

**RESOLUTION 2 OF THE CONFERENCE OF CONTRACTING GOVERNMENTS TO
THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974
ADOPTED ON 27 NOVEMBER 1997**

**ADOPTION OF AMENDMENTS TO THE GUIDELINES ON THE ENHANCED
PROGRAMME OF INSPECTIONS DURING SURVEYS OF BULK CARRIERS
AND OIL TANKERS (RESOLUTION A.744(18))**

THE CONFERENCE,

RECALLING article VIII(c) of the International Convention for the Safety of Life at Sea, 1974 (hereinafter referred to as "the Convention"), concerning the procedure for amending the Convention by a Conference of Contracting Governments,

RECALLING ALSO resolution A.744(18) by which the Assembly of the International Maritime Organization (IMO) adopted Guidelines on the enhanced programme of inspections during surveys of bulk carriers and oil tankers,

RECALLING FURTHER article VIII(b) and regulation XI/2 of the Convention concerning the procedure for amending the aforementioned Guidelines,

NOTING that the IMO Assembly, at its eighteenth session, when adopting resolution A.744(18), requested the IMO Maritime Safety Committee and the Marine Environment Protection Committee to keep the Guidelines under review and update them as necessary, in the light of experience gained in their application,

NOTING ALSO resolution MSC.49(66) by which amendments to resolution A.744(18) were adopted by the Maritime Safety Committee in accordance with article VIII and regulation XI/2 of the Convention,

RECOGNIZING the urgent need to further improve the safety standards of ships carrying solid bulk cargoes,

HAVING CONSIDERED amendments to the said Guidelines proposed and circulated in accordance with article VIII of the Convention,

1. ADOPTS, in accordance with article VIII(c)(ii) of the Convention, amendments to the Guidelines on the enhanced programme of inspections during surveys of bulk carriers and oil tankers, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on 1 January 1999, unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant fleet, have notified the Secretary-General of IMO of their objections to the amendments;
3. INVITES Contracting Governments to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 July 1999 upon their acceptance in accordance with paragraph 2 above

**AMENDMENTS TO THE GUIDELINES ON THE ENHANCED PROGRAMME OF
INSPECTIONS DURING SURVEYS OF BULK CARRIERS AND OIL TANKERS
(RESOLUTION A.744(18))**

**GUIDELINES ON THE ENHANCED PROGRAMME OF INSPECTIONS DURING SURVEYS
OF BULK CARRIERS (resolution A.744(18), Annex A)**

- 1 In the "Contents", the following text is added at the end:

"Annex 10 - Requirements for extent of thickness measurement at areas of substantial corrosion. Periodical survey of bulk carriers within the cargo area".

- 2 Existing paragraph 1.2.10 is replaced by the following:

"1.2.10 *A corrosion prevention system* is normally considered either:

- .1 a full hard coating; or
- .2 a full hard coating supplemented by anodes

Protective coating should usually be epoxy coating or equivalent. Other coating systems may be considered acceptable as alternatives provided that they are applied and maintained in compliance with the manufacturer's specifications.

Where soft coatings have been applied, safe access should be provided for the surveyor to verify the effectiveness of the coating and to carry out an assessment of the conditions of internal structures which may include spot removal of the coating. When safe access cannot be provided, the soft coating should be removed."

- 3 The title "Tank corrosion - prevention system" of section 2.3 is changed to "Space protection".

- 4 Existing paragraph 2.3.1 is replaced by the following:

"2.3.1 Where provided, the condition of corrosion prevention system of ballast tanks should be examined. For ballast tanks, excluding double bottom tanks, where a coating is found in POOR condition as defined in 1.2.11, and it is not renewed, or where a soft coating has been applied, or where a coating has not been applied, the tanks in question should be examined at annual intervals. When such breakdown of coating is found in ballast double bottom tanks, or where a soft coating has been applied, or where a coating has not been applied, the tanks in question may be examined at annual intervals. When considered necessary by the surveyor, or where extensive corrosion exists, thickness measurements should be carried out. Where a protective coating is provided in cargo holds and is found in good condition, the extent of close-up surveys and thickness measurements may be specially considered*."

NOTES:

All through the text, replace the sentence "Thickness measurement should be carried out as considered necessary by the surveyor" with the expression "When considered necessary by the surveyor, or where extensive corrosion exists, thickness measurements should be carried out."

Where the words "specially considered" are found, add a reference to the following footnote:

* As a minimum, the words "specially considered" is taken to mean that sufficient close-up inspection and thickness measurements are taken to confirm the actual average condition of the structure under the coating.

