TYPE APPROVAL CERTIFICATE

Certificate No:
TAK0000094
Revision No:
3

This is to certify:

That the Synthetic Fibre Ropes

with type designation(s)
Timm Master 8,
Timm Master 12, Timm Master 12 SBA

Issued to
Wilhelmsen Ships Service AS
Lysaker, **Norway**

is found to comply with
DNV class programme DNV-CP-0100 – Type approval – Synthetic fibre ropes for towing, mooring and anchoring
ISO 10556:2009 "Fibre ropes of polyester/polyolefin dual fibres"
OCIMF Mooring Equipment Guidelines (MEG4), Fourth Edition 2018 [test requirements]

Application :

Mooring and Towing of Ships and HSLCs.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2022-12-08**
This Certificate is valid until **2024-05-01**.
DNV local unit: **Oslo Maritime and CAP**

Approval Engineer: **Gisle Hersvik**

for **DNV**

Gustav Heiberg
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.

Product description

Timm Master 8, 8-strand plaited/braided synthetic fibre rope
Timm Master 12, 12-strand plaited/braided synthetic fibre rope
- with or without marine finish, without or with cover around strand or rope.
- UV-stabilized.
- Double Construction: Mixed Polyolefins “B5” Yarn. Outer “B5” Yarn covered with High Tenacity Polyester (HT PES) yarn.

Timm Master 12 SBA, same as **Timm Master 12**, but with SBA.
- SBA = Snap Back Arrestor – element intended for reducing rope recoil

Type designation	Cover	Specific Gravity	
Timm Master 8	-	0,99	Floats in seawater
Timm Master 12	-	0,99	Floats in seawater

Compliance with OCIMF Mooring Equipment Guidelines (MEG4)

Mooring Line Base Design Certificate – for Timm Master 32 mm and 96 mm
Document No.:
- TS CERT 7801 E (Mooring Line Base Design Certificate Timm Master 8/12/12 SBA)

Mooring Line Certificates will be issued with reference to Mooring Line Base Design Certificate.

Wilhelmsen Ships Service has performed the full test scenario as per OCIMF MEG4.

Snap Back Arrestor technology

The Snap Back Arrestor (SBA) in Timm Master 12 SBA is intended for reducing rope recoil (Snap Back) and is not influencing the rope's performance indicators.

The SBA technology is qualified by DNV in accordance with DNV-RP-A203.

Information about the SBA performance and qualification process can be found in the DNV Statement of qualified technology.

Rope characteristics:

The Rope Characteristics are tabulated on the next page observing the following:

Fibre ropes are to be delivered with a linear mass within ±5 % of the nominal linear mass given in the table.

All LDBF (Line Design Break Force) values are for spliced ropes. Values for unspliced ropes are 10% higher.

For all covered ropes, weights in table are for load bearing elements (Core).

ROPE CHARACTERISTICS							
Description	**ISO Ref. number**	**LDBF [kN] -spliced -up to:**	**LDBF [mT] -spliced -up to:**	**Mass -excl. SBA [kg/220m]**	**Mass -incl. SBA [kg/220m]**	**Linear Density -load bearing [kg/m]**	**Tenacity -load bearing [kN/kg/m]**
F30	40	315	32	185	194	0,84	375
F35	45	397	40	234	243	1,06	373
F45	51	508	51	300	314	1,36	373
F55	55	590	60	348	362	1,58	373
F60	57	632	64	374	388	1,70	372
F70	62	746	76	441	462	2,00	372
F80	67	869	88	515	536	2,34	371
F100	73	1 028	104	610	631	2,77	371
F120	81	1 261	128	750	778	3,41	370
F140	88	1 485	151	885	913	4,02	369
F170	96	1 761	179	1 051	1 079	4,78	369
F200	104	2 061	210	1 232	1 269	5,60	368

A more detailed table is shown here:

