



PREVENTION AT SEA

CIRCULAR 03/2019

“VETTING INSPECTIONS –
A COMMON OBSERVATION
ON MSMP & LMP”

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PREVENT

“Vetting Inspections – A common observation on MSMP & LMP”

Case#1: Many cases have been reported by our Clients that during vetting inspections, the below observation is often raised with regards to the Mooring System Plan as well as the Line Management Plan;

'9.2 Recorded evidence of the Ship design MBL (MBLSD) was not available in the shipboard MSMP & LMP'

Apparently, during recent revisions of MEG, it became apparent that there was a confusion in the shipping industry with the term **Minimum Breaking Load (MBL)** as well as other terminology relating to mooring line strength. Since nearly all mooring injuries are a result of mooring line failures, OCIMF has strived to provide guidance and clarity on the condition-monitoring of mooring lines. More specifically

Mooring Line MBL Vs Ship Design MBL

Mooring line MBL is no longer a recognized term in MEG4.

Due to the use of the term 'Minimum Breaking Load', there was a misunderstanding that mooring lines can be safely loaded up to their MBL with no failures or degradation. Consequently, via MEG4, OCIMF is trying to heighten the understanding of the importance of safety margins on mooring lines.

With a view to resolve this confusion, the term **MBL** in MEG4 was replaced with the following new terms;

01

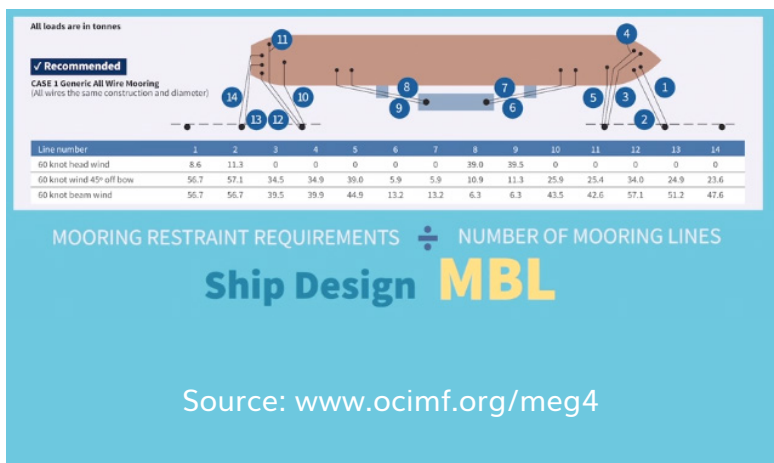
Ship design MBL (MBLSD)

02

Line Design Break Force (LDBF)

03

Working Load Limit (WLL)



Ship Design Minimum Breaking Load (MBLSD) – the minimum breaking load of new, dry mooring lines for which a ship's mooring system is designed, to meet OCIMF standard environmental criteria restraint requirements. *The ship design MBL is the core parameter against which all the other components of a ship's mooring system are sized and designed with defined tolerances.*

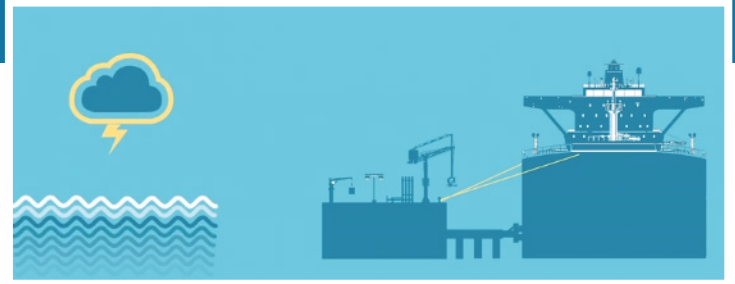
		Fitting	% ship design MBL		
			Max LDBF	105	LDBF = 100 - 105% ship design MBL
Increased loading on line leading to increased rate of damage and increased risk of loads exceeding residual strength	Mooring line	Ship design MBL		100	
				80	Designed brake max holding load (ISO)
				75	Residual strength - OCIMF recommended retirement of mooring lines
Working loads are within maximum expected values for anticipated environmental conditions		WLL (50-55%)	60	Operational brake holding load	
			55 wire 50 synthetics	At nominal heaving speed winch motor rendering (max stall) load (50% ship design MBL) (ISO)	
Typical operational range			33	Winch motor - pull - between 22-33% at nominal heaving speed (ISO)	
			22		
		0			

Source: INTERTANKO Guidelines on MSMP 'Relationship between terminologies'

Line Design Break Force (LDBF) - the minimum force that a new, dry, spliced mooring line will break at when tested according to Appendix B of MEG4. When selecting lines, *the LDBF of a line shall be 100%–105% of the ship design MBL.*

Working load limit (WLL) - The WLL is expressed as a percentage of ship design MBL and should be used as a limiting value in both ship design and operational mooring analyses. During operation, the WLL should not be exceeded. The WLL value is used as a limit with the standard environmental criteria and mooring layout when designing mooring systems.

Do all vessels have a ship design MBL?



Ships built to MEG4 will already have a ship design MBL to satisfy OCIMF Standard Environmental Criteria restraint requirements and each mooring line will have a LDBF. Mooring fittings and mooring winch brake rendering values are based on the ship design MBL.

Ships built prior to MEG4 should still follow the same guidance of setting their mooring winch brake rendering values based on the "line MBL" which, should be assumed to be synonymous with the ship design MBL, which is termed "Design Rope" MBL (See Figure 7,3 in MEG3).

Further to the above, in MEG4 Section 1.9 & VIQ 2017 – Section 9.2, the following is clearly stated;

"[...] While all new ships should be able to achieve all parts of the proposed MSMP structure, **existing ships may experience limitations particularly in accessing original design information.** It is recommended that existing ships undertake the necessary due diligence to collate required information or align their operating practices with these fundamental safe mooring principles, so far as it is possible and practicable."



MEG is based on OCIMF's **Standard Environmental Criteria**. Existing vessels with design of the mooring systems based in IACS environmental criteria, **prior December 2016**, should seek guidance from IACS.

In case you are interested to calculate the **ship design MBL**, in accordance with MEG4 requirements, it is recommended to contact the shipyard for this type of mooring analysis.

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FOR MORE INFORMATION,
PLEASE DO NOT HESITATE TO CONTACT US.



Prevention at Sea Ltd
52 Arch. Makariou III Avenue,
Ydrogios Tower, CY 6017
Larnaca - Cyprus

Tel: +357 24819800
Fax: +357 24819881



Tel: +30 210 64 37 637



info@preventionatsea.com



www.preventionatsea.com

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