

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Lifting set for Offshore containers and Portable Offshore Units**with type designation(s)  
**Chain Sling Assemblies**Issued to  
**PEWAG Austria GmbH**  
**Graz Steiermark, Austria**is 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 818-4 Short link chain for lifting purposes - Safety - Part 4: Chain slings - Grade 8**  
**DNV Standard for Certification No. 2.7-3 Portable Offshore Units (2011)****Application :****Grade 8: 1-, 2-, 3- & 4-Part Lifting Sets, with forerunner where fitted, for Lifting of Offshore Containers with Maximum Gross Mass 0 - 25,000 kg and Portable Offshore Units**This Certificate is valid until **2018-06-30**.Issued at **Høvik** on **2016-02-02**DNV GL local station: **Essen**for **DNV GL**Approval Engineer: **Nina Thorvaldsen Moberg****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-8255**  
File No: **911.53**  
Job Id: **262.1-017150-1**

## Product description

This Type Approval Certificate replaces Type Approval Certificate S-6213.

The Type Approval Certificate covers chain slings assembled by PEWAG Austria GmbH, according to DNV 2.7-1 Offshore Containers or DNV 2.7-3 Portable Offshore Units.

The Chain Sling Assemblies consist of components covered by PEWAG Austria GmbH respective DNV GL Type Approval Certificates; details are listed in Appendix 1 of this Type Approval Certificate.

## Manufactured by

Pewag s.r.o  
Vamberk, Czech Republic  
Local office: DNV GL Ostrava

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

All production testing should be done according PEWAG Austria GmbH internal procedures and to be agreed with local DNV GL office.

All proof load tests during production to be carried out in accordance with EN 818-4.

The manufacturer shall issue product certificates according to Section 8.5 in DNV 2.7-1, using the certificate form 01-2AD.04.13/G-F\_slings. This certificate form is only to be used for slings certified according to this Type approval Certificate.

### For slings manufactured according to DNV 2.7-1 Offshore Containers

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, Section 8 and PEWAG Austria GmbH internal list with range of component sizes.

Lifting sets shall be assembled according to the strength requirements for lifting sets on Offshore Containers as described in DNV 2.7-1 Offshore Containers, Section 8. The angle of the sling legs from vertical should be taken into account when choosing slings. This angle should normally be 45°, but smaller angles can be used.

Special slings, assembled according to the principles described in DNV 2.7-1 Offshore Containers, Section 8 and Appendix E, are also covered by this Type Approval. However, if unsymmetrical slings are to be assembled, local DNV GL office are to be contacted for reviewing in each case, unless otherwise is agreed with local DNV GL office.

*Note: The sling leg is not necessarily the weakest part of the lifting set. Master link assemblies selected for slings with legs at 45° may not be suitable for slings with a smaller angle.*

The WLL to be used in certificates and marked on lifting sets shall be the maximum rating of an offshore container on which the sling can be used, at the given sling leg angle.

### For slings manufactured according to DNV 2.7-3 Portable Offshore Units

Prior to selection of sling set 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, Section 7.3.2 and must be approved by DNV GL. 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 sling manufacturer.

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## Type Approval documentation

Drawing No.	Rev.	Title
	98.04.08.	Document folder from Pewag Austria
	Reviewed	Updated product description for chains, links and transition links
	2010-06-10	
01-2AD.04.13/G-F_slings QU1530710/01		Pewag Austria GmbH product certificate for chain slings ISO 9001:2008 and ISO 14001: 2009 by TÜV SÜD
01-7TPM/LC/OSB/6.6.2014		List of the range of component sizes to be covered by the type approval (2 pages, see appendix 1, with email explanation dated 2015-01-14)

Test report from DNV Linz, Ord.No. 21860033.  
 Type approval Survey Report, ESN-10-31050-4 endorsed by DNV Essen  
 Type Approval Assesment Report ESN-14-30071-3 endorsed by DNV GL Essen, dated 2014-06-17.

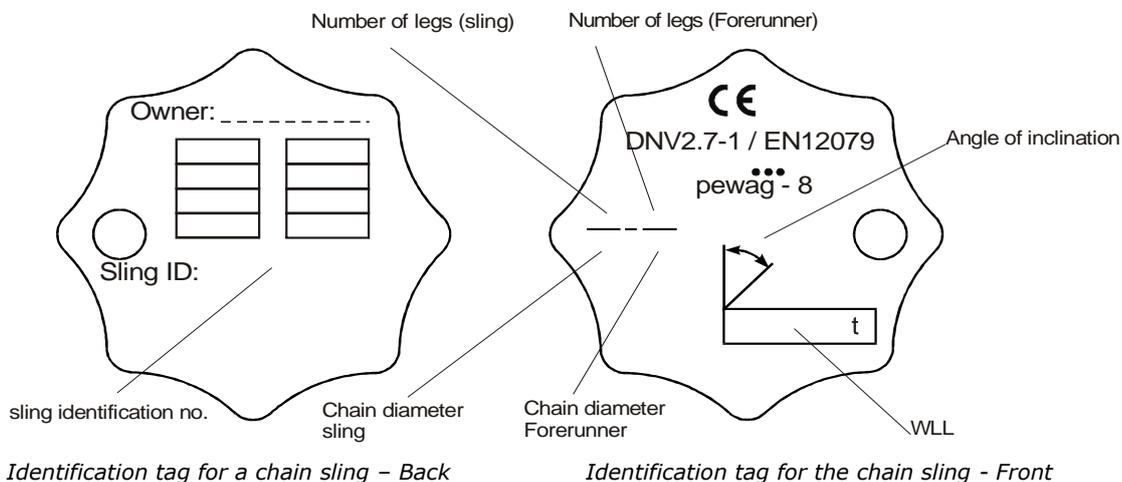
## Tests carried out

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

## Marking of product

### For slings manufactured according to DNV 2.7-1 Offshore Containers

Slings are to be marked with certification tag according to DNV 2.7-1 Offshore Containers, Section 8, as shown below:



The sling identification number shall be clearly stated on the certificate.