5 In paragraph 2.4.2, the word "Random" is deleted and the word "all" is inserted between the words "operation of" and "mechanically".

6 The following sentence is added to paragraph 2.6.3:

"Provisions for extended measurements for areas with substantial corrosion as defined in 1.2.9 are given in annex 10."

7 The following sentence is added to paragraph 2.6.4:

"Where a protective coating is provided in cargo holds and is found to be in GOOD condition, the extent of close-up surveys and thickness measurements may be specially considered."

8 In paragraph 3.3.2, the words ", including close-up survey of hatch cover plating" are inserted after the words "hatch covers".

9 In paragraph 3.3.3, the words ", including close-up survey of hatch cover plating" are inserted after the words "steel pontoons".

10 The following new paragraphs 3.3.5 and 3.3.6 are added:

3.3.5 Checking the satisfactory condition of hatch coaming plating and its stiffeners, including close-up survey should be made

3.3.6 Random checking of the satisfactory operation of mechanically operated hatch covers should be made, including:

- .1 stowage and securing in the open condition;
- .2 proper fit and efficiency of sealing in the closed condition;
- .3 operational testing of hydraulic and power components, wires, chains, and link drives."

11 Existing paragraphs 3.4.1 and 3.4.2 are replaced by the following:

"3.4.1 For bulk carriers over 10 years of age, the following should be carried out:

- .1 overall survey of all cargo holds. Where a protective coating is provided in cargo holds and is found to be in GOOD condition, the extent of close-up surveys and thickness measurements may be specially considered;
- .2 close-up examination of sufficient extent, minimum 25% of frames, to establish the condition of the lower region of the shell frames, including approximately the lower one third length of the side frames at side shell and side frame end attachments and the adjacent shell plating in the forward cargo hold. Where this level of survey reveals the need for remedial measures, the survey is to be extended to include a close-up survey of all of the shell frames and adjacent shell plating of that cargo hold as well as a close-up survey of sufficient extent of all remaining cargo holds;
- .3 when considered necessary by the surveyor, thickness measurements are to be carried out. If the results of these thickness measurements indicate that substantial corrosion is found, the extent of thickness measurements should be increased in accordance with annex 10.

3.4.2 For bulk carriers over 15 years of age, the following should be carried out:

- .1 overall survey of all cargo holds. Where a protective coating is provided in cargo holds and is found to be in GOOD condition, the extent of close-up surveys and thickness measurements may be specially considered;
- .2 close-up examination of sufficient extent, minimum 25% of frames, to establish the condition of the lower region of the shell frames, including approximately the lower one third length of the side frames at side shell and side frame end attachments and the adjacent shell plating in the forward cargo hold and one other selected cargo hold. Where this level of survey reveals the need for remedial measures, the survey is to be extended to include a close-up survey of all of the shell frames and adjacent shell plating of that cargo hold as well as a close-up survey of sufficient extent of all remaining cargo holds;
- .3 when considered necessary by the surveyor, thickness measurements should be carried out. If the results of these thickness measurements indicate that substantial corrosion is found, the extent of thickness measurements should be increased in accordance with annex 10."

12 Add a new paragraph 3.4.2.4 as follows:

"4 all piping and penetrations in cargo holds, including overboard piping, should be examined."

13 Existing paragraph 3.5.1 is replaced by the following:

"3.5.1 Examination of ballast tanks should be carried out when required as a consequence of the results of the periodical survey and intermediate enhanced survey. When considered necessary by the surveyor, thickness measurements should be carried out. If the results of these thickness measurements indicate that substantial corrosion is found, the extent of thickness measurements should be increased in accordance with annex 10."

14 Existing paragraph 4.2.3 is replaced by the following:

"4.2.3 For ballast tanks excluding double-bottom tanks, where a coating is found in POOR condition, as defined in 1.2.11, and it is not renewed, or where soft coating has been applied, or where a coating has not been applied, the tanks in question should be examined at annual intervals. When such breakdown of coating is found in ballast double-bottom tanks, or where soft coating has been applied, or where a coating has not been applied, the tanks in question may be examined at annual intervals. When considered necessary by the surveyor, or where extensive corrosion exists, thickness measurements should be carried out."

