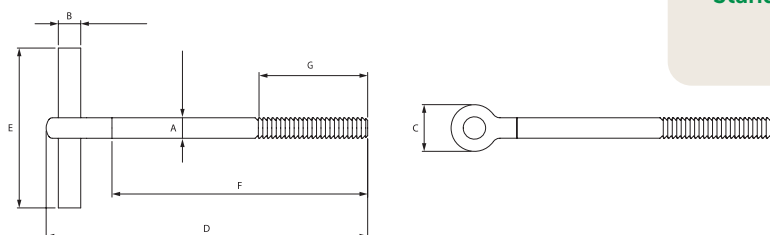
GREEN PIN® MOORING BOLT NS9415 T

Scan for
additional
product
details



Mooring bolt with T-shaped end-fitting

The Green Pin® Mooring Bolt NS9415 T is a grade 8 mooring bolt with a T-shaped end fitting that provides best-in-class quality, guaranteeing absolute security for your mooring system. The mooring bolt's hot dipped galvanization ensures long-term durability as required by the NS 9415 standard. The mounting depth is indicated by the green colour, which makes the installation of the product much easier and the special type of thread will result in a better fixation of the bolt. What's more, the mooring bolt NS9415 is certified by DNV in compliance with NYTEK23 regulation and NS 9415. It is available in a range of minimum breaking load from 40 up to 170 t.



| | |
|----------------------|--|
| Productcode | G-8310 |
| Material | high tensile steel, grade 8, quenched and tempered |
| Finish | hot dipped galvanized |
| Temp. range | -20 °C up to +200 °C (-4 °F up to +392 °F) |
| Certification | 2.1 2.2 3.1 MTC ^a CE IIA DNV NS 9415 |
| Standard | NYTEK23 regulation and NS 9415 |

| minimum breaking load | diameter bolt | diameter crossing bar | diameter eye | length | width | mounting depth | length mounting thread | weight each |
|-----------------------|---------------|-----------------------|--------------|--------|-------|----------------|------------------------|-------------|
| t | a mm | b mm | c mm | d mm | e mm | f mm | g mm | kg |
| 40 | 32 | 35 | 73 | 503 | 250 | 400 | 170 | 5.16 |
| 60 | 38 | 42 | 88 | 628 | 300 | 500 | 210 | 9.06 |
| 80 | 45 | 50 | 104 | 744 | 400 | 600 | 300 | 15.6 |
| 100 | 50 | 57 | 112 | 774 | 400 | 600 | 300 | 20 |
| 130 | 57 | 57 | 119 | 779 | 400 | 600 | 300 | 23.7 |
| 170 | 65 | 57 | 140 | 900 | 400 | 700 | 350 | 32.8 |

GREEN PIN® MASTER LINK NS9415 GR8

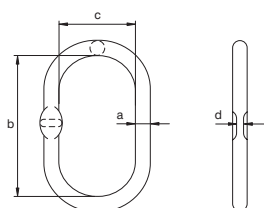


Grade 8 master link according to NS 9415

The Green Pin® Master Link NS 9415 GR8, is a grade 8 master link. The Master Link is certified according to DNV NS 9415 and has a large opening to accommodate larger connecting links. The hot dipped galvanization ensures long-term durability even under severe environmental conditions, as required by the NS 9415 standard. This master link is designed for a one- or two-leg sling. The master links are available in a range with a minimum breaking load from 40 to 110 t.



| | |
|----------------------|--|
| Productcode | G-6870 |
| Material | alloy steel, grade 8 |
| Finish | hot dipped galvanized |
| Temp. range | -40 °C up to +200 °C (-40 °F up to +392 °F) |
| Certification | 2.1 2.2 3.1 MTC ^b MPI ^a |
| Standard | NYTEK23 regulation and NS 9415, EN 1677-4 |



| minimum breaking load | diameter | length inside | width inside | thickness | weight each |
|-----------------------------|----------|------------------|-----------------|-----------|----------------|
| t | a mm | b mm | c mm | d mm | kg |
| 32.8 | 22 | 170 | 90 | 12 | 1.60 |
| 51.5 | 28 | 209 | 113.5 | 18 | 3.20 |
| 68.3 | 32 | 270 | 140 | 18 | 5.30 |
| 112.4 | 38 | 270 | 140 | 28 | 7.80 |

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