



Certificate number: 068PRT15

Marine & Offshore
Division

B U R
E A U
V E R
I T A S

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CERTIFICATE ROPE (NON METALLIC) AND ACCESSORIES

FOR

Manufacturer : LANKHORST EURONETE PORTUGAL, S.A. (MAIA • PAT)
Work's ref N ° : 131400136
Purchaser :
Purchaser's : P.o.ltem N ° : 1
order N °
Requirements : Bureau Veritas Rules for the Classification of
Offshore Units (2013); OCIMF 2000
Product : Double braided SPM Hawser, Nylon, 48,8 Mts
description length
Design review : Type approval ref(s) : BV TAC 22528/AO BV
Quantity : 1 pc
Type : Hawser Double braid, Grommet type 48,8 Mts length
Material : Nylon
External : 96mm
diameter
Number of : 64 strands as sheath and 32 strands
strands as core
Breaking load : 2255kN
Marker Tape : LANKHORST ROPES NYLON 1? 1591
Size : 2014
Breaking load test (Single) : 2347 kN
Breaking load test (Grommet): 3989 kN
Length measured (meters) : Assy 1=48,78m
Linear Density : According OCIMF 2000: 5810g/m
Enclosures / Remarks : LANKHORST Test Report N° 1401610
Drawing N° 214125 Rev.0
Based on DNV Cert. N° N1401 U7M issued on 10-11-2014

This certificate is issued by Bureau Veritas as per the above Classification Rules and in compliance with the applicable technical requirements therein.

Marking • 8/ BVN068PRT15

Last : 11 May 2015
survey

Issuance : 11 May
date 2015

Surveyor : Vanessa GONCALVES

Office : BV
PORTO

Gonçalves



Kvesgc«

For Review and signature :

BUREAU VERITAS - INDUSTRY TECHNICAL CENTER CTI. INTERNATIONAL PROJECT OFFICE
13/15 rue d'Anjou - ZI des Bethunes saint Ouen l'Aumône
95005 Cergy Pontoise Cedex - FRANCE

Surveyor: Jean-Luc Foret
Issuance date : 18 May 2015

A handwritten signature in blue ink, appearing to be "J. Foret", with the word "review" written in a smaller font next to it.

13/15 rue d'Anjou - ZI des Bethunes saint Ouen l'Au

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The Electronic Version is available at:

http://www.veristarp.com/veristamb0sp/certificate.jsp?id*bnpyoxwf8k

BV Mod. Ad.E 677a February 2009

This certificate consists of 1 page(s)

BOLETIM DE ENSAIO

DUP-OS

BRAIDED NYLON 96 mm 32

BEL n'

Lank-

1100010

horstl.iPcn•lugal, SA No. 3

1401610

DE REGISTO

CVnO i 31400136

TEST REPORT

order Nã.

OF n°

ENTR, WGADOS E CABOS ENTRANGtkOOS

DOUBLE BRAID AND BRADED ROPE

Observa#es•

Céc

-eccha -

Remarks:

ALMA -CORD 07.

Test of yarns

CORE-STRAND 2

1 st CENTER	1 st LAYER	2 nd LAYER
50.000 dtex	50.000 dtex	50.000 dtex

Observa#es:

Ensaio de Fla#es

Port#as•.

CENTER

Fiber identification of Core:

373 373 373

BOLETIM DE ENSAIO

DUP-OS

BRAIDED NYLON 96 mm 32

Melting Point 216			
Solubility Test - Dissolves in Formic Acid			
		4	372
		5	373
		6	369
		7	
		8	
		9	
		10	
		11	
		12	
	average	374	374
		375	375
		376	372
R&Uzão		Realização em labor	
Força de rolura catcutada da Corda Caladated breaEnn		daN <input type="checkbox"/>	
C38to nao cor 23			

WHITE WT02

Material	Nº contóces	Nº. Jermua	Fase contóce	Yama / diurne	Ficção base	Deale Yem	Torção	Tensão	Côr	Diámetro	Passo	Massa líñica	Força roum	Along.
Material	Nº. Jermua	Fase contóce	Yama / diurne	Ficção base	Deale Yem	Torção	Tensão	Côr	Diámetro	Passo	Massa líñica	Força roum	Along.	
									mm	mm	g/metro	kgf	%	
ESPECIFICAÇÃO											máxima			
SPECIFICATION											maximum	521	6.006	
											471	5.448	230400	
Data	Turno	Tá. 1Wa	Máquina											Rubrica
Date	Turn	mm	Machine											Initials
1														
2														
3														

