

# High Potential Mooring Incident – 5 September 2024

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# THE VESSEL

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Singapore flagged large container vessel

Leading container industry ship owner

Third party Document of Compliance holder

Date of build – 1 February 2010

LOA – 332.74 m / Beam – 43.28 m /  
Draft – 11 m

One from a several large container vessels (>310 m) calling at Fremantle regularly – 6<sup>th</sup> port call for this vessel.

# THE INCIDENT

Vessel alongside Fremantle container terminal berth CT3

Strong wind warning in force from BoM

16 mooring lines in use (6+2 configuration F & A) + Offshore anchor lowered to seabed

4 mooring lines parted out of 12 ropes on mooring winches

Tug assistance provided – 2 tugs

Damaged mooring ropes spliced and returned to service

# INVESTIGATION FINDINGS – Rope inventory extract

Rope ID	Manufacturer	Description	Date of installation	LDBF(kN)	Condition	Last inspection date	Type of inspection
M1	ATLAS	8 strand x 75mm x 220m	05.02.2010	1225.6	GOOD	28.05.2024	Routine
M2	ATLAS	8 strand x 75mm x 220m	05.02.2010	1225.6	GOOD	28.05.2024	Routine
M3	ATLAS	8 strand x 75mm x 220m	09.09.2024	1235	BRAND NEW	28.05.2024	Routine
M4	ATLAS	8 strand x 75mm x 220m	02.05.2019	1236	GOOD	28.05.2024	Routine
W1	ATLAS	8 strand x 75mm x 220m	05.02.2010	1225.6	GOOD	22.10.2024	Routine
W2	ATLAS	8 strand x 75mm x 220m	25.09.2023	1235	BRAND NEW	28.05.2024	Routine
M5	ATLAS	8 strand x 75mm x 220m	16.04.2020	1236	GOOD	22.10.2024	Routine
M6	ATLAS	8 strand x 75mm x 220m	19.04.2019	1236	GOOD	22.10.2024	Routine
M7	ATLAS	8 strand x 75mm x 220m	05.02.2010	1225.6	GOOD	22.10.2024	Routine
M8	ATLAS	8 strand x 75mm x 220m	05.02.2010	1225.6	GOOD	22.10.2024	Routine
M9	ATLAS	8 strand x 75mm x 220m	05.02.2010	1225.6	GOOD	22.10.2024	Routine
M10	ATLAS	8 strand x 75mm x 220m	05.02.2010	1225.6	GOOD	22.10.2024	Routine

