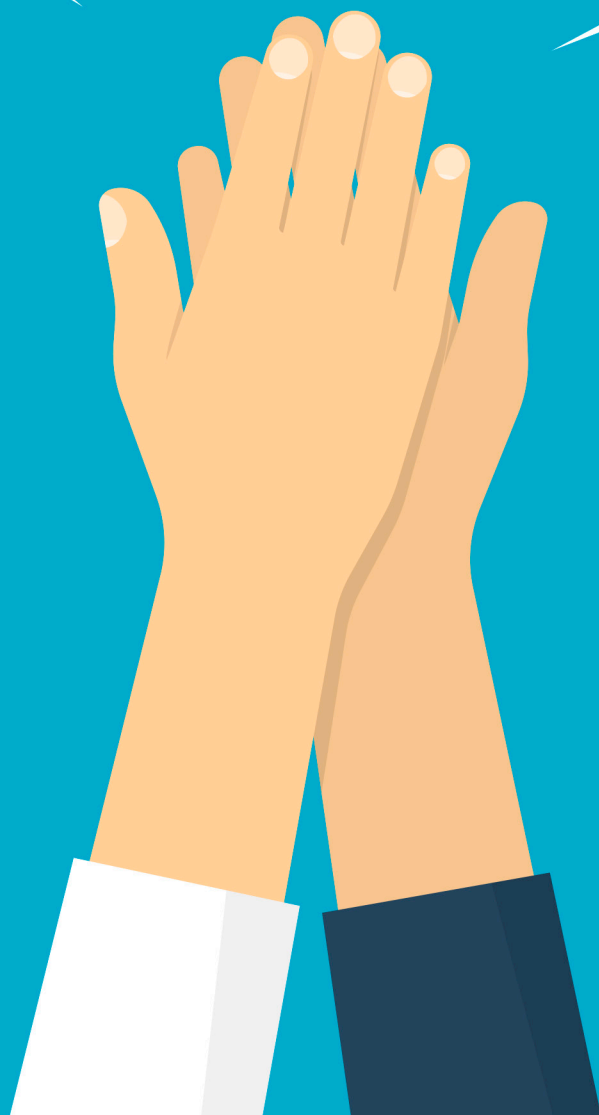


High Fives for MEG4



Veronika Aspelund, Wilhelmsen Ships Service, Norway, explains why the latest mooring guidelines should be viewed as a much-needed catalyst for positive change.

Published towards the end of June 2018, the Oil Companies International Marine Forum's (OCIMF) fourth edition of its Mooring Equipment Guidelines (MEG) represents the work of a multi-discipline group, including members of various shipping trade organisations, mooring

line manufacturers, equipment suppliers, shipyards and OCIMF members. To say they have an enormous impact would be an understatement.

Created specifically to help ensure the safe mooring of tankers and gas carriers at terminals, some rope manufacturers and

suppliers have viewed the new guidelines as a challenge when it comes to test protocols and certification. For Wilhelmssen and its Timm Ropes brand, they have proved to be both an invaluable foundation and a genuine catalyst for change.

50 years of the OCIMF

Celebrating its 50th anniversary this year, the Oil Companies International Marine Forum (OCIMF) is a voluntary association focused on preventing harm to people and the environment by promoting best practice in the design, construction and operation of tankers, barges and offshore vessels, and their interfaces with terminals. Steered by its members, among which the LNG industry has a significant presence, the OCIMF has been at the forefront of a number of key initiatives, such as: the ship inspection report (SIRE) programme; the tanker management and self-assessment tool (TMSA); and the mooring guidelines.



Figure 1. Timm ropes are designed, developed and produced in the Timm factory in Slovakia.



Figure 2. Abrasion testing is performed in-house at Timm.

On the right lines

As the most comprehensive mooring standard currently available, OCIMF MEG4 covers the full mooring operation and the lifespan of ropes, providing clear guidelines and, importantly, it has finally established a solid foundation for rope management.

A long overdue initiative, the line management plan (LMP) should include records on mooring hours, inspection records and plans, retirement criteria, reports and the rope manufacturer's recommendations for their products. This may sound obvious, and for many it is already part and parcel of daily operations, but it is surprising how many owners and operators have failed to take a systematic approach to managing the lifecycle of their mooring ropes. From procurement, to installation, use and finally retirement. A 'fit and forget' approach may work for some vessel equipment, but not for such an important and inherently dangerous activity as mooring.

The LMP removes such incoherence and uncertainty, and helps ensure that whichever mooring system is in use, it is correctly inspected, maintained and operated in accordance with the original mooring design basis of the vessel. This is music to the ears of a rope manufacturer such as Wilhelmssen – a company that has long advocated for a systematic approach to rope management, and has been looking at various ways it can support vessel crews and onshore staff to develop, and actively use, an LMP.

