

No. 116 Performance Standard for Protective Coatings for Cargo Oil Tanks of Crude Oil Tankers

(Feb 2011)
(Rev.1 Feb 2013)

5 years field exposure test in accordance with MSC.288 (87)

1. Introduction

This recommendation provides an interim solution on the method of the 5 year field procedure given in table 1.1.3 of MSC.288 (87).

2. 5 years field exposure

2.1 Coating manufacturer's records, should include the information indicated in 2.2.1 and should be examined to confirm coating system has 5 years field exposure, and the current product is the same as that being assessed.

2.2.1 Manufacturer's Records

- Original application records
- Original coating specification
- Original technical data sheet
- Current formulation's unique identification (Code or number)
- If the mixing ratio of base and curing agent has changed, a statement from the coating manufacturer confirming that the composition of the mixed product is the same as the original composition. This should be accompanied by an explanation of the modifications made.
- Current technical data sheet for the current production site
- Specific Gravity (SG) and Infra Red (IR) identification of original product
- SG and IR identification of the current product
- If original SG and IR cannot be provided then a statement from the coating manufacturer confirming the readings for the current product are the same as those of the original

2.2 Either class survey records should be reviewed, or a joint (coating manufacturer and RO) survey of cargo tanks of a selected vessel should be carried out, to verify compliance with the requirements of 2.1 and 2.6. The reporting of the coating condition in both cases should be in accordance with the principles given in section 4 of MSC.1/Circ. 1330.

2.3 The selected vessel should have cargo tanks in regular use, of which:

- At least one tank is exposed to minimum temperature of 60 degree C plus or minus 3 degree
- For field exposure the ship should be trading in varied trade routes and carrying substantial varieties of crude oils including highest temperature and lowest pH limits to provide a realistic sample: for example, three ships in three different trade areas with different varieties of crude cargoes

2.4 In the case that the selected vessel does not meet the requirements in 2.3 then the limitations on lowest pH and highest temperature of crude oils carried should be clearly stated on the type approval certificate.

2.5 In all cases of approval by field exposure for 5 years, the shop primer should be removed prior to application of the approved epoxy based system coating, unless it can be

**No.
116**

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confirmed that the shop primer applied during construction, is identical in formulation to that applied in the selected vessel used as a basis of the approval.

2.6 All cargo tanks should be in "GOOD" condition excluding mechanical damages, without touch up or repair in the prior 5 years.

2.6.1 "Good" is defined as: Condition with spot rusting on less than 3% of the area under consideration without visible failure of the coating. Rusting at edges or welds, must be on less than 20% of edges or welds in the area under consideration." "Area under consideration" is the area defined as per PSPC-COT 4.4 and 4.5. In evaluating the figures given in the definition, an under deck area and an inner bottom area are to be treated separately.

2.6.2 Examples of how to report coating conditions with respect to areas under consideration should be as those given in the principles in section 4 of MSC.1/Circ. 1330.

2.7 If the applied NDFT is greater than required by the PSPC, the applied NDFT should be the minimum to be applied during construction. This will be reported prominently on the Type Approval Certificate.

2.8 If the results of the inspection are satisfactory, a Type Approval Certificate should be issued to include both the epoxy based system and the shop primer. The Type Approval Certificate should allow the use of the epoxy based system either with the named shop primer or on bare prepared steel. The Type Approval Certificate should reference the inspection report which should also form part of the Coating Technical File.

2.9 The Type Approval Certificate should be considered invalid if the formulation of either the epoxy based system or the shop primer is changed. It is the responsibility of the coating manufacturer to inform the RO that provided the Type Approval of any changes to the formulation.

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