ROPE CHARACTERISTICS					
ISO Ref. number	**Linear Density -rope [g/m]**	**Mass -rope [kg/220m]**	**LDBF with splice or Tail [kN]**	**LDBF with splice or Tail [mT]**	**Tenacity load bearing -spliced [kN/kg/m]**
32	540	119	203	20	377
36	682	150	256	26	376
40	841	185	315	32	375
44	1 016	224	380	38	374
45	1 062	234	397	40	374
46	1 110	244	415	42	374
48	1 207	266	451	46	374
50	1 309	288	489	49	373
51	1 362	300	508	51	373
52	1 415	311	528	53	373
54	1 525	336	569	57	373
55	1 582	348	590	60	373
56	1 640	361	611	62	373
57	1 698	374	632	64	372
58	1 758	387	654	66	372
60	1 880	414	699	71	372
62	2 007	441	746	76	372

ROPE CHARACTERISTICS

ISO Ref. number	Linear Density -rope [g/m]	Mass -rope [kg/220m]	LDBF with splice or Tail [kN]	LDBF with splice or Tail [mT]	Tenacity load bearing -spliced [kN/kg/m]
64	2 137	470	794	80	372
67	2 341	515	869	88	371
68	2 410	530	894	91	371
70	2 553	562	947	96	371
72	2 700	594	1 001	102	371
73	2 775	610	1 028	104	371
76	3 006	661	1 113	113	370
78	3 165	696	1 171	119	370
80	3 328	732	1 231	125	370
81	3 411	750	1 261	128	370
84	3 666	807	1 355	138	370
88	4 021	885	1 485	151	369
90	4 204	925	1 552	158	369
94	4 583	1 008	1 690	172	369
96	4 779	1 051	1 761	179	369
100	5 182	1 140	1 908	194	368
104	5 602	1 232	2 061	210	368
108	6 037	1 328	2 220	226	368
112	6 489	1 428	2 384	243	367
116	6 957	1 531	2 555	260	367
120	7 442	1 637	2 731	278	367

Application/Limitation

The Type Approval covers ropes with diameter from 32 mm to and including 120 mm, as per tables above.

The OCIMF MEG4 approval range covers ropes with diameter from 32 mm to and including 96 mm.

Manufactured by

Timm Slovakia, S.r.o., Nozdrkovce 37, 91104 Trenčín, Slovakia

DNV local station: Komarno

DNV Client ID #104705

DNV Client ID #10027340

Responsibility

The Company (stated on the front page of this Certificate) takes the responsibility that both design and production are in compliance with Rules, Standards and/or Regulations listed on page 1 of this Certificate.

Type Approval documentation

Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**, and in accordance with:

- ISO 2307:2019, Fibre ropes -- Determination of certain physical and mechanical properties.
- ISO 9554:2019, Fibre ropes -- General specifications.
- CI 1500A-15, Test methods for fiber ropes. Physical properties.
- CI 1500B-15, Test methods for fiber ropes. Performance properties.
- OCIMF's Mooring Equipment Guidelines (MEG4) [requirements to testing].
- DNV-CP-0100.

The fibre rope is manufactured in accordance with ISO 10556:2009 "Fibre ropes of polyester/polyolefin *dual fibres*" and ISO 9554.

Initial setting/cycling of ropes and testing of break strength are carried out in accordance with ISO 2307.

Marking of product

Product shall be marked with *manufacturer's name*; **Wilhelmsen Ships Service AS, Lysaker, Norway**, *production plant* and *type designation* and *diameter*.

The marking is to be carried out in such a way that it is visible, legible and indelible. The marking of product is to enable traceability to the DNV Type Approval Certificate.

Periodical assessment

The scope of the Periodical Assessment is to verify that the conditions stipulated for the Type Approval is complied with and that no alterations are made to the product design or choice of materials.

Periodical assessments (for Certificate Retention / Certificate Renewal) shall be performed according to DNV-CP-0338.

This certificate is only valid if required Periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com

END OF CERTIFICATE