# INVESTIGATION FINDINGS - Rope certificate

Contract No.: 4000568487

**Bescheinigung über die Prüfung und Untersuchung von Faserseilen**  
*of fibre ropes*

<div style="border: 2px solid red; padding: 5px;"><p>Datum der Prüfung: <u>2009-10-05</u> <i>Date of test:</i></p><p>Nennndurchmesser: <u>78</u> mm <i>Nominal diameter:</i></p><p>Machart (Form): <u>6 x 9 x 5,0 mm Atlas Mooring Rope</u> <i>Construction:</i></p><p>Anzahl der Garne insgesamt: <u>see attachment Pos. 1-4</u> <i>Total number of yarns:</i></p><p>Werkstoff: <u>Polyamid</u> <i>Material:</i></p><p>niedrigster Schmelzpunkt: <u>--</u> <i>lowest melting point:</i></p><p>Vorgeschriebene Bruchkraft des Seiles: <u>120</u> kN <i>Required breaking load of rope:</i></p></div> <p><b>Ergebnisse der Prüfung</b> <i>Test results</i></p> <p>A) Ein Stück des Seiles wurde im ganzen Strang zerrissen bei einer Versuchslänge von <u>--</u> mm <i>One piece of rope was tested to destruction with a test length of</i></p> <p>Die Bruchkraft beträgt: <u>--</u> kN. <i>The breaking load is</i></p> <p>B) Durch Prüfung von <u>9 x 5,0 mm + 9 x 9300/7 dtex + 9 x 22000 dtex + 9 x 1880 dtex</u> dem Seil entnommenen Garnen wurde als Mittelwert eine <i>By testing of</i> <u>1634,13</u> kN ermittelt. <i>yarns taken from the rope an average</i></p> <p>Die Multiplikation der Garn-Bruchkraft mit der Anzahl der Garne und dem Berichtigungsfaktor <u>0,75</u> <i>A multiplication of the yarn breaking load with the number of yarns and the correction factor</i></p> <div style="border: 2px solid red; padding: 5px;"><p>ergibt eine Bruchkraft von <u>1225,60</u> kN. <i>results to a breaking load of</i></p><p>Die zulässige Nutzlast unter Berücksichtigung der Gebrauchszahl „N“ (s. Rückseite) beträgt: <u>--</u> kN. <i>The safe working load subject to the coefficient of utilisation "N" (see reverse side) is:</i></p></div> <p>Name und Adresse des Herstellers oder Lieferers des Seiles: <u>Drahtseilwerk GmbH, P.O. Box 100325</u> <i>Name and address of manufacturer or supplier of rope:</i></p> <p>Aufdruck auf dem Firmenstreifen: <u>GL 15</u> <u>27503 Bremerhaven</u> <i>Print on the manufacturer's identification strip:</i></p> <p>Name und Adresse der Firma oder fachkundigen Person, die bei der Prüfung anwesend war und die Untersuchung durchgeführt hat: <i>Name and address of firm or competent person who witnessed testing and performed examination:</i></p> <p>Ich bescheinige, daß die obigen Angaben richtig sind, daß die Prüfung und Untersuchung des Faserseiles von einer fachkundigen Person ausgeführt und keine Mängel festgestellt wurden. <i>I certify that the above statements are correct, that the rope was tested and examined by a competent person and no defects were found.</i></p> <p>Intended for: <u>Daewoo Shipbuilding &amp; Marine Engineering Co., Ltd., Keoje-City, 656-714 Gyungnam, Choson</u></p>	<p>Länge: <u>12 x 220</u> m <i>Length:</i></p> <p>Gewicht: <u>--</u> kg <i>Weight:</i></p> <p>Norm: <u>--</u> <i>Standard:</i></p> <p>Farbe: <u>white</u> <i>Colour:</i></p> <p>spez. Gewicht: <u>1,14</u> kg/dm<sup>3</sup> <i>Spec. weight:</i></p> <p>Lichtstabilisierung: <u>UV-resistant</u> <i>Light stabilisation:</i></p>
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Datum 2009-10-06  
*Date*

Ort Bremerhaven  
*Place*

Unterschrift (Kraus)  
*Signature*

# INVESTIGATION FINDINGS

Wind speeds – 30+ knots (Higher than BoM predictions)

Incident was not reported internally nor externally as required by FPA

Maximum line forces experienced by parted lines < 25 tonnes

Age of parted mooring ropes – 14.7 years

7 out of 12 mooring ropes on winches – 14.7 years

No change in estimated residual strength

No change to rope lengths after repairs

# INVESTIGATION FINDINGS

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Inspections (routine) continued to report all rope conditions as 'Good'

Usage of parted mooring ropes continued with no plans for replacement

Mooring Line Management Plan – Implemented in December 2023

MLMP – Not complied with

No testing for residual strength >75% of SDMBL or LDBF

Continued usage across Australian ports – Melbourne, Sydney



# FPA Actions & additional findings

All mooring ropes (14.7 years age) replaced prior berthing at Fremantle – 7 ropes

Vessel inspection conducted on berthing

5 mooring ropes < 14.7 years age were found in poor condition – To be replaced prior next call

No oversight from shore management

No coverage in Internal audit scope

Vessel reported to AMSA and Singapore MPA for further investigations / actions

Industry notice to be issued in due course



# CORRECTIVE ACTION PLAN & LESSONS LEARNT - OWNERS

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Preliminary report highlighting non-compliances received

Final Operator's investigation report received and under review

Flag state report awaited

Vessel not permitted to return to Fremantle until corrective actions are satisfactory

# LESSONS LEARNT – FREMANTLE PORTS

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Continuous and increased vigilance towards mooring systems through Pre-arrival vetting process

Identifying high risk vessels / operators

Collaborative approach with ship operators for best practice resolutions

# THANK YOU