15 Existing paragraphs 4.3.1 and 4.3.2 are replaced by the following:

"4.3.1 For bulk carriers over 5 years of age, the following should be carried out:

- .1 an overall survey of all cargo holds, including a close-up survey of sufficient extent, minimum 25% of frames, should be carried out to establish the condition of:
 - shell frames including their upper and lower end attachments, adjacent shell plating and transverse bulkheads in the forward cargo hold and one other selected cargo hold;
 - areas found suspect according to 1.2.8 at the previous periodical survey, and
- .2 where considered necessary by the surveyor as a result of the overall and close-up survey as described in 4.3.1.1, the survey should be extended to include a close-up survey of all the shell frames and adjacent shell plating of that cargo hold as well as a close-up survey of sufficient extent of all remaining cargo holds.

4.3.2 For bulk carriers over 10 years of age, the following should be carried out:

- .1 an overall survey of all cargo holds, including a close-up survey of sufficient extent, minimum 25% of frames, is to be carried out to establish the condition of:
 - shell frames including their upper and lower end attachments, adjacent shell plating and transverse bulkheads in all cargo holds;
 - areas found suspect according to chapter 1.2.8 at the previous periodical survey; and
- .2 where considered necessary by the surveyor as a result of the overall and close-up survey as described in 4.3.2.1, the survey is to be extended to include a close-up survey of all the shell frames and adjacent shell plating of all cargo holds."

16 The following new paragraph 4.3.3 is added:

"4.3.3 For bulk carriers over 15 years of age, the following should be carried out:

- .1 an overall survey of all cargo holds, including a close-up survey, is to be carried out to establish the condition of:
 - all shell frames including their upper and lower end attachments, adjacent shell plating and transverse bulkheads in all cargo holds; and
 - areas found suspect according to 1.2.8 at the previous periodical survey."

17 The following sentences are added to paragraph 4.4.1:

"The minimum requirement for thickness measurements at the intermediate enhanced survey are areas found to be suspect areas according to 1.2.8 at the previous periodical survey. Where substantial corrosion as defined in 1.2.9 is found, the extent of thickness measurements should be increased in accordance with the requirements of annex 10."

18 The following new paragraph 4.4.3 is added:

"4.4.3 Where a protective coating is provided in cargo holds and is found in GOOD condition, the extent of close-up surveys and thickness measurements may be specially considered."

19 Existing sections 6, 7 and 8 are renumbered as sections 7, 8 and 9, including all relevant paragraphs, and the following new section 6 is inserted:

"6 PROMPT AND THOROUGH REPAIRS OF BULK CARRIERS RELATIVE TO DAMAGES AND WASTAGE IN CARGO HOLDS

6.1 General

6.1.1. Any damage or excessive wastage beyond allowable limits to side shell frames, their end attachments and/or adjacent shell plating, and deck structure and deck plating between hatches, watertight bulkheads and hatch covers and hatch coamings that affect the structural strength or integrity of the hull of the vessel, is to be promptly and thoroughly repaired.

"Prompt" is defined as to be done without delay at the time of the survey. "Thorough" is defined as satisfactory in all respects and permanent.

6.1.2 For locations where adequate repair facilities are not immediately available, consideration may be given to allowing a vessel to proceed directly to a repair facility. This may require discharging of the cargo and/or temporary repairs for the intended voyage.

6.1.3 Damages or excessive wastage in the areas noted above which are considered by the attending surveyor to be of a nature not immediately affecting the vessel's structural or watertight integrity may be temporarily repaired for a limited period "

20 The following sentence is added to existing paragraph 7.1.1.2:

"In all cases, regardless of the pattern, the extent of thickness measurements should be sufficient as to represent the actual average condition of the plate."

21 Existing annex 1 is replaced by the following:

"Annex 1

Requirements for close-up survey at periodical surveys

AGE ≤ 5	5 < AGE ≤ 10	10 < AGE ≤ 15	AGE > 15
1	2	3	4
<p>(A) 25% of shell frames in the forward cargo hold at representative positions.</p> <p>Selected frames in remaining cargo holds</p> <p>(B) One transverse web with associated plating and longitudinals in two representative water ballast tanks of each type (i.e. topside, hopper side or side tank.)</p> <p>(C) Two selected cargo hold transverse bulkheads, including internal structure of upper and lower stools, where fitted</p> <p>(D) All cargo hold hatch covers and coamings</p>	<p>(A) 25% of shell frames in all cargo holds including upper and lower end attachments and adjacent shell plating.</p> <p>(B) One transverse web with associated plating and longitudinals in each water ballast tank (i.e. topside, hopper side or side tank)</p> <p>(B) Forward and aft transverse bulkhead in one side ballast tank, including stiffening system.</p> <p>(C) One transverse bulkhead in each cargo hold, including internal structure of upper and lower stools, where fitted.</p> <p>(D) All cargo hold hatch covers and coamings.</p> <p>(E) Selected areas of deck plating inside line of hatch openings between cargo hold hatches</p>	<p>(A) All shell frames in the forward cargo hold and 25% of frames in remaining cargo holds, including upper and lower end attachments and adjacent shell plating.</p> <p>(B) All transverse webs with associated plating and longitudinals in each water ballast tank (i.e. topside, hopper side or side tank)</p> <p>(B) All transverse bulkheads in ballast tanks, including stiffening systems.</p> <p>(C) All cargo hold transverse bulkheads including internal structure of upper and lower stools, where fitted.</p> <p>(D) All cargo hold hatch covers and coamings.</p> <p>(E) All deck plating inside line of hatch openings between cargo hold hatches.</p>	<p>(A) All shell frames in all cargo holds including upper and lower end attachments and adjacent shell plating</p> <p>Areas (B)-(E) as for column 3</p>

