

## Mooring line base design certificate TS CERT 7808 E

### General information

<b>Issue date:</b>	09.07.2024	<b>Expiry date:</b>	08.07.2029
<b>Line manufacturer</b>	Wilhelmsen Ships Service	<b>Independent inspection agency:</b>	DNV
<b>Line design designation:</b>	Acera daGama SBA™, Acera daGama	<b>Material type and grade:</b>	HMPE Acera/HT PES
<b>Line construction:</b>	Core 12x1 – braided/plaited Jacket 24x1 or 32x1 -overbraided	<b>Jacketed:</b>	Yes
<b>Design range:</b>	16 mm – 64 mm	<b>DNV Type Approval:</b>	Yes

### Base design performance indicators

Performance Indicators	Smallest Diameter				Largest Diameter			
	Design:	16mm	Measured:	22,5mm	Design:	64mm	Measured:	70mm
<b>Diameter</b>								
<b>Line Design Break Force (LDBF)</b>	23,4 t				270,7 t			
<b>Line Linear Density (LLD)</b>	0,236 kg/m				2,76 kg/m			
<b>Line Linear Density (LLD) with SBA</b>	0,258 kg/m				2,849 kg/m			
<b>Load Bearing Linear Density (LBLD)</b>	0,144 kg/m				1,862 kg/m			
<b>Line Tenacity (LT) without SBA</b>	162,9 t/kg/m				145,4 t/kg/m			
	<b>D/d Ratio: 5</b>				<b>D/d Ratio:10</b>			
<b>Angled Break Force* (ABF) % Avg NSBF</b>	196,77% / 98,39%			193,77% / 96,89%				
<b>Angled Endurance* (AE) % Avg NSBF</b>	101,3%			97,75%				
	<b>-20 °C</b>	<b>0 °C</b>	<b>20 °C</b>	<b>40 °C</b>	<b>60 °C</b>	<b>80 °C</b>		
<b>Temperature (T)** % BF at 20°C (HMPE/PES/PA)</b>	115,3/109%	108,4%/109%	100%/100%	97,5%/98%	87,2%/92%	61,5%/88%		
<b>Axial Compression Resistance* (ACR)</b>	118,27%							
	<b>%LDBF:10</b>	<b>%LDBF:20</b>	<b>%LDBF:30</b>	<b>%LDBF:40</b>	<b>%LDBF:50</b>			
<b>Average Immediate Strain* (e)</b>	0,40%	0,67%	0,90%	1,11%	1,32%			

**Splice type:** Tension/Inside splice 2G

**Maximum Line Tenacity:** 162,9 T/kg/m

\*Performance indicators are tested on samples: 16mm for Acera daGama mooring line

\*\*Temperature indicator performed at yam level

This MLBD Certificate is issued based on DNV Verification Statement no.: N142Y9YK, N142URZ9, N142URZD, N142VYWZ, N142WD77, N142WZX9, N142VRRH, N142WXXFM

### Name and address of manufacturing facility:

Wilhelmsen Ships Service  
Timm Slovakia, Nozdrkovce 3140/37, 911 04 Trenčín, Slovakia

### Independent inspector:

Henrich Illáš

### Completion date:

02.07.2024

### 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  
Timm Slovakia, Nozdrkovce 3140/37, 911 04 Trenčín, Slovakia

#### Independent inspector:

Henrich Illáš

#### Completion date:

02.07.2024

#### 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:**

09.07.2024

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"/>	Jacketed line internal inspection report	<input checked="" type="checkbox"/>
Base design sample test report	<input checked="" type="checkbox"/>	Manufacturer's discard and inspection criteria	<input checked="" type="checkbox"/>	Procedures for testing and inspection of retired mooring lines	<input checked="" type="checkbox"/>



Independent inspector, Date: 09.07.2024