



SUB-COMMITTEE ON SHIP DESIGN AND
EQUIPMENT
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Agenda item 7

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CARGO OIL TANK COATING AND CORROSION PROTECTION

Comments on the report of the Correspondence Group

Submitted by the International Association of Classification Societies (IACS)

SUMMARY

Executive summary: This document provides comments on the report of the Correspondence Group (DE 53/7) with regard to the draft test procedures for coating qualification for cargo oil tanks of crude oil tankers, and tables 1.1 (Selection of the coating system) and 1.3 (Secondary surface preparation) of the draft performance standard provided in annex 1.

Strategic direction: 5.2

High-level action: 5.2.1

Planned output: 5.2.1.8

Action to be taken: Paragraph 7

Related documents: DE 53/7 and resolution MSC.215(82)

Introduction

1 This document is submitted in accordance with paragraph 4.10.5 of the Guidelines on the organization and method of work of the Committees and their subsidiary bodies (MSC-MEPC.1/Circ.2) and provides comments on document DE 53/7. IACS very much appreciates the work that has been undertaken by the Correspondence Group, under the coordination of Japan, and the very considerable efforts that have been made in providing this valuable input for the consideration of the Sub-Committee.

2 Having reviewed the report of the Correspondence Group (DE 53/7), IACS would like to provide some comments on the draft test procedures for coating qualification for cargo oil tanks of crude oil tankers as given in the annex to the document. In general, IACS is of the view that further careful consideration will be required of this test procedure prior to its finalization.

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3 Further, as a general statement, IACS notes that while “undercutting from scribe” has been included in the acceptance criteria given in resolution MSC.215(82), this matter has not been addressed in the draft test procedure for cargo tank coating. IACS believes that the test “undercutting from scribe” used in the ballast tank PSPC (resolution MSC.215(82)) should also form part of the test package in the draft test procedure for cargo tank coating and that the Sub-Committee should address this oversight if it still decides not to remove shop-primer completely (see also paragraph 5 below).

4 With regard to other parts of the draft performance standard provided at annex 1 to DE 53/7, IACS notes that section 1.1 of table 1 states that “the selection of the coating system shall be considered by the parties involved with respect to the service conditions” and lists, at item 6, “permeability of the coating and resistance to inert gas and acids”. If there is a technical reason to restrict the cargo types with regard to the coating system, such compatibility information, as well as coating manufacturer experience based on tracking records, may be essential or fundamental. For this reason, IACS proposes to insert the phrase “including coating resistance information” in paragraph 3.4.1 of the draft Performance Standard after the word “applied”.

5 IACS is of the opinion that the option, in section 3.2 of table 1 of the draft Performance Standard provided at annex 1 to document DE 53/7, to prove the compatibility of zinc shop primer should be deleted. The technical reason behind this opinion is that zinc-shop primer is not compatible with the acidic environment caused by cargoes (pH<6) and holidays in the epoxy top coat will lead to attack of the primer and delamination of the epoxy-based top coat. IACS proposes that the text should be amended to ensure that all zinc shop primer is removed by shot blasting to Sa (2½) before application of the epoxy top coat.

6 IACS notes that the procedure parameters used in the test for Alternative Means (annex 2 to document DE 53/7) and Protective Coatings (annex 1 to document DE 53/7) are different. IACS has concerns over these differences and considers further discussion may be required.

Action requested of the Sub-Committee

7 The Sub-Committee is invited to consider the comments and proposals for changes to the draft test procedures for coating qualification for cargo oil tanks of crude oil tankers (as provided at annex 1 to annex 1 of document DE 53/7), as provided at annex to this document; and the comments and proposals provided in paragraph 3, 4, 5 and 6 above, and decide as appropriate.

ANNEX

**COMMENTS ON THE DRAFT TEST PROCEDURES FOR COATING
QUALIFICATION FOR CARGO OIL TANKS OF CRUDE OIL TANKERS
(DE 53/7, ANNEX 1 – ANNEX 1)**

1 Appendix 1 – Gas-tight cabinet test, paragraph 1.5

(Comment)

In the first sentence, delete the words between square brackets to make the sentence read as “The zinc silicate shop primer, when used, is to be weathered for at least 2 months and cleaned by low pressure fresh water washing.”

(Reason)

The test procedure should clearly define the test panel cleaning methods; otherwise, shop primer should be removed completely.

If the Sub-Committee still decides not to remove shop-primer completely the test procedure should clearly define the test panel cleaning methods.

The aim of sweep blasting is to clean and etch organic or metallic coatings on the surface only, or to remove poorly adhering rust or others contaminants.

2 Appendix 1 – Gas-tight cabinet test, paragraph 4. 6

(Comment)

The data steel temperature should be added to the list in sub-paragraph 6.

(Reason)

Reference is made to the following standard requirement “The steel temperature is to be more than 3°C above the dew point temperature”. In order to verify that the coating was applied according to this requirement, both the air and steel temperature should be indicated. Note that this data is required by the test procedure in resolution MSC.215(82).

3 Appendix 2 – Immersion test, paragraph 1.4

(Comment)

Delete “[40 ± 2°Celsius]” and delete square bracket around “60 ± 2°Celsius”, so that the text reads as “Temperature of the test liquid should be 60 ± 2°C and ...”.

(Reason)

Current practice for (voluntarily) certifying the suitability of coating product uses temperature even higher than 60°Celsius. IACS considers that 60°Celsius as an absolute minimum temperature, taking into account the actual environment of the cargo tanks.

4 Appendix 2 – Immersion test, paragraph 4.6

(Comment)

The data steel temperature should be added to the list in sub-paragraph 6.

(Reason)

The coating shall be applied under controlled humidity and surface conditions. In this regard, both the air and steel temperature should be indicated in the test panel's application data. Note that these data are required by the test procedure in resolution MSC.215(82).
