Type Approval Certificate and OCIMF MEG4 certificate

Timm™ mooring ropes are delivered with Type Approval Certificate and OCIMF MEG4 Certificate. These two certificates have clear differences, but still create misunderstandings in the market. This document aims to clarify these misunderstandings and define the purposes each certificate serves.

A general product conformity certificate is delivered with each rope to verify its state of compliance with certain standards. These certificates can be mill/works, batch or Type Approval Certificate (TAC). Works or mill certificate is issued and confirmed by the manufacturer and no class society is involved in that process. Batch test certificate is issued based on a break test performed for a specific batch; the manufacturer will then issue a batch test certificate that can be signed by the manufacturer or class society representative. Type Approval Certificate 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 is introduced: OCIMF MEG4 Certificate.

Below is a comparison of the TAC and OCIMF MEG4 certificates:

<table>
<thead>
<tr>
<th>Type Approval Certificate (TAC)</th>
<th>OCIMF MEG4 Certificate</th>
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</thead>
<tbody>
<tr>
<td>Issued by:</td>
<td>OCIMF MEG4 certificates are needed for tankers. Base Design Certificate is completed by the manufacturer and verified by an independent inspector. For Timm™ products, we use DNV GL inspectors.</td>
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<tr>
<td>What does it test?</td>
<td>In addition to measuring the mentioned ropes characteristics and inspections of the production process and manufacturing plants, the only test needed for TAC is a breaking test.</td>
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<tr>
<td>What certs are delivered?</td>
<td>Based on the TAC, Wilhelmsen Ships Service can issue individual certificates for all ropes covered in TAC which are produced in the type approved factories.</td>
</tr>
</tbody>
</table>

Below is a comparison of the TAC and OCIMF MEG4 certificates:
The limited tests WSS provides are fit-for-purpose, providing the assurance needed for compliance without incurring the extensive costs of full tests.

Two of the tests specified in OCIMF MEG4 are performed as limited tests by WSS:
1. Angled endurance test where 17,000 cycles were reduced to 1,700
2. Axial compression fatigue test where 10,000 cycles were reduced to 1,000 cycles

This is clearly stated in Base Design Certificates and individual MEG4 certificates.

Due to the large variety of testing equipment required, these tests are very expensive and are more time-consuming as well.

**Angled Endurance Test**
This test seems to be based on Tension-Tension fatigue test requirements in API2SM for fibre ropes used for the long-term station-keeping of offshore installation with target lifetime of 20 years. We understand that suppliers active in the offshore industry do have the equipment and possibility to perform these tests, but we do not see the value of these indicators applying to vessel mooring operations.

**Axial Compression Fatigue Test**
This test is based on API Design, Manufacture, Installation and Maintenance of Synthetic Fibre Ropes for Offshore Mooring. In the definition of this test, it is specified that it is not applicable to polyester, nylon, or HMPE fibres and this test is developed mainly for aramid fibres that WSS does not use in rope production. Hence, this test will not give us relevant indication on rope quality.

**Accepted by vetting inspectors**
WSS can issue individual certificates type approved by DNV GL for Timm™ Master and Acera™ ropes. For tankers, we can issue OCIMF MEG4 certificates for Timm™ Master and Acera™ ropes - the limited tests are clearly marked on the certificates.

Timm™ Flex tails are currently under testing and we can issue OCIMF MEG4 certificates where some of the values are missing and marked as “Under Testing”. This is still accepted by vetting inspectors.