



EXEMPTION – section 334 of the Navigation Act 2012

I, Lucinda McIntyre, a delegate of the Australian Maritime Safety Authority, hereby exempt:

- a. The persons specified in Item 1 of the Schedule,
- b. For the solid bulk cargoes described in Item 2 of the Schedule,
- c. From compliance with the provisions of Marine Order 34 (*Solid Bulk Cargoes*) 2016 as specified in Item 3 of the Schedule, in accordance with section 1.5 of the International Maritime Solid Bulk Cargoes (IMSBC) Code 2018 Edition, incorporating amendment 04-17 and supplement (IMSBC Code),
- d. Subject to the conditions specified in Item 4 of the Schedule.

Schedule

(1) Persons

Producers and Shippers of the solid bulk cargoes described in item 2 of this schedule.

(2) Description of cargo

This exemption applies to the solid bulk cargoes listed below, as described in the schedules in appendix 1 of the IMSBC Code.

(i) METAL SULPHIDE CONCENTRATES

(ii) MINERAL CONCENTRATES

(3) Provisions of Marine Order 34 (*Solid Bulk Cargoes*) 2016 which the Person or class of persons is exempted:

S11 (1)(c) – In so far as the solid bulk cargo described in item 2 of this schedule to be loaded on a vessel, has not been tested as required by section 9.2.3.7.3 (Corrosive Solids) of the IMSBC Code.

(4) Conditions of Exemption:

- (i) In lieu of complying with the test specified in section 9.2.3.7.3 (Corrosive Solids) of the IMSBC Code, the person may use the test prescribed in section 9.2.3.7.3 for uniform and localised corrosion, using the modifications detailed in the annex to this exemption. Where the modified test determines the material does not present Class 8 properties, it may be shipped using the appropriate METAL SULPHIDE CONCENTRATES and/or MINERAL CONCENTRATES schedule(s).
- (ii) Where the modified test determines the material does present Class 8 properties, it is to be shipped using the METAL SULPHIDE CONCENTRATES, CORROSIVE UN1759 schedule.

A copy of this exemption is to be made available to Masters of vessel upon request if it is relied upon.

This exemption replaces EX5451 which is revoked

This exemption remains valid until **30 June 2019** unless altered or revoked by AMSA before this occurs.

Date – 20 December 2018

L. McIntyre

A/g Manager Ship Inspection and Registration



Annex 1 to EX 5717
Dated 21 December 2018

VARIATION TO THE CLASSIFICATION PROCEDURES, TEST METHOD AND CRITERIA RELATED TO SUBSTANCES OF CLASS 8

As applicable to the testing of MINERAL CONCENTRATES and METAL SULPHIDE CONCENTRATES subject to Exemption 5717 issued by the Australian Maritime Safety Authority

Introduction.

This annex details changes to the C.1 test contained in section 37 of *United Nations Manual of Test and Criteria* (6th revised edition) for the testing of MINERAL CONCENTRATES and METAL SULPHIDE CONCENTRATES as required by section 9.2.3.7 of the *International Maritime Solid Bulk Cargoes (IMSBC) Code* (inclusive of the 04-17 amendments).

Changes to Section 9.2.3.7.3 of the IMSBC code

No change is made to the addition of moisture (10%). The section is modified to reflect that only steel test coupons are to be used. These changes ensure the coupons are more representative of ships structures that carry solid bulk cargoes.

A material shall be classified as MHB when the corrosion rate on either steel or aluminium surfaces is between 4 mm and 6.25 mm a year at a test temperature of 55°C when tested on both materials. For the purposes of testing steel, type S235JR+CR (1.0037 resp. St 37-2), S275J2G3+CR (1.0144 resp. St 44-3), ISO 3574:199, Unified Numbering Systems (UNS) G10200 or SAE 1020, and for testing aluminium, non-clad, types 7075-T6 or AZ5GU-T6 shall be used. An acceptable test is prescribed in the United Nations Manual of Tests and Criteria, part III, section 37. When this test is performed the sample shall contain at least 10% moisture by mass. If the representative sample of the cargo to be shipped does not contain more than 10% moisture by mass, water shall be added to the sample

Changes to section 37 of the UN Manual of Test and Criteria

Section 37.4.2 (Apparatus and Material) to be amended as follows:

- (i) Delete all reference to aluminium coupons.
- (ii) Second paragraph is amended to reflect that only steel is used and that air exchange does not necessarily occur in ships holds. This paragraph is to be amended to read:

