



# INTRODUCTION

GN Rope Fittings was founded in **1923** by the Bon brothers under the name Smederij N.G. Bon. In **1938**, the company was taken over by the Bodegraven brothers and renamed N.V. Nieuwkoopse Stoomsmederij.

In **1960**, this company expanded by merging with Grofsmederij Uithoorn BV and its new owners, the Vossenbergh family - who were related to the Bodegraven family. Both companies supplied equipment to the shipping, fishing and offshore industries. After some time, the two companies merged to form Grofsmederij Nieuwkoop BV located in Nieuwkoop.

Today, Grofsmederij Nieuwkoop B.V., known internationally as GN Rope Fittings, is one of the leading manufacturers of mooring and heavy lifting accessories in the offshore industry and is still owned by the Vossenbergh family.

**GN Rope Fittings**  
**Grofsmederij Nieuwkoop BV**  
Transportweg 47  
2421 LT Nieuwkoop  
The Netherlands

Tel.: +31 172 579 303  
E-mail: [sales@gnweb.com](mailto:sales@gnweb.com)  
Internet: [www.gnweb.com](http://www.gnweb.com)

Bankers: ABN-AMRO bank N.V.  
Account number: 4692.25.696  
Swift code: ABNANL2A  
IBAN: NL51ABNA0469225696

VAT number: NL0010.56.839.B01  
Chamber of commerce: Leiden reg.no. 28003642



# LIST OF ABBREVIATION

In this catalogue, the following abbreviations have been used:

ABNT	Associação Brasileira de Normas Técnicas
ABS	American Bureau of Shipping
BV	Bureau Veritas
C	Celsius
cc	cubic centimeter
CR	Chain-Rope
CR-D	Chain-Rope Detachable
DIN	Deutsches Institut für Normung
DNV-GL	Det Norske Veritas - Germanischer Lloyd
EN	European Standard
F	Fahrenheit
FEA	Finite Element Analysis
GN	Grofsmederij Nieuwkoop
HMPE	High-Modulus Polyethylene
ISO	International Organization of Standardization
kg	kilogram
kN	kilonewton
lbs	pounds
LTM	Long Term Mooring
MBL	Minimum Break Load
MPI	Magnetic Particle Inspection
mm	millimeter
NDT	Non-destructive testing
NEN	Nederlandse Norm
NRS	Non-rotating stopper
OHSAS	Occupational Health and Safety Assessment Specification
PL	Proof Load
PMS	Permanent Mooring System
ROV	Remotely Operated Vehicle
SWL	Safe Working Load
US	Ultrasonic Inspection
WLL	Working Load Limit

## Product codes

H	Shackle
D	Shackle
K	Thimble
SO	Socket
SC	Link
SW	Swivel
HK	Hook
BL	Block
T	Turnbuckle
TF	Tuning fork
TR	Triangle plate
WC	Wire rope clip

# CONVERSION FACTORS

To convert from:	To:	Multiply by:
<b>Length</b>		
mm	inch	0.03937
inch	mm	25.4
m	foot (12 inch)	3.28084
foot (12 inch)	m	0.3048
<b>Volume</b>		
cc (cm <sup>3</sup> )	ci (in <sup>3</sup> )	0.06102
ci (in <sup>3</sup> )	cc (cm <sup>3</sup> )	16.38706
<b>Mass</b>		
metric tons	pounds	2204.62262
pounds	metric tons	0.00045
pounds	kilogram	0.45359
kilogram	pounds	2.20462
US tons (short tons)	metric tons	0.90718
metric tons	US tons (short tons)	1.10231
metric tons	kilogram	1000
kilogram	metric tons	0.001
metric tons	kilo Newton	9.80665
kilo Newton	metric tons	0.10197
kips	kilo Newton	4.44822
kilo Newton	kips	0.22481
<b>Torque</b>		
Newton meter	foot pound-force	0.73756
foot pound-force	Newton meter	1.35582
<b>Temperature</b>		
Celsius (Tc)	Fahrenheit (Tf)	$(Tc * 1.8) + 32$
Fahrenheit (Tf)	Celsius (Tc)	$(Tf - 32) * 0.55556$

## Certificates Inspection and documents

GN products are available with several types of applicable certifications.

GN is approved manufacturer for different type of products by several classification societies.

For (special) products we can arrange for third-party design approvals.

On request we can deliver our products with the following certificates and inspections:

- Certificate of conformity.
- Certificate of Origin.
- Material certificate in accordance with EN 10204 - 3.1 or 3.2
- Load test certificate.
- NDT inspection, Magnetic Particle Inspection (M.P.I.) and Ultrasonic Inspection (U.S.)
- Classification society inspection certificate.
- Design approval certificate.
- FEA strength and Fatigue calculations.

M.P.I.

Examination standard	EN10228-1:2012
Acceptance standard	DNV-OS-E302

U.S.

Examination standard	EN10228-3:2012
Acceptance standard	EN10228-3:2012

You will find the cost of the certificates in our latest price list or you can ask our sales team for the applicable certification each product type.



