

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Lifting set for Offshore containers and Portable Offshore Units**with type designation(s)
Offshore Chain type Offsh Ni and WINIssued to
PEWAG Austria GmbH
Graz Steiermark, Austriais found to comply with
DNV 2.7-1 Offshore Containers (2013)
EN 12079-2 Offshore containers and associated lifting sets Part 2: Lifting sets Design, manufacture and marking
IMO/MSC Circular 860
EN 818-2 Short link chain for lifting purposes - Safety - Part 2: Medium tolerance chain for chain for chain slings - Grade 8
DNV Standard for Certification No. 2.7-3 Portable Offshore Units (2011)**Application :****Grade 8 Chain for Lifting Sets for Offshore Containers and Portable Offshore Units**This Certificate is valid until **2018-06-30**.Issued at **Høvik** on **2014-11-06**DNV GL local station: **Essen**Approval Engineer: **Nina Thorvaldsen**for **DNV GL**

Inger-Helene Hals
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed. If any person suffers loss or damage which is proven to have been caused by any negligent act or omission of the Society, then the Society shall pay compensation to such person for his proven direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question. The maximum compensation shall never exceed USD 2 million. In this provision the "Society" shall mean DNV GL AS as well as all its direct and indirect owners, affiliates, subsidiaries, directors, officers, employees, agents and any other person or entity acting on behalf of DNV GL AS.

Certificate No: **S-8253**
File No: **911.53**
Job Id: **262.1-000821-8**

Product description

This Type Approval Certificate replaces Type approval Certificate S-6211.

Chain for use in Lifting Sets for Offshore Containers certified to DNV 2.7-1 Offshore Containers or DNV 2.7-3 Portable Offshore Units.

Detailed product information and range of certified products covered by this Type Approval are listed in Appendix 1 of this Type Approval Certificate.

Manufactured by

PEWAG Austria GmbH, Kapfenberg, Austria
Local office: DNV GL Essen

Pewag Austria GmbH takes responsibility that both design and production are in compliance with the Rules, Standards and/or Regulations listed on page 1 of this Type Approval Certificate.

Application/Limitation

Tests to be carried out:

- Production testing: According to DNV Standard for Certification No. 2.7-1 and EN 818-2 "Short link chain for lifting purposes - Safety - Part 2: Medium tolerance chain for chain slings - Grade 8" in agreement with the DNV surveyor.
- Material to be impact tested by Charpy impact method according to DNV 2.7-1 Offshore Containers, Chapter 8.4 or 2.7-3 Portable Offshore Units Chapter 7.4.

For application of chains the minimum working load limit (WLL) shall be decided according to the strength requirements for lifting sets on offshore containers as given in DNV 2.7-1 Offshore Containers, Chapter 8 or DNV 2.7-3 Portable Offshore Units Chapter 7.

The manufacturer shall issue product certificates according to Sec. 8.5 in DNV 2.7-1, using the certificate form No. 01-2AD.04.13/G-F_components. This certificate form is only to be used for chains certified according to this Type approval Certificate.

For chains manufactured according to DNV 2.7-3 Portable Offshore Units

Prior to selection of chain the minimum required working load limit (WLL) shall be decided according to the strength requirements for lifting sets on portable offshore units as given in DNV 2.7-3, Chapter 7.3.2. Resulting sling force (RSF) can be found in the Design Verification Report (DVR) issued by DNV GL for the Portable Offshore Unit. The DVR shall be available for the chain manufacturer.

Type Approval documentation

Drawing No.	Rev.	Title
	98.04.08. Reviewed 2010-06-10	Document folder from Pewag Austria. Updated product description for chains, links and transition links
01-2AD.04.13/G-F_components		Inspection Certificate acc. to EN 10204 3.1 for type approved chains, rings and assemblies for Offshore Containers and Portable Offshore Units
QU1530710/01		ISO 9001:2008 and ISO 14001:2009 certificate by TÜV SÜD

Test report from DNV Linz, Ord.No. 21860033.

Type Approval Survey report, ESN-10-31050-4 endorsed by DNV Essen, dated 19.05.2010, and ESN-14-30071-1 endorsed by DNV GL Essen, dated 2014-06-17.

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Tests carried out

Prototype strength tested according to standards listed on the front page of this type approval certificate.

Marking of product

Marking should be according to DNV 2.7-1 Offshore Containers, Chapter 8 or DNV 2.7-3 Portable Offshore Units Chapter 7 and EN 818-2 "Short link chain for lifting purposes - Safety - Part 2: Medium tolerance chain for chain slings - Grade 8".

Periodical assessment

For retention of the Type Approval, a DNV GL surveyor shall perform a survey every 6 months and before the expiry date of this certificate to verify that the type approval is complied with.

END OF CERTIFICATE

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Appendix 1

Product description and details

Chain Offsh Ni:

Type	Dia. [mm]	WLL [t]	MPF [kN]	Min. BF [kN]
Offsh Ni 10	10	3,15	78,5	126
Offsh Ni 13	13	5,3	133,0	212
Offsh Ni 16	16	8,0	201,0	322
Offsh Ni 19	19	11,2	284,0	454
Offsh Ni 22	22	15,0	380,0	608
Offsh Ni 26	26	21,2	531,0	849
Offsh Ni 32	32	31,5	804,0	1290

Chain WIN:

Type	Dia. [mm]	WLL [t]	MPF [kN]	Min. BF [kN]
WIN 10	10	3,15	78,5	126
WIN 13	13	5,3	133,0	212
WIN 16	16	8,0	201,0	322
WIN 19	19	11,2	284,0	454
WIN 22	22	15,0	380,0	608