At least 3 sets of specimens shall be used for each metal (aluminium, steel). A cup-like reaction receptacle (of glass or PTEE) as shown in Figure 37.4.2.2 with three necks of suitable size (e.g. NS92/32 as well as one neck NS14) to accommodate the specimen as illustrated in Figure 37.4.2.1 and a forth neck of sufficient size to accommodate a reflux condenser shall be used. The entrance of air into the receptacle shall be ensured. The receptacle shall be sealed to prevent air exchange and moisture loss. Aluminium and steel specimens shall be tested in different reaction receptacles. To prevent liquid loss a reflux condenser shall be attached (see Figure 37.4.2.2).

- (iii) Noting the current test provides no guidance on the air to solids ratio a new paragraph is inserted after the last note:

Volume of solid material in the receptacle – The solids sample shall fill 33.3% ±3% of the volume of the receptacle to give a 1(solids) to 3(air) ratio.



Section 37.4.3 (Procedure) to be amended as follows:

- (i) Add a new requirement before first paragraph related to sample preparation noting the current test provides no guidance on sample preparation beyond volume. Compaction to represent the typical loaded bulk density of the cargo when carried in bulk.

Sample Preparation - Samples are to be prepared with a 10% moisture in the container to be used for the C.1 test as modified by this exemption. The sample is to be tamped in five layer as required by section 1.3.4.1 of Appendix 2 of the IMSBC Code.

Each layer is to be tamped around coupons as follows:

- (a) Tamp the first layer; then
- (b) Introduce first coupon and tamp second layer; then
- (c) Tamp the third and fourth layer
- (d) Introduce second coupon and tamp fifth layer.

The sample is to be tamped uniformly over the surface by dropping the hammer 25 times vertically through the full height of the guide pipe, moving the guide pipe to a new position after each drop. The hammer should not make contact with the coupons. The tamping process should follow a pattern similar to that in the figure below.

Density of the material is not required to be determined.

Compaction is to be undertaken with the "C hammer" of 350 grams (see figure 1.3.2) and a drop height of 200mm.

Sample Introduction - material to be poured into the container from no less than 2 cm from the top to avoid breakage of previous layer.

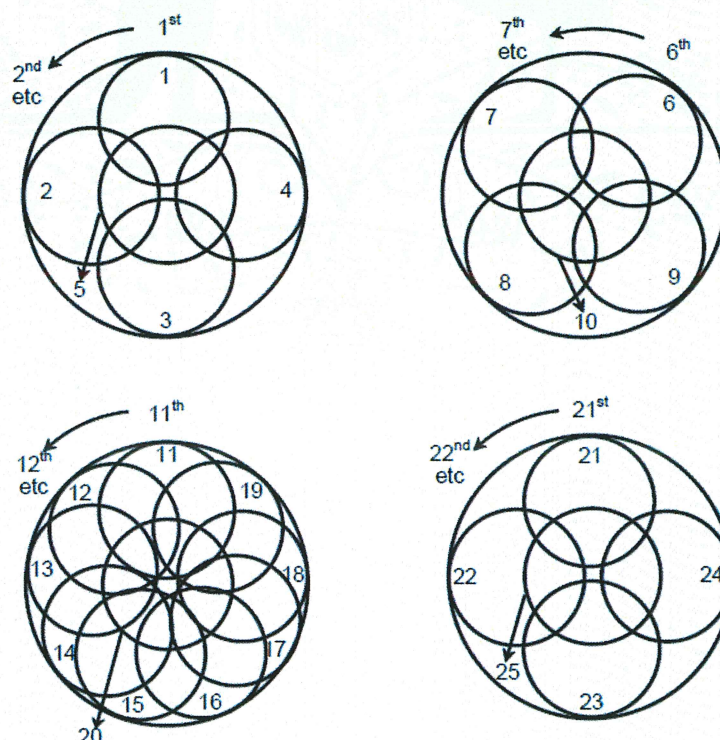


Figure – Recommended compaction pattern (taken from Appendix 2 of the IMSBC Code 2018 Edition. 1.5 Modified Proctor/Fagerberg test procedure for Coal)

In existing first paragraph require metal sheets to be polished with paper of 240 grit in lieu of 120 grit to replicate the surface roughness of steel in ships holds which is approximately 50 to 70 um.