



SHACKLES POCKET PILOT

INSTRUCTIONS FOR USE & INSPECTION

*Disclaimer: This Pocket Pilot serves as a simplified reference. Before using a Green Pin® product, always consult the full usage instructions as described in the Green Pin® catalogue.

QUESTIONS?

- **Where to buy?**
- **Want a hard copy catalogue?**
- **Technical questions?**
- **Sign up to the newsletter?**

Check out greenpin.com
or e-mail info@greenpin.com



INSTRUCTIONS FOR USE

PRODUCT SELECTION

- Select correct size (WLL) of shackle for the job (no overloads)
- Shackles with no markings for WLL, brand or traceability are **NOT** for lifting applications
- **Two shackle models:**
 - Dee Shackle > one-leg systems
 - Bow Shackle > one & multi-leg systems
- 100% of original Working Load Limit can be applied when lifting in temperatures up to 200 °C / 392 °F



INSPECTION

REMOVE SHACKLES FROM SERVICE IF (2/2)

- ❌ Shackle is not free from nicks, gouges, cracks and corrosion
- ❌ Shackle is heat treated
- ❌ Shackle is modified, repaired or reshaped
- ❌ Before the next periodical inspection any of the above will not be passed
- ❌ If you reject a shackle; make it unusable (cut it in two).



INSTRUCTIONS FOR USE

PRODUCT SELECTION

- Depending on the duration of use, select a:
 - screw pin for non-permanent use
 - safety bolt for long-term, permanent use or when there is a risk of pin-rotation
 - fixed nut for permanent use, when the load is dynamic or the shackle is exposed to extreme vibrations
- For exceptional situations (temperatures > 200 °C / 392 °F, chemicals, lifting of persons), please refer to the usage instructions in the Green Pin® catalogue and consult a competent engineer



Fixed Nut



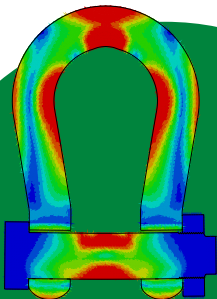
**INSTRUCTION VIDEO
FIXED NUT SHACKLE**

INSPECTION

REMOVE SHACKLES FROM SERVICE IF (1/2)

- ✗ Markings are not legible
- ✗ Body & Pin are not identifiable as same size, type or make
- ✗ Threads are damaged
- ✗ Split cotter pin is not present (for safety bolts)
- ✗ Shackle is distorted or unduly worn (Maximum wear is 10% of the original diameter)

...continue on next page



Stress distribution in a shackle.
Have a special focus on the red
areas during inspection

INSTRUCTIONS FOR USE

ASSEMBLY (1/2)

- Ensure correct installation of nut, flush against shackle eye
- No need to use a torque wrench
- Ensure correct installation of cotter pin

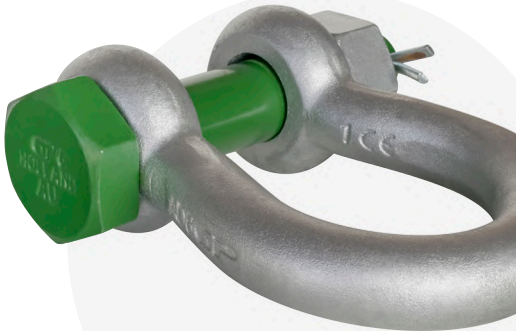


INSPECTION

SHACKLE MARKINGS

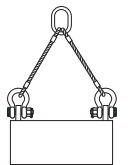
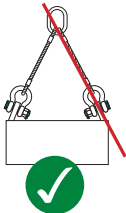
How to recognize a genuine Green Pin® product?

- ✓ Marking in the shackle body and pin
- ✓ Steel grade (for example 6)
- ✓ CE conformity code
- ✓ Diameter bow (inch)
- ✓ Green Pin® logo (GP)
- ✓ Holland marking
- ✓ Working Load Limit (WLL)
- ✓ Traceability code (Letters)
- ✓ Green powder coated pin

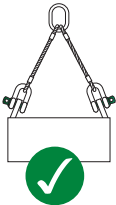
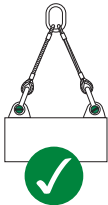


INSTRUCTIONS FOR USE

ASSEMBLY (2/2)



