

(Draft)

Amended Guidance Relating to the Rules for the Classification of Steel Ships

(Part 1 Classification and Surveys)

(For External Opinion Inquiry)

May 2023



HRT

- Main Amendments -

(1) Effective date : on or after 1 Jan. 2024 (to ships contracted for construction)

● To reflect IACS UR S14(Rev.7 Dec. 2022)

Present	Amendments	Reason
<p>Annex 1–16 Procedures for Testing Tanks and Tight Boundaries (2018)</p> <p>In the Classification Survey during construction, structural testing, leak testing and hose testing are to be carried out in accordance with the following:</p> <p>1. General</p> <p>(1) The testing procedures of watertight compartments are to be carried out in accordance with ANNEX 1–16, the “Procedures for Testing Tanks and Tight Boundaries”. The requirements of ANNEX 1–16 are divided into <u>two</u> parts, PART A and PART B as follows:</p> <ul style="list-style-type: none"> • PART A – SOLAS Ships (including CSR BC & OT) • PART B – <u>Non-SOLAS Ships and SOLAS Exempt/Equivalent Ships</u> <u><newly added></u> <p>(2) <omitted></p> <p>(3) Testing procedures of watertight compartments are to be carried out in accordance with PART B for <u>non-SOLAS ships and those SOLAS ships (including CSR BC & OT) for which:</u></p> <p>(A) the shipyard provides documentary evidence of the shipowner’s agreement to a request to the Flag Administration for an exemption from the application of SOLAS Chapter II–1, Regulation 11, or for an equivalency agreeing that the content of PART B is equivalent to SOLAS Chapter II–1, Regulation 11; and</p> <p>(B) the above-mentioned exemption/equivalency has been granted by the responsible Flag Administration.</p> <p><u><newly added></u></p>	<p>Annex 1–16 Procedures for Testing Tanks and Tight Boundaries (2018)</p> <p>In the Classification Survey during construction, structural testing, leak testing and hose testing are to be carried out in accordance with the following:</p> <p>1. General</p> <p>(1) The testing procedures of watertight compartments are to be carried out in accordance with ANNEX 1–16, the “Procedures for Testing Tanks and Tight Boundaries”. The requirements of ANNEX 1–16 are divided into two <u>three</u> parts, PART A, <u>Part B</u> and <u>PART B C</u> as follows: <u>(2024)</u></p> <ul style="list-style-type: none"> • PART A – SOLAS Ships (including CSR BC & OT) • PART B – Non-SOLAS Ships and SOLAS Exempt/Equivalent Ships • <u>PART C – Non-SOLAS Ships</u> <p>(2) <same as the current Guidance></p> <p>(3) Testing procedures of watertight compartments are to be carried out in accordance with PART B for non-SOLAS ships and those SOLAS ships (including CSR BC & OT) for which: <u>(2024)</u></p> <p>(A) the shipyard provides documentary evidence of the shipowner’s agreement to a request to the Flag Administration for an exemption from the application of SOLAS Chapter II–1, Regulation 11, or for an equivalency agreeing that the content of PART B is equivalent to SOLAS Chapter II–1, Regulation 11; and</p> <p>(B) the above-mentioned exemption/equivalency has been granted by the responsible Flag Administration.</p> <p><u>(4) Testing procedures of watertight compartments are to be carried out in accordance with PART C for non-SOLAS ships, see SOLAS Chapter I, Regulation 1 and Regulation 3. (2024)</u></p>	<p>– to reflect S14.2.1 of UR S14(Rev.7 Dec. 2022)</p> <p>– to reflect S14.2.3 of UR S14(Rev.7 Dec. 2022)</p> <p>– to reflect S14.2.4 of UR S14(Rev.7 Dec. 2022)</p>

Present	Amendments	Reason
<p>4. Test Procedures</p> <p>(1) General <omitted></p> <p>(2) Structural test procedures</p> <p>(A) Type and time of test</p> <p>(a) Where a structural test is specified in Table 3.1.1 or Table 3.1.2, a hydrostatic test in accordance with (4) (A) will be acceptable. Where practical limitations (strength of building berth, light density of liquid, etc.) prevent the performance of a hydrostatic test, a hydropneumatic test in accordance with (4) (B) may be accepted instead.</p> <p>(b) hydrostatic test or hydropneumatic test for the confirmation of structural adequacy may be carried out while the vessel is afloat, provided the results of a leak test are confirmed to be satisfactory before the vessel is afloat.</p> <p><u><newly added></u></p> <p><u>(c)</u> Where the cofferdam is waived in accordance with Pt 13, Sub Pt 1, Ch 2, Sec 3, 1.2.4 of the Rules, the structural test is carried out with a test pressure increased by 1 mm in accordance with Pt 13, Sub Pt 1, Ch 2, Sec 3, 1.2.4 of the Rules.</p>	<p>4. Test Procedures</p> <p>(1) General <sane as the current Guidance></p> <p>(2) Structural test procedures</p> <p>(A) Type and time of test</p> <p>(a) Where a structural test is specified in Table 3.1.1 or Table 3.1.2, a hydrostatic test in accordance with (4) (A) will be acceptable. Where practical limitations (strength of building berth, light density of liquid, etc.) prevent the performance of a hydrostatic test, a hydropneumatic test in accordance with (4) (B) may be accepted instead.</p> <p>(b) hydrostatic test or hydropneumatic test for the confirmation of structural adequacy may be carried out while the vessel is afloat, provided the results of a leak test are confirmed to be satisfactory before the vessel is afloat.</p> <p><u>(c) Alternative equivalent tank testing procedures may be considered for tanks which are constructed from composite materials such as glass reinforced plastic (GRP) and fibre reinforced plastic (FRP) based on the recommendations of the composite manufacturer. (2024)</u></p> <p>(c) <u>(d)</u> Where the cofferdam is waived in accordance with Pt 13, Sub Pt 1, Ch 2, Sec 3, 1.2.4 of the Rules, the structural test is carried out with a test pressure increased by 1 mm in accordance with Pt 13, Sub Pt 1, Ch 2, Sec 3, 1.2.4 of the Rules.</p>	<p>– to reflect 4.2.1 for ANNEX I, PART A of UR S14 (Rev.7 Dec. 2022)</p> <p>– to readjust Number</p>

