

## Mooring tail base design certificate TS CERT 7801 E rev. 3

### General information

<b>Issue date:</b>	11.07.2019	<b>Expiry date:</b>	10.07.2024
<b>Line manufacturer</b>	Wilhelmsen Ships Service AS	<b>Independent inspection agency:</b>	DNV
<b>Line design designation:</b>	Timm Master 12 SBA Timm Master 12, Timm Master 8	<b>Material type and grade:</b>	B5 (PP+HDPE) and HT PES
<b>Line construction:</b>	12x1, 4x2 – braided/plaited	<b>Jacketed:</b>	No
<b>Design range:</b>	32 mm – 105 mm	<b>Rotating:</b>	No
<b>DNV Type Approval:</b>	TAK0000094		

### Base design performance indicators

Performance Indicators	Smallest Diameter		Largest Diameter	
<b>Diameter</b>	Design: 32mm	Measured: 37mm	Design: 105mm	Measured: 132mm
<b>Tail Design Break Force (TDBF)</b>	20 t		214,1 t	
<b>Tail Linear Density (TLD)</b>	0,562 kg		5,867 kg	
<b>Load Bearing Linear Density (LBLD)</b>	0,540 kg		5,709 kg	
<b>Tail Tenacity (TT)</b>	38,41 t/kg/m		37,50 t/kg/m	
<b>Splice type</b>	TM 12 (6x2x5), TM 8 (4x2x5)			
<b>Maximum Line Tenacity (MLT)</b>	38,41 t/kg/m			
<b>Dynamic Stiffness (Ksh, Kex)</b>	Sheltered (Ksh):	16,14xTDBF		
	Exposed (Kex):	20,65xTDBF		
<b>Tension-tension endurance (CTF)</b>	CTF 50%:	205 233 732 cycles		
	CTF 20%:	19 934 162 223 361 cycles		
	<b>%TDBF:10</b>	<b>%TDBF:20</b>	<b>%TDBF:30</b>	<b>%TDBF:40</b>
<b>Average Immediate Strain* (e)</b>	1,33%	2,50%	3,50%	4,36%

\*Performance indicators are tested on samples: 32 mm for mooring tail

### Name and address of manufacturing facility:

Wilhelmsen Ships Service AS  
TIMM SLOVAKIA s.r.o.  
Nozdrkovce 3140/37, 911 04 Trenčín, Slovakia

**Independent inspector:**  
Henrich Illáš

### Completion date:

30.05.2024

### Address of independent inspector:

DNV, Rolnickej Školy 1519, 94525 Komárno, Slovak Republic

### Base design testing information

#### Name and address of test facility:

Wilhelmsen Ships Service AS  
TIMM SLOVAKIA s.r.o.  
Nozdrkovce 3140/37, 911 04 Trenčín, Slovakia

#### Independent inspector:

Henrich Illáš

#### Completion date:

30.05.2024

#### Address of independent inspector:

DNV, Rolnickej Školy 1519, 94525 Komárno, Slovak Republic

### Base design sample and product documentation reviewed

**Independent inspector:** Henrich Illáš **Date of review:** 11.07.2019

Base design sample manufacturing report	<input checked="" type="checkbox"/>	Material test report	<input checked="" type="checkbox"/>	Splicing instructions	<input checked="" type="checkbox"/>
Base design sample manufacturing ITP	<input checked="" type="checkbox"/>	Design specification	<input checked="" type="checkbox"/>	Procedures for testing and inspection of retired mooring lines	<input checked="" type="checkbox"/>
Base design sample test report	<input checked="" type="checkbox"/>	Manufacturer's discard and inspection criteria	<input checked="" type="checkbox"/>		



Independent inspector. Date: 30.05.2024