Only with
reduced WLL



Only with
reduced WLL

**Shackle should
support load
correctly:**

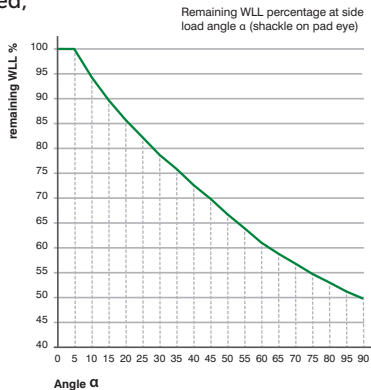
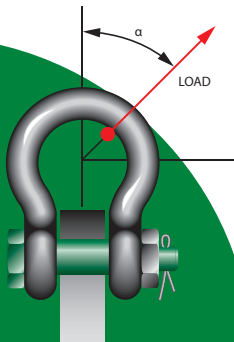
- Along axis of shackle body centerline (see red line)
- Avoid bending loads and/or unstable loads



INSTRUCTIONS FOR USE

SIDE LOADS

If side loads cannot be avoided;
use reduction factors*



*table applies only to Standard, Polar and Super Shackles

INSPECTION RULES

- Products can deform or their material structures can change due to wear, misuse, overloading etc.
- Shackles should be inspected at least every six months. More frequent when used in severe operating conditions
- Inspect in accordance with local safety standards



INSTRUCTIONS FOR USE

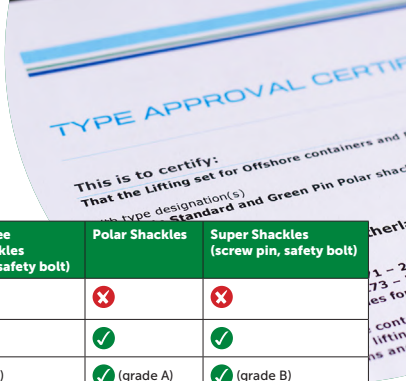
ADDING OWN MARKINGS

- Markings are to be made with low stress stamps (dot peen or those with rounded profiles)
- No extra markings on pin allowed, just on the pin head
- Before adding markings, read the full instructions in the FAQ on greenpin.com



CERTIFICATION

STANDARDS & TYPE APPROVALS

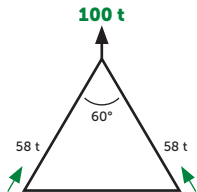


	Standard Dee & Bow Shackles (screw pin, safety bolt)	Polar Shackles	Super Shackles (screw pin, safety bolt)
EN 13889 Forged steel shackles for general lifting purposes	✓	✗	✗
ABS PDA Type Approval Certificate	✓	✓	✓
Performance requirements of US Fed. Spec. RR-C-271: Chain and attachments	✓ (grade A)	✓ (grade A)	✓ (grade B)
ASME B30.26	✓ (2 t and up)	✓	✓
DNV ST-E271 2.7-1 Lifting sets for offshore containers	✓	✓	✗
DNV ST-E273 2.7-3 Portable offshore units	✓	✓	✗
DNV standard DNV ST-0378 - Standard for offshore and platform lifting appliances	✓	✓	✗

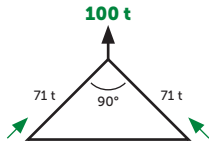
*Exceptions may apply. For full details regarding standards and certifications per product, please refer to the Green Pin® catalogue.

INSTRUCTIONS FOR USE

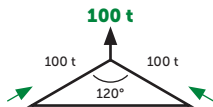
SLING ANGLES



58%



71%



100%

- The bigger the angle between the legs the larger the load in each leg and on the shackle attached to that leg
- At 120° the force in each leg is as big as the load that will be lifted
- Do not exceed an angle of 120°

PRODUCT RANGE

- Heavy Lifting Shackles
- Super® Shackles (grade 8)
- ROV Shackles
- Polar® Shackles
- BigMouth® Shackles
- Fishing Shackles
- Web Sling Shackles
- Theatre Shackles
-  Added optionally

Super Shackles have a green coating on the shackle crown



Polar Shackles have a green coating on the shackle eyes



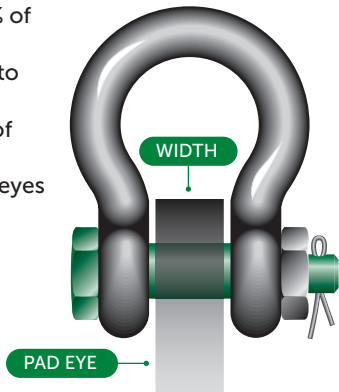
Just one of five types of ROV shackles



INSTRUCTIONS FOR USE

PAD EYES

- Pad eye width guideline: 60-90% of the internal width of the shackle
- Pad eye must be strong enough to support the load
- Keep the load along center line of the shackle (add spacers)
- Follow design standards for pad eyes
- Sharp edges should be avoided