471

Registo das não conformidades / Non conformity records

nº amostra / Sample No.	Características / Characteristics	Ficha Defeito / No Conformity sheet	nº amostra / Sample No.	Características / Characteristics	Ficha Defeito / No Conformity sheet
		Witnessed And found to comply with results			Reviewed
		DATE: 2014 06 12			APROVAÇÃO / APPROVED
		SIGN: [Signature]			DATA / DATE: 12-06-2014
		DET NORSKE VERITAS AS Lisboa			[Signature]

Rev. 0 IMP4E5/5

BOLETIM DE ENSAIO

DUP-OS

BRAIDED NYLON 96 mm 32

Dotarminação da Forw dc Rotura par encaio eos constituintes
Calculalign of tha bteaMng wcmth

BOLETIM DE ENSAIO

DUP-OS


BRAIDED NYLON 96 mm 32

BEL II

Ff=matl

ce

Cocha

I ankh orstl: 

Portugal, SA

1401610

DE REGISTO

TEST REPORT

DOUBLE

/ Ø 1 Tr

BRAIDED NYLON 96 mm 32

BOLETIM DE ENSAIO

DUP-OS

BRAIDED NYLON 96 mm 32
WHITE - WT02

Catactor3:ã

No Conformity sheet reviewed

Witnessed to comply with Class 1

DATE: 2014 06 12

SIGN: [Signature]

DET NORSKE VERITAS AS

40019068 List on

		Materia	1 ^o cordões	Fios cordão	Yarns / strand	Fiação total	Braze Yarn	Torção	Torção	Cdr	Dâmetro	Passo	Massa linear	Força rotura	Along	
		Material	No. Strands	Fibs cordão	Yarns / strand	Fiação total	Braze Yarn	Torção	Torção	Cdr	Diameter	Step	Linear density	Breaking strength	Elong.	
											mm	mm	g/metro	kgf	%	
ESPECIFICAÇÃO		máximo														
SPECIFICATION		maximum														
		mínimo														
		minimum														
Data	Turno	Micura														Rúbrica
Date	Turn	Measure														Initials

Determinação da Força de Rotura por ensaio dos constituintes
 of the

Observações:
 Remarks;

Ensaio do Ftagões CAPA - CORDAO S
 Test of yarns SHEATH • STRAND S
 1 CENTER Ist LAYER
 50.000 dtex 33.333 dtex 50.000 dtex

Registo das não conformidades
 Non conformity records

Características Characteristic

Ficha Defeito Non Conformity sheet


REGISTO INTERNACIONAL

DATA DATE 12-06-2014

APROVAÇÃO APPROVAL [Signature]

IMP465/5

BRAIDED NYLON 96 mm 32

<p>258</p> <p style="text-align: center;">a</p> <p>Melting Point • 214 °C</p> <p>Solubility Test-</p> <p style="text-align: right;">Dissolves in</p> <p>Formic Acid</p>	<p>Fiber identification of Sheath: 374 376</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%; text-align: center;">262</td> <td style="width: 33%; text-align: center;">364</td> </tr> <tr> <td style="text-align: center;">381</td> <td style="text-align: center;">380</td> <td style="text-align: center;">258</td> </tr> <tr> <td style="text-align: center;">5</td> <td></td> <td style="text-align: center;">379</td> </tr> <tr> <td style="text-align: center;">6</td> <td></td> <td style="text-align: center;">383</td> </tr> <tr> <td style="text-align: center;">7</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">8</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">9</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">11</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">12</td> <td></td> <td style="text-align: center;">374</td> </tr> </table> <p>average 37B 259</p> <p>Factor de realização Realization factor</p>		262	364	381	380	258	5		379	6		383	7			8			9			11			12		374
	262	364																										
381	380	258																										
5		379																										
6		383																										
7																												
8																												
9																												
11																												
12		374																										
<p>da rotuta calculada do Coda Kg f dart</p> <p>Calculated Srcaktng strength o casn a</p>	<div style="text-align: center;">  </div>	<p>Luência Prelada</p>																										

REFERENCE:

DOUBLE 1 Ø / Tr

Obsera#es:
RcttUttG

Cocha ceecr

BOLETIM DE ENSAIO

DUP-OS

BRAIDED NYLON 96 mm 32
WHITE .WT02

Material	Nº cordões	No. Strands	Fios cordão	Yarns / strand	Fiação base	Tipção	Tordido	CAR	Color	Dímetro	Peso	Massa linear	Força rotura	Along.
										Diameter	Wt	Linear density	Breaking strength	Elong
										mm	mm	g/metro	kgf	%
ESPECIFICAÇÃO											521	6.006		
SPECIFICATION											471	5.434	230.000	
Data	Turno	Macura												Rúbrica
Date	Turn	Machine												Initials
1														
2														
3														

Determinação da Forp de Rotura por ensato dos constituintes
 Cawat:m of Ehe *eaeno

Obsorvaçøest

REMARKS:

Ensaio de Fia9øes CAPA - CORDAO Z

Test of Yarns	SHEATH STRAND Z	
	CENTER	1 st LAYER
	50.000 dtex	33.333 dtex
1		
2	377	251
3	373	250
4		370
5		373
6		367
7		
8		
9		
10		
11		
12		
average	375	251

Remar@s:

Test of yams SHEATH STRAND Z
 1 't LAYER

Factor de realizaçã
 Realization factor

Força de rotLta calculada da Corda
 Calculated breaking strangh

daN Kgf

Registo dos rios conformaçøes

nº amostra	Característica	Ficha Defeito	nº amostra	Característica	Ficha Defeito
Sample No	Characteristic	No Conformity sheet	Sample No	Characteristic	No Conformity sheet
		Witnessed And found to comply with specification			
		<input type="checkbox"/> reviewed			
		DATE: 2014.06.12			
		SIGN: <i>[Signature]</i>			
		DET NORSKE VERITAS AS Lisbon			
		ADD 15062			

APPROVACAO
 APPROVED
[Signature]
 12-06-2014
 IMP:405/5

BOLET)M

DE ENSAIO

DUPLOS

Lankhorst ~~Barroate~~ POLLIEa19 SA

DE REGISTO

1401610

•131400136

Order No.

TEST REPORT

OP n°

CVnO

ENTRANCADOS E CEOS ENTRANCADOS
DOUBLE BRAID AND BRAIDED ROPE

304000268

DUPLOS

Obcora#es:	Ensaio de Fia;ões			s
Remarks:	Tev F•n:s	CORE - STRAND S		
		CENTER LAYER	2 nd LAYER	
* 32 Tr * 2 * (6 yams 50.000 dtex+ 1 yam 33.333 dtex) + Core50.000 diex 50.000 dtex				
Core - 16 Trx 2 (14 yams 50.000 citer)	374	376	379	
	375	377	378	
	Sample taken with 2 meters at ref. Load			
4 070 075 070 372		375	376	
	Weight	Picosnrm376		
Core 5.860 g 360	-	5.860377		
	7			
	Sheath -	5.760 9		
65.0				
Core+sheath=11.622 g				
	a			
	9			

DUPLOS

Circunf. - 318 mm				
White Marker Tape:		average 374 376 377		
LANKHORST ROPES NYLON 12" 1591 2014		Fagsc de realiza# Rea 0,73		
Forca de rotura catculada da Corda daN Kgf X		239.370 kgf (2.34J..-kNk		Rubrica Inicial

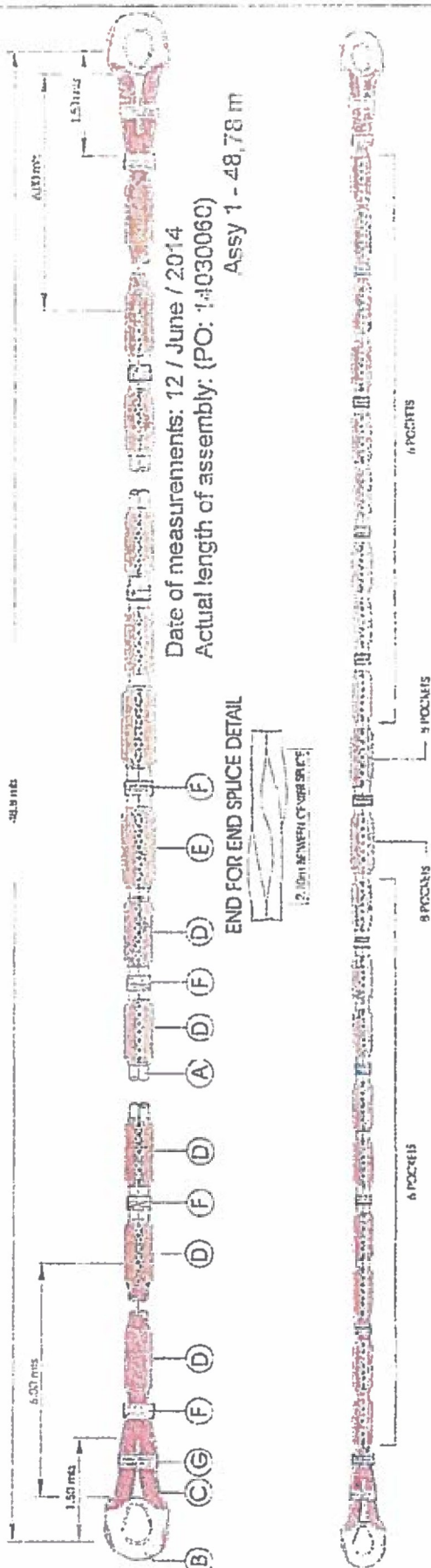
White with one green yam in one strand in core and with one Coloured and groan yarn in two strands in shoalh, WHITE WT02