Present	Amendments	Reason
<p>(4) Test Methods</p> <p>(A) Hydrostatic test</p> <p>(a) Unless another liquid is approved, hydrostatic tests are to consist of filling the space with fresh water or sea water, whichever is appropriate for testing to the level specified in Table 3.1.1 or Table 3.1.2.</p> <p>Also refer to 4. (7) "Hydrostatic or hydropneumatic tightness test.</p> <p>(b) In cases where a tank is designed for cargo densities greater than sea water and testing is with fresh water or sea water, the testing pressure height is to simulate the actual loading for those greater cargo densities as far as <u>practicable</u>.</p> <p>(c) All external surfaces of the tested space are to be examined for structural distortion, bulging and buckling, other related damage and leaks.</p>	<p>(4) Test Methods</p> <p>(A) Hydrostatic test</p> <p>(a) Unless another liquid is approved, hydrostatic tests are to consist of filling the space with fresh water or sea water, whichever is appropriate for testing to the level specified in Table 3.1.1 or Table 3.1.2.</p> <p>Also refer to 4. (7) "Hydrostatic or hydropneumatic tightness test.</p> <p>(b) In cases where a tank is designed for cargo densities greater than sea water and testing is with fresh water or sea water, the testing pressure height is to simulate the actual loading for those greater cargo densities as far as practicable; <u>but the test pressure shall not exceed the maximum design internal pressure at the top of tank. (2024)</u></p> <p>(c) All external surfaces of the tested space are to be examined for structural distortion, bulging and buckling, other related damage and leaks.</p>	<p>– to reflect 4.4.1 for ANNEX I, PART A of UR S14 (Rev.7 Dec. 2022)</p>

Present					Amendments					Reason
Table 3.1.1 Test Requirements for Tanks and Boundaries					Table 3.1.1 Test Requirements for Tanks and Boundaries					- to reflect Table 1 for ANNEX I, PART A of UR S14 (Rev.7 Dec. 2022)
	Tank or boundary to be tested	Test type	Test head or pressure	Remarks		Tank or boundary to be tested	Test type	Test head or pressure	Remarks	
1	Double bottom tanks ⁽⁴⁾	Leak and Structural ⁽¹⁾	The greater of - top of the <u>overflow</u> , - to 2.4m above top of tank ⁽²⁾ , or - to bulkhead deck	-	1	Double bottom tanks ⁽⁴⁾ <u>(2024)</u>	Leak and Structural ⁽¹⁾	The greater of - top of the overflow ⁽¹⁰⁾ , - to 2.4m above top of tank ⁽²⁾ , or - to bulkhead deck	-	
⟨omitted⟩					⟨sane as the current Guidance⟩					
3	Double side tanks	Leak and Structural ⁽¹⁾	The greater of - top of the <u>overflow</u> , - to 2.4m above top of tank ⁽²⁾ , or - to bulkhead deck	-	3	Double side tanks <u>(2024)</u>	Leak and Structural ⁽¹⁾	The greater of - top of the overflow ⁽¹⁰⁾ , - to 2.4m above top of tank ⁽²⁾ , or - to bulkhead deck	-	
⟨omitted⟩					⟨sane as the current Guidance⟩					
5	Deep tanks other than those listed elsewhere in this table	Leak and Structural ⁽¹⁾	The greater of - top of the <u>overflow</u> , or - to 2.4m above top of tank ⁽²⁾	-	5	Deep tanks other than those listed elsewhere in this table <u>(2024)</u>	Leak and Structural ⁽¹⁾	The greater of - top of the overflow ⁽¹⁰⁾ , or - to 2.4m above top of tank ⁽²⁾	-	
6	Cargo oil tanks	Leak and Structural ⁽¹⁾	The greater of - top of the <u>overflow</u> , - to 2.4m above top of tank ⁽²⁾ , or - to top of tank ⁽²⁾ plus <u>setting of any pressure relief valve</u>	-	6	Cargo oil tanks <u>(2024)</u>	Leak and Structural ⁽¹⁾	The greater of - top of the overflow ⁽¹⁰⁾ , - to 2.4m above top of tank ⁽²⁾ , or - to top