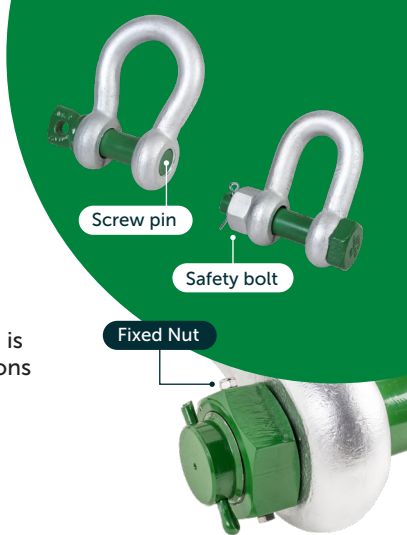


PRODUCT RANGE

This Pock Pilot manual gives you information on the complete range of Green Pin® shackles:

Bow & Dee shackles with

- screw pin for non-permanent use
- safety bolt for long-term, permanent or risk for load pin-rotation
- fixed nut for permanent, when the load is dynamic or exposed to extreme vibrations

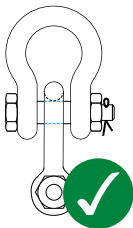


INSTRUCTIONS FOR USE

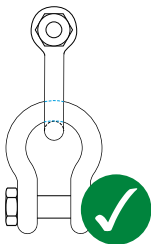
POINT LOADING

- Point loading of shackles is allowed
- Minimum diameter of rounded component should be equal to or bigger than the bow diameter of the shackle being used

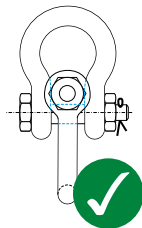
Bow-Pin



Bow-Bow



Pin-Pin



PRODUCTION

Green Pin® shackles are manufactured through upset forging in the Netherlands, near the port of Rotterdam. The unique Green Pin® production method offers these benefits:

- **Extremely consistent product quality** due to the use of robotics and a dedicated quality department
- **Up to 40% less material loss** means a comparatively sustainable and efficient product
- **Smoothly finished product**, reducing the wear of slings, masterlinks and the like

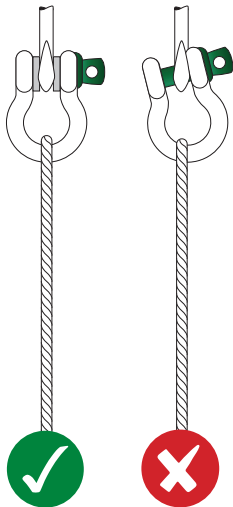


 **PRODUCTION
METHOD VIDEO**

INSTRUCTIONS FOR USE

ASYMMETRIC LOADS

- Asymmetric loads should be avoided
- Keep the load along the center line of the shackle
- Use washers or spacers
- Do not reduce internal width by bending the shackle



BRAND & HISTORY

Only Green Pin® offers this unique combination:

- ✓ **Premium quality lifting products:**
fully traceable to the raw material and with complete certifications
- ✓ **Superior safety:**
exceeding safety factor-, proof load- and fatigue life-norms (>20.000 cycles at 1.5 x WLL)
- ✓ **There where and when you need it:**
industry-leading world-wide availability of 99%
- ✓ **Comprehensive technical support:**
trainings, webinars, technical helpdesk and more.

Green Pin® was founded in 1922 and has a long track record of producing lifting products of superior quality.



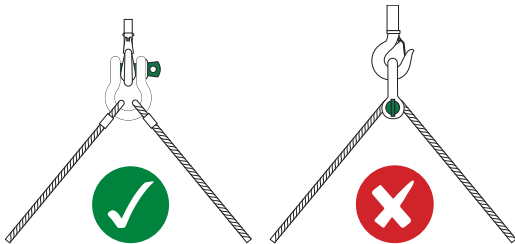
Lloyd's
Register



INSTRUCTIONS FOR USE

AVOID PIN ROTATION

- Avoid the risk of pin rotation with screw pin shackles
- Use Safety Bolt if required





SHACKLES POCKET PILOT

BRAND, PRODUCTS AND CERTIFICATIONS

FOLLOW US #GREENPIN