- (A) - Cargo hold transverse frame
- (B) - Transverse web frame or water tight transverse bulkhead in water ballast tanks
- (C) - Cargo hold transverse bulkheads plating, stiffeners and girders
- (D) - Cargo hold hatch covers and coamings
- (E) - Deck plating inside line of hatch openings between cargo hold hatches

Note Close-up survey of transverse bulkheads to be carried out at four levels:

Level (a) - Immediately above the inner bottom and immediately above the line of gussets (if fitted) and shedders for ships without lower stool

Level (b) - Immediately above and below the lower stool shelf plate (for those ships fitted with lower stools), and immediately above the line of the shedder plates.

Level (c) - About mid-height of the bulkhead.

Level (d) - Immediately below the upper deck plating and immediately adjacent to the upper wing tank, and immediately below the upper stool shelf plate for those ships fitted with upper stools, or immediately below the topside tank "

22 In Annex 8 to Annex A - "Recommended procedures for thickness measurements", General, the following words are added at the end of paragraph 2:

"and the maximum allowable diminution should be stated."

23 In Appendix 2 to Annex 8 to Annex A - "Reports on thickness measurement", a new column headed "Maximum allowable diminution (mm)" is added.

24 The following new annex 10 is added:

"ANNEX 10

**REQUIREMENTS FOR EXTENT OF THICKNESS MEASUREMENT
AT AREAS OF SUBSTANTIAL CORROSION**

PERIODICAL SURVEY OF BULK CARRIERS WITHIN THE CARGO AREA

SHELL PLATING		
STRUCTURAL MEMBER	EXTENT OF MEASUREMENT	PATTERN OF MEASUREMENT
1. Bottom and side shell plating	a. Suspect plate, plus four adjacent plates b. See other tables for particulars on gauging in way of tanks and cargo holds	a. 5 point pattern for each panel between longitudinals
2. Bottom/side shell longitudinals	Minimum of three longitudinals in way of suspect areas	3 measurements in line across web 3 measurements on flange

TRANSVERSE BULKHEADS IN CARGO HOLDS		
STRUCTURAL MEMBER	EXTENT OF MEASUREMENT	PATTERN OF MEASUREMENT
1. Lower stool	a. Transverse band within 25 mm of welded connection to innerbottom. b. Transverse band within 25 mm of welded connection to shelf plate.	a. 5 point between stiffeners over 1 m length b. Ditto
2. Transverse bulkhead	a. Transverse band at approximately mid-height b. Transverse band at part of bulkhead adjacent to upper deck or below upper stool shelf plate (for those ships fitted with upper stools)	a. 5 point pattern over 1 m ² of plating b. 5 point pattern over 1 m ² of plating

