

93023



DNV

DET NORSKE VERITAS

Certificate No.: ESN 09-22555

PRODUCT CERTIFICATE

THIS IS TO CERTIFY THAT:

Product description: 100 pcs. of Enorm lifting chain (Grade 10) 2-leg 16x 8157mm acc. to drwg. S56 026

Type designation: Type 30

Serial No: 1 to 100
ESN 09-22555Marking: marking on tag: 30"-22,2t; C.No. 06092;
1 to 100; to be used in pairsManufactured by: J.D. Thelle GmbH & Co. KG, D-58239
(manufacturer and location) Schwerte

Manufacturer No.: 12308-001

Ordered by (customer): Certex Norge AS N-4067 Stavanger

Customer reference: 443802-1

Intended for: Offshore Container

Conforms with the following specification/standard:
(If necessary use Appendix to certificates form no. 40.91a)

DNV Standard for Certification No. 2.7-1 "Offshore containers" (April 2006)

Following data / test results annexed: Works certificate C.No. 06092 (including test results)

Remarks/test results:

Valid data: Enhanced Working Load (WL): 25t
Angle of Inclination : 30°
WLL = Rating of container : 22,2t

This data are only valid by using the lifting sets in pairs!

☒ If marked x, see encl.

For Det Norske Veritas AS

Essen
Place2009-07-31
DateDNV
ESSENZühr, Michael
Surveyor

Declaration by manufacturer (when applicable)

The undersigned manufacturer declares that the specified product has been built and tested in conformity with the specification/standard stated above and the conditions referred to in:

Type Approval Certificate No.: S-4474

Quality System Certificate No.: CERT-13263-2003-AQ-ESN-TGA

Manufacturing Survey Arrangement No.: R-1818

This Product Certificate is valid only when endorsed by a DNV Surveyor. The endorsement is a statement that the conditions stipulated in the Manufacturing Survey Arrangement for the product in question have been complied with.

Manufacturer:

Schwerte
Place2009-06-30
Date

N. Richter
Name

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In the event that Det Norske Veritas shall mean the Foundation Det Norske Veritas as well as its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Abnahmeprüfzeugnis 3.1 EN 10204 test certificate

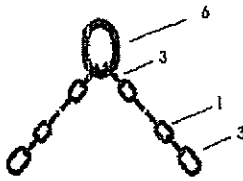
Leimather Str. 26 - 58239 Schwerte
Tel. +49 2304 757-0 - Fax +49 2304 757-177

Nummer:
number: 06092

Datum:
date: 30.06.2009

Blatt:
page: 1

Gegenstand: Rem: ENORM-Lifting chain (Grade 10)2 -leg 16x8157mm acc. to drawg. S 56 026		Menge: quantity: 100 pcs.
Hersteller: manufacturer: J.D Theile GmbH & Co. KG		Komm.-Nr.: works no: 12308-001
Besteller: purchaser: Certex Norge AS N- 4067 Stavanger		Bestell-Nr.: order no: 443802-1
Vorschrift: requirement: DNV 2.7- 1 April 06	Artikelnummer: ident. no: 0430816012	Werkstoff: material: Cr Ni Mo leg. Edelbaustahl
WLL: rating of container: 22,2 t		Hersteller: manufact: H3 - 8E
gerechn. Tragfähigkeit: enhanced WL: 25 t		Kennzeichnung marking H3-10-5-9
Prüfkraft: proof force: MPF1= 236 kN	Nelgungswinkel: angle of vertical: 30°	acc.to EN 818-2-8E
Bruchkraft: breaking force: >378 kN	MPF 2 = 1,732 x MPF 1 MPF 3 = 2,598 x MPF 1 MPF 4 = MPF 3	818-4-8E
Bruchdehnung: elongation: >20 %		818-4-8E
Wärmebehandlung: Härten: 900°C Anlassen: 420°C	Wasser 6 Std. Luft	818-4-8E