# CERTIFICATES



**ABS**

**ABS**  
Manufacturer  
approval



**ABS**

**ABS**  
Quality  
assurance  
program



**BV**  
Manufacturer  
approval



**DNV-GL**  
2.7-1



**DNV-GL**  
2.7-3



**DNV-GL**  
ISO9001:2008



**DNV-GL**  
ISO14001:2004



**DNV-GL**  
Manufacturer  
approval



**DNV-GL**  
OHSAS18001:2007



**DNV-GL**  
OS E302



**DNV-GL**  
OS E304



**Lloyd's**  
Approved  
testhouse



**Lloyd's**  
Manufacturer  
approval

Our products can be proof load tested, break load tested and fatigue cycled tested on our own, in-house developed 1250, 3000 and 6000 tonne test rig. These can be subjected to NDT tests by our level 2 certified staff.

## Calculation of test load according as follows:

### Lifting shackles

≤ 85 ton

PL = (2,0 x WLL) ton

> 85 ton

PL = (1,22 x WLL + 20) ton

### Shackles type D14, D16 and D17

PL = according to the offshore mooring chain guide

MBL = according to the offshore mooring chain guide

### Sockets

PL = (2,0 x WLL) ton

Links type SC1, SC5 and SC11 ≤ 85 ton

PL = (2,0 x WLL) ton

> 85 ton

PL = (1,5 x WLL) ton

Link type SC2

PL = (2,0 x WLL) ton

Links type SC3, SC4 and SC6 up to SC10

PL = according to the offshore mooring chain guide

Hooks, swivels, turnbuckles,  
tuningforks and triangle plates

≤ 25 ton

PL = (2,0 x WLL) ton

> 25 ton

PL = (1,22 x WLL + 20) ton

## Fatigue calculation of test load according as follows:

For lifting component

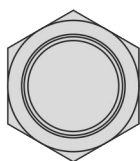
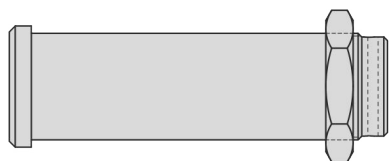
1,5 x WLL x 20000

For mooring component

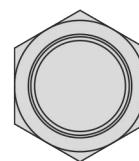
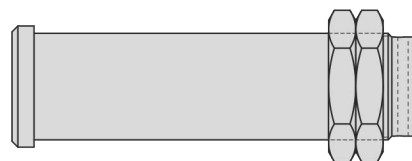
(various load) x (quantity of cycles)

# LOCKING DEVICES

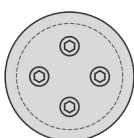
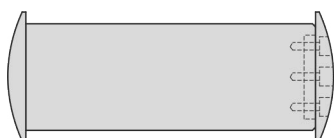
**Standard**



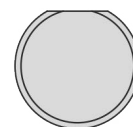
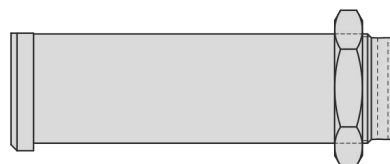
**Double nut**



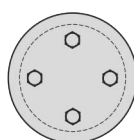
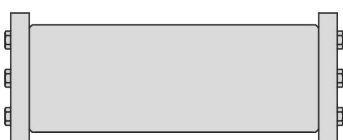
**Domed nut**



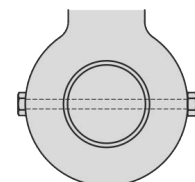
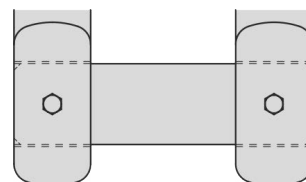
**Non-rotating stopper**



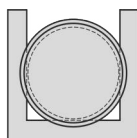
**Caps**



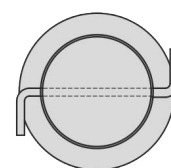
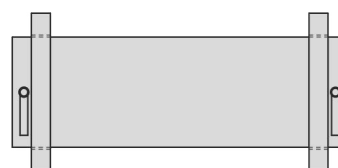
**Locking bolt + nut**



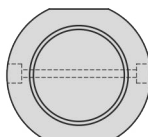
**Horse shoe**



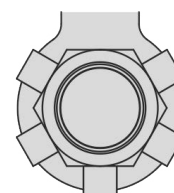
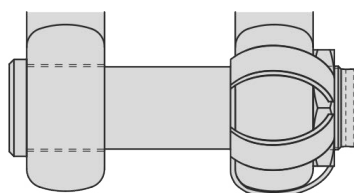
**Washers**



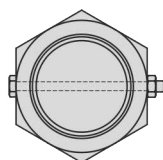
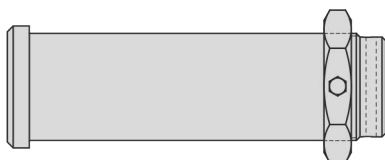
**Round nut**



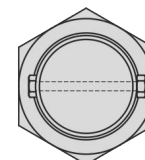
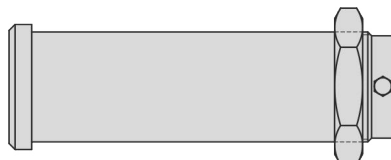
**ROV**



**Cotterpin through the nut**



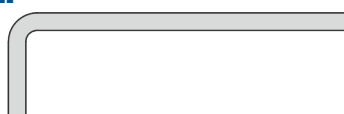
**Cotterpin through the bolt**



**Splitpin**



**Z-bar**



**Cotterpin + nut**