Aiming to make line management as admin-light and hassle-free as possible, collecting all the supporting documents, reports, specs and certificates in one place is key. Indeed, according to the OCIMF, rope information should be available from a single system that is accessible from the ship and shore. This is often not the case today. Typically, a vessel's rope information can be found across various locations, formats and systems, which is neither cost nor time effective. As a worst-case scenario, if there is a mooring related incident, having the proper documentation and system in place can mean the difference between a prolonged stay in port with costly off-hire, or a quick turnaround.

There is an app for that

Wilhelmssen's solution to this problem is the dedicated Timm Line Management app, which provides a complete overview of the mooring equipment and usage onboard in a single application, working seamlessly across all devices (computers, phones, tablets, etc.), both onboard and onshore. Wilhelmssen has focused on making the user experience of the app as intuitive as possible, with the average time to get the system implemented on a new vessel and the users trained being less than one hour. An open system, the app is also designed to work with all mooring ropes and wires from all manufacturers and is fully customisable to support all types of vessels, mooring equipment and arrangements.

Setting the standard

Along with the hopefully game changing LMP, OCIMF MEG4 has also provided new guidelines and standards for rope testing and certification. Providing fresh impetus for the wider industry to wrap its head around what tests ropes should have undergone and how and why they come with certain certificates, MEG4 gives rope manufacturers the opportunity to level the playing field, so to speak.

Wilhelmssen's Timm mooring ropes are delivered with both a type approval certificate (TAC) and OCIMF MEG4 certificate. These two certificates have clear differences and, despite Wilhelmssen's

and other reputable manufacturers' attempts, there are still misunderstandings in the market about what means what when it comes to certificates of any sort and their associated testing. In an attempt to somewhat rectify this situation, a quick rundown of the differences follows.

Following the paper trail

A general product conformity certificate is delivered with each rope to verify its state of compliance with industry standards. These certificates can be mill/works, batch or a TAC. Works or mill certificates are issued and confirmed by the manufacturer and no class society is involved in that process. A batch test certificate is issued based on a break test performed for a specific batch, and the manufacturer will then issue a batch test certificate that can be signed by the manufacturer or class society representative. A TAC, meanwhile, is issued by a class society, and is valid for the time period defined in the certificate.

With the introduction of the OCIMF MEG4 guidelines, a new certificate was also introduced: the OCIMF MEG4 certificate. There are a number of linear-density, strain, angled break force tests required to be completed to gain an OCIMF MEG4 certificate, along with angled endurance tests and axial compression fatigue tests. These tests are quite comprehensive and demanding and, as a consequence, not all rope manufacturers have either the equipment or the resources to complete all of the tests. Vessel owners and operators should therefore be careful when accepting a MEG4 certificate. Wilhelmsen recommends requesting a base design certificate (BDC) signed by an independent inspector, such as a classification society.

User-friendly

Another welcome facet of MEG4 is the emphasis it places on a human-centred design. Bringing the day-in and day-out experiences, and most importantly safety, of crew and port workers back into sharp focus, the guidelines encourage manufacturers to always have the end-user in clear sight. Wilhelmsen already adheres to a 'human-centred' mentality with regards to rope design and manufacture. The close to seven-year research and development journey the company embarked on to develop its snap back arrestor (SBA) is evidence of this.



Figure 3. Manufactured since 1772, Timm ropes balance durability, abrasion resistance, tensile strength and elongation.

Faced with statistics showing that 53% of mooring accidents resulting in personal injury are caused by parted ropes/wires, according to UK P&I,¹ Wilhelmsen set about developing a solution with a human-centred design. Dramatically reducing the snap back force released when a rope breaks, the company's SBA core is installed within its Timm Master 12 and Acera ropes. These products are tried, tested and also verified by DNV GL.

Closer collaboration

A collection of the very best practice, advice and guidance on mooring operations currently available, OCIMF MEG4 is helping to pull the maritime industry towards a safer, more reliable era of mooring operations. Looking to the future, Wilhelmsen welcomes the advances in safety and reliability that the new guidelines will undoubtedly bring. The company is also looking forward to closer collaboration with its customers to raise levels of industry understanding and knowledge – resulting in better and safer practices, especially those relating to mooring. [LNG](#)

References

1. 'Risk Focus: Consolidated: 2016', *UK P&I Club*, (2016), https://www.ukpandi.com/fileadmin/uploads/uk-pi/Latest_Publications/2016_Publications/Risk_Focus5.pdf