Maßprüfung dimension test	Dicke d _a diameter				Teilung t pitch				Breite Innen b _i inside width				Breite außen b _a outside width			
	Teil: Comp.:	Soll Req.:	Los lot 1	Los lot 2	Los lot 3	Teil: Comp.:	Soll Req.:	Los lot 1	Los lot 2	Los lot 3	Teil: Comp.:	Soll Req.:	Los lot 1	Los lot 2	Los lot 3	Teil: Comp.:
	1	16±0,6	16,3	16,4	16,4	1	48±1,4	48,0	47,9	47,9	1	20,8	22,6	22,7	22,4	1
	3	20±1	20,2			3	85±4,2	83,0			3	40±2	41,2			3
Zugversuch static tensile test	4	22±1,1	22,3			4	115±5,7	113,6			4	50±2,5	50,4			4
	6	36±1,8	36,2			6	260±13	257,0			6	140±7	51,2			6
	1	los 4-6	16,5	16,5	16,5	1	48±1,4	47,9	48,0	47,9	1	20,8	22,4	22,4	22	1
	1	los 7-9	16,6	16,5	16,4	1	48±1,4	47,7	48,0	48,0	1	20,8	22,2	22,2	22,2	1
Analyse steel analysis	1	los 10-12	16,4	16,4	16,3	1	48±1,4	48,0	47,9	47,9	1	20,8	22,2	22,6	22	1
	3	>236	>236	>236	>236	3	>378	391	393	388	3	>20	34,6	37,5	36,2	3
	1	los 4-6	>236	>236	>236	1	>378	397	384	383	1	>20	36,5	37,8	37,5	1
	1	los 6-9	>236	>236	>236	1	>378	392	390	393	1	>20	39,1	39,1	34,5	1
Kerbschlagbiegeversuch nach Charpy Impact test EN 10045 T1	1	los 10-12	>236	>236	>236	1	>378	398	391	399	1	>20	37,5	36,6	36,2	1
	3	>236	>236			3					3					3
	4	>236	>236			4					4					4
	6	>409	>409			6					6					6
Grundwerkstoff/material Schweißwelded side	Teil: Comp.:	Schmelze-Nr. cast number	C	Si	Mn	P	S	Cr	Mo	Ni	Al	 "Type 30" Gewicht: 10,370 kg				
	1	386331	0,190	0,150	0,930	0,011	0,010	0,840	0,880	1,050	0,036					
	3	1072829	0,220	0,200	1,320	0,008	0,008	0,530	0,520	1,040	0,033					
	4	240480	0,200	0,170	1,310	0,010	0,008	0,460	0,600	1,000	0,029					
Biegeversuch band test	Teil: Comp.:	Soll Req.:	Los lot 1	Los lot 2	Los lot 3	Teil: Comp.:	Soll Req.:	Los lot 1	Los lot 2	Los lot 3	Teil: Comp.:	Soll Req.:	Los lot 1	Los lot 2	Los lot 3	Teil: Comp.:
	1	>27/42	35/51	36/52	38/50	1	13	13	13	13	1	ohne anriss				1
	3	>27/42	39/49	37/48	36/50	3	13	13	13	13	3	ohne anriss				3
	4	>27/42	35/45	37/46	35/47	4	13	13	13	13	4	ohne anriss				4
Durchbiegung mm deflection	6	>27/42	37/55	39/54	39/52	6	13	13	13	13	6	ohne anriss				6
Kennzeichnung marking	1	>27/42	35/51	36/52	38/50	1	13	13	13	13	1	ohne anriss				1
	3	>27/42	39/49	37/48	36/50	3	13	13	13	13	3	ohne anriss				3
	4	>27/42	35/45	37/46	35/47	4	13	13	13	13	4	ohne anriss				4
	6	>27/42	37/55	39/54	39/52	6	13	13	13	13	6	ohne anriss				6
marking on Tag: 30°-22,2 t; C.No.06092 numeriert von 1 ...100; Type 30 to be used in pairs																
red coated																
Qualitätswesen / quality management																
Ergebnis der Prüfung results of tests	ohne Beanstandung					Richter Sachverständiger/expert										



Abnahmeprüfzeugnis 3.1 EN 10204 test certificate

Lohmalhor Str. 26 - 58239 Schwerte
Tel. +49 2304 757-0 - Fax +49 2304 757-177

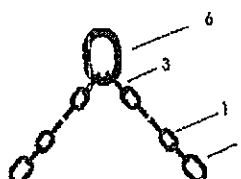
Nummer:
number: 06092-2

Datum:
date: 30.06.2009

Blatt:
page: 2

Gegenstand: Item: ENORM-Lifting chain (Grade 10)2 -log 16x8157mm acc. to drawg. S 56 026			Menge: quantity: 100 pcs.						
Hersteller: manufacturer: J.D Thiele GmbH & Co. KG			Komm.-Nr.: works no: 12308-001						
Besteller: purchaser: Certex Norge AS N- 4067 Stavanger			Bestell-Nr.: order no: 443802-1						
Vorschrift: requirement: DNV 2.7- 1 April 06		Arbeitsnummer: Ident. no: 0430816012		Werkstoff: material: Cr Ni Mo leg. Edelbaustahl		Hersteller: manufact. H3 - 8E			
WLT: rating of container: 22,2 t		to be used in pairs		Zusammenstellung / sling components		Kennzeichnung marking H3-10-5-9		acc.to EN 818-2-8E	
gerechn. Tragfähigkeit: enhanced WL: 25 t				1) Kette K1 chain 200x164 lks. 16x48mm					
				2) Kette K2 chain				818-2-8E	
Prüfkraft: proof force: MPF1= 236 kN		Neigungswinkel: angle of vertical: 30°		3) Glied G3 link 400pcs. 20x85x40mm		E		818-4-8E	
Bruchkraft: breaking force: >378 kN		MPF 2 = 1,732 x MPF 1 MPF 3 = 2,598 x MPF1		4) Glied G4 link 200pcs. 22x115x50mm		J		818-4-8E	
Bruchdehnung: elongation: >20 %		MPF 4 = MPF 3		5) Glied G5 link				818-4-8E	
Wärmebehandlung: Härten: 900°C Wasser Anlassen: 420°C 6 Std. Luft				6) Glied G6 link 100pcs. 36x260x140mm		K		818-4-8E	

Maßprüfung dimension test	Dicke d _n diameter						Teilung t pitch				Breite innen b _i inside width				Breite außen b _z outside width										
	Teile: Comp.:	Soil Req.	Los lot 1	Los lot 2	Los lot 3	Soil Req.	Los lot 1	Los lot 2	Los lot 3	Soil Req.	Los lot 1	Los lot 2	Los lot 3	Soil Req.	Los lot 1	Los lot 2	Los lot 3								
	1	los 13-15	16,4	16,3	16,4	48±1,4	48,0	47,9	47,9	>20,8	22,0	21,9	21,9	<59,2	55,9	55,6	55,9								
	1	los 16	16,3			48±1,4	48,0			>20,8	22,2			<59,2	55,8										
Zugversuch static tensile test	Fertigungsprüfung kN proof force						Bruchkraft kN breaking force				Bruchdehnung % elongation														
	Teile: Comp.:	Soil Req.	Los lot 1	Los lot 2	Los lot 3	Soil Req.	Los lot 1	Los lot 2	Los lot 3	Soil Req.	Los lot 1	Los lot 2	Los lot 3	Soil Req.	Los lot 1	Los lot 2	Los lot 3								
	1	los 13-15	>236	>236	>236	>378	394	397	390	>20	35,0	36,6	36,6	>20	37,0										
	1	los 16	>236			>378	397			>20															
Analyse steel analysis	Teile: Comp.:	Schmelze-Nr. cast number	C	Si	Mn	P	S	Cr	Mo	Ni	Al														
	1	386331	0,190	0,150	0,930	0,011	0,010	0,640	0,680	1,050	0,038														
	3	1072829	0,220	0,200	1,320	0,008	0,009	0,530	0,520	1,040	0,033														
	4	240480	0,200	0,170	1,310	0,010	0,009	0,460	0,600	1,090	0,029														
Kerbschlagversuch nach Charpy Impact test EN 10045 T1	Teile: Comp.:	Soil Req.	Ist Actual	Ist Actual	Ist Actual	Soil Req.	Los lot 1	Los lot 2	Los lot 3																
	1	>27/42	35/51	36/52	38/50	13	13	13	13	ohne anriss															
	3	>27/42	39/49	37/48	38/50	13	13			ohne anriss															
	4	>27/42	35/45	37/46	35/47																				
Ergebnis der Prüfung results of tests																		ohne Beanstandung				Richter Sachverständiger/Expert			



"Type 30"

Gewicht: 10.370 kg

Grundwerkstoff/material
Schweißwelded side
Probenform
Charpy V-notch

KV => 42 J
KV => 27 J
-20°C

Biegeversuch
bend test
Durchbiegung mm
deflection

Kennzeichnung
marking

A-Gld. H3-8E-09, C.No.06092
numeriert von 1... 100

marking on Tag: 30°-22,2 t; C.No.06092
numeriert von 1 ...100; Type 30
to be used in pairs

red coated

Qualitätswesen / quality management

ESN 09-22555