### For slings manufactured according to DNV 2.7-3 Portable Offshore Units

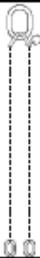
Each item to be marked according to DNV 2.7-3, Section 7.6.

## Periodical assessment

In order to maintain the validity of this type approval, certificate retention assessments are to be carried out according to DNV 2.7-1 by DNV GL surveyor. Intervals are not to exceed 6 months.

END OF CERTIFICATE

## Appendix 1

List of the range of component sizes to be covered by the type approval										Page 1
Links AW / MW	AW 16,18,22,26,32,36,45,50,56,72; MW 18,22,26,32,36									
Transition Links BW	BW 10,13,16,20,22,23,26,27,32,36,40,45,50									
Chains Offsh Ni	8,10,13,16,19,22,26,32									
Chains WIN	8,10,13,16,19,22									
<b>1-leg slings</b>										
	Master links	AW	16	18	22	26	32	36	45	50
	Transition links	BW	10	13	16	20	23	27	32	40
	Chains	Offsh Ni or WIN		10	13	16	19	22	26	32
	Transition links	BW	10	13	16	20	23	27	32	40
<b>2-leg slings - also used in pairs as 4-leg slings</b>										
	Master links	AW	18	22	26	32	36	45	50	56
	Transition links	BW	10	13	16	20	23	27	32	40
	Chains	Offsh Ni or WIN		10	13	16	19	22	26	32
	Transition links	BW	10	13	16	20	23	27	32	40
<b>3- and 4-leg slings</b>										
	Master link ass.	VW (AW + BW)	8 (22+16)	10 (26+20)	13 (32+22)	16 (36+26)	19 (50+32)	22 (50+36)	26 (56+40)	32 (72+50)
	Transition links	BW	10	13	16	20	23	27	32	40
	Chains	Offsh Ni or WIN		10	13	16	19	22	26	32
	Transition links	BW	10	13	16	20	23	27	32	40
<b>4-leg slings with forerunner (combination between 4-leg sling and forerunner acc. WLL and angle of inclination)</b>										
	Master links	AW	16	18	22	26	32	36	45	50
	Transition links	BW	10	13	16	20	23	27	32	40
	Chains	Offsh Ni or WIN		10	13	16	19	22	26	32
	Transition links	BW	10	13	16	20	23	27	32	40
	Master link ass.	VW (AW + BW)	8 (22+16)	10 (26+20)	13 (32+22)	16 (36+26)	19 (50+32)	22 (50+36)	26 (56+40)	32 (72+50)
	Transition links	BW	10	13	16	20	23	27	32	40
	Chains	Offsh Ni or WIN		10	13	16	19	22	26	32
	Transition links	BW	10	13	16	20	23	27	32	40
<b>Special chain slings upon request</b>										

**List of the range of component sizes to be covered by the type approval** Page 2

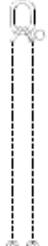
Links AOS	AOS 23,25,28,33,36,40,45,50,56,70
Transition Links BW / BOS	BW 10,13,16,20,22,23,26,27,32,36,40,45,50 BOS 17,19,23,27,30
Chains Offsh Ni	8,10,13,16,19,22,26,32
Chains WIN	8,10,13,16,19,22

**1-leg slings**



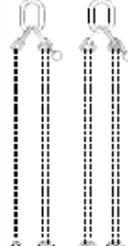
Master links	AOS		23	23	25	28	33	36	40
Transition links	BW	10	13	16	20	23	27	32	40
Chains	Offsh Ni or WIN		10	13	16	19	22	26	32
Transition links	BW	10	13	16	20	23	27	32	40

**2-leg slings - also used in pairs as 4-leg slings**



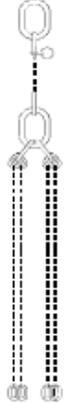
Master links	AOS		23	25	28	33	36	40	50
Transition links	BW	10	13	16	20	23	27	32	40
Chains	Offsh Ni or WIN		10	13	16	19	22	26	32
Transition links	BW	10	13	16	20	23	27	32	40

**3- and 4-leg slings**



Master link ass.	VOS (AOS + AOS/BOS)	23/17	23/17	28/23	33/27	36/30	45/36	50/40	56/50
Transition links	BW	10	13	16	20	23	27	32	40
Chains	Offsh Ni or WIN		10	13	16	19	22	26	32
Transition links	BW	10	13	16	20	23	27	32	40

**4-leg slings with forerunner (combination between 4-leg sling and forerunner acc. WLL and angle of inclination)**



Master links	AOS		23	23	25	28	33	36	40
Transition links	BW	10	13	16	20	23	27	32	40
Chains	Offsh Ni or WIN		10	13	16	19	22	26	32
Transition links	BW	10	13	16	20	23	27	32	40
Master link ass.	VOS (AOS + AOS/BOS)	23/17	23/17	28/23	33/27	36/30	45/36	50/40	56/50
Transition links	BW	10	13	16	20	23	27	32	40
Chains	Offsh Ni or WIN		10	13	16	19	22	26	32
Transition links	BW	10	13	16	20	23	27	32	40

**Special chain slings upon request**