**DECK STRUCTURE INCLUDING CROSS STRIPS, MAIN CARGO HATCHWAYS,
HATCH COVERS, COAMINGS AND TOPSIDE TANKS**

STRUCTURAL MEMBER	EXTENT OF MEASUREMENT	PATTERN OF MEASUREMENT
1. Cross deck strip plating	Suspect cross deck strip plating	a. 5 point pattern between underdeck stiffeners over 1 m length
2. Underdeck stiffeners	a. Transverse members	a. 5 point pattern at each end and mid-span
	b. Longitudinal member	b. 5 point pattern on both web and flange
3. Hatch covers	a. Skirt, each side and ends, 3 locations	a. 5 point pattern at each location
	b. 3 longitudinal bands, outboard strakes (2) and centerline strake (1).	b. 5 point measurement each band
4. Hatch coamings	Each side and end of coaming, one band lower 1/3, one band upper 2/3 of coaming	5 point measurement each band, i.e. end or side coaming
5. Topside water ballast tanks	a. Watertight transverse bulkheads	
	i. lower 1/3 of bulkhead	i. 5 point pattern over 1 m ² of plating
	ii. upper 2/3 of bulkhead	ii. 5 point pattern over 1 m ² of plating
	iii. stiffeners	iii. 5 point pattern over 1 m length
	b. 2 representative swash transverse bulkheads	
	i. lower 1/3 of bulkhead	i. 5 point pattern over 1 m ² of plating
	ii. upper 2/3 of bulkhead	ii. 5 point pattern over 1 m ² of plating
	iii. stiffeners	iii. 5 point pattern over 1 m length

STRUCTURAL MEMBER	EXTENT OF MEASUREMENT	PATTERN OF MEASUREMENT
5. Topside water ballast tanks (cont'd)	c. 3 representative bays of slope plating i. lower 1/3 of tank ii. upper 2/3 of tank d. Longitudinals, suspect and adjacent	c. i. 5 point pattern over 1 m ² of plating ii. 5 point pattern over 1 m ² of plating d. 5 point pattern both web and flange over 1 m length
6. Main deck plating	Suspect plates and adjacent (4)	5 point pattern over 1 m ² of plating
7. Main deck longitudinals	Minimum of 3 longitudinals where plating measured	5 point pattern on both web and flange over 1 m length
8. Web frames/transverses	Suspect plates	5 point pattern over 1 m ²

DOUBLE BOTTOM AND HOPPER STRUCTURE		
STRUCTURAL MEMBER	EXTENT OF MEASUREMENT	PATTERN OF MEASUREMENT
1. Inner/double bottom plating	Suspect plate plus all adjacent plates	5 point pattern for each panel between longitudinals over 1 m length
2. Inner/double bottom longitudinals	Three longitudinals where plates measured	3 measurements inline across web, and 3 measurements on flange
3. Longitudinal girders or transverse floors	b. Suspect plates	b. 5 point pattern over about 1 m ²
4. Watertight bulkheads (WT floors)	a. lower 1/3 of tank b. upper 2/3 of tank	a. 5 point pattern over 1 m ² of plating b. 5 point pattern alternate plates over 1 m ² of plating
5. Web frames	Suspect plate	5 point pattern over 1 m ² of plating
6. Bottom/side shell longitudinals	Minimum of three longitudinals in way of suspect areas	3 measurements in line across web 3 measurements on flange

CARGO HOLDS		
STRUCTURAL MEMBER	EXTENT OF MEASUREMENT	PATTERN OF MEASUREMENT
1. Side shell frames	Suspect frame and each adjacent	a. At each end and mid span: 5 point pattern of both web and flange b. 5 point pattern within 25 mm of welded attachment to both shell and lower slope plate"

GUIDELINES ON THE ENHANCED PROGRAMME OF INSPECTION DURING SURVEYS OF OIL TANKERS (Resolution A.744(18), Annex B)

25 The following sentence is added to paragraph 1.2.1:

"A tank which is used for both cargo and ballast will be treated as a ballast tank when substantial corrosion has been found in that tank."

26 Existing paragraph 1.2.8 is replaced by the following:

"1.2.8 *A corrosion prevention system* is normally considered either:

- .1 a full hard coating; or
- .2 a full hard coating supplemented by anodes.

Protective coating should usually be epoxy coating or equivalent. Other coating systems may be considered acceptable as alternatives provided that they are applied and maintained in compliance with the manufacturer's specifications.

Where soft coatings have been applied, safe access should be provided for the surveyor to verify the effectiveness of the coating and to carry out an assessment of the conditions of internal structures which may include spot removal of the coating. When safe access cannot be provided, the soft coating should be removed."

27 In paragraph 2.3.1, second sentence, the words "or where soft coating has been applied," are added after the word "renewed".

28 In paragraph 4.2.4, first sentence, the words "or where soft coating has been applied," are added after the word "renewed".

29 The following sentence is added to paragraph 7.1.1.2:

"In all cases, regardless of the pattern, the extent of thickness measurements should be sufficient as to represent the actual average condition of the plate."

30 In annex 10 to Annex B - "Recommended procedures for thickness measurements", General, the following words are added at the end of paragraph 2.

"and the maximum allowable diminution should be stated."

31 In Appendix 2 to annex 10 to Annex B - "Reports on thickness measurement", a new column headed "Maximum allowable diminution (mm)" is added.