Material	Material	Nº cordões	No. Strands	Fios cordão	Yarns / filament	Fio por fio	Basic Yarn	Torção	Torsion	Cód.	Color	Diâmetro	Passo	Massa linear	Força rotura	Along.
												mm	mm	g/metro	kNf	%
ESPECIFICAÇÃO		máximo										521	6.006			
SPECIFICATION		mínimo										471	5.434	230.000		
Data	Torno	Máximo														Rubrica Inicial
12-06-14	A	3E817	PA	*			WT02	101	492	5.810						

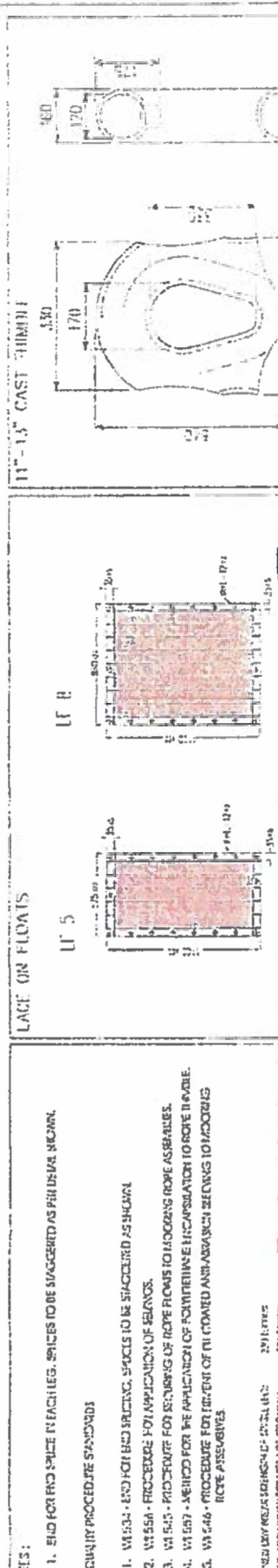
Determinação da FOGã de Rotura por ensaio dos constituintes of Eteaking sterotr

Registo das não conformidades Non conformity records

nº amostra	Características	Ficha Defeito	nº amostra	Características	Ficha Defeito
Sample No.	Characteristics	No Conformity sheet	Sample No.	Characteristics	No Conformity sheet
		<input checked="" type="checkbox"/> Witnessed <input type="checkbox"/> And found to comply with DATE: 2014 06 12 SIGN:			APROVAÇÃO APPROVED



Date of measurements: 12 / June / 2014
 Actual length of assembly: (PO: 14030060)
 Assy 1 - 48,78 m



NOTES:
 1. END FOR END SPICE IN EACH LEG. SPICES TO BE STAGGERED AS PER USUAL PRACTICE.
 2. END FOR END SPICE IN EACH LEG. SPICES TO BE STAGGERED AS SHOWN.
 3. W/ 554 - PROCEDURE FOR APPLICATION OF SEALANT.
 4. W/ 555 - PROCEDURE FOR SECURING OF ROPE FLOORS TO HANGING ROPE ASSEMBLY.
 5. W/ 557 - METHOD FOR THE APPLICATION OF FORTHTHANE ENCAPSULATION TO ROPE HANGER.
 6. W/ 546 - PROCEDURE FOR THE FITTING OF THE COATED ANTIABRASION SECTIONS TO HANGING ROPE ASSEMBLY.

W/ 554 - PROCEDURE FOR APPLICATION OF SEALANT
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 W/ 546 - PROCEDURE FOR THE FITTING OF THE COATED ANTIABRASION SECTIONS TO HANGING ROPE ASSEMBLY

DATE: 2014.06.12
 SIGN: [Signature]
 DET NORRIS - VIKTORAS AB
 ADD: 19014
 LISBON

Reviewed
 JANEIRA S.
 SECTION SA

ITEM	QTY	UNIT CODE	DESCRIPTION
11	2		HAIF SECT.
F	11		30MM (11mm) 2 STRAND ROPE
E	2	LF 8	8 POCKET LACE ON FLOATS
D	18	LF 5	5 POCKET LACE ON FLOATS
C	-		FC + PU COATING
B	2		11"-13" CAST THIMBLE WITHOUT INEQUAL CLEWS PLATE. POLYURETHANE ELASTOMER ENCAPSULATED.
A	1		12" CTC. LANKHORST DOUBLE BRAND CIRCULAR BRADED 100% MILON ROPE.

Lankhorst Ropes
 LANKHORSTROPES - OFFSHORE DIVISION
 Drawn by: M. Nunes-DRW
 Checked by: ALBERTO NOVO - PNG

Title: 12" CTC. Grommet Mounting Hanger
 Drawing: 214125
 Version: 0
 Date: 14 / April / 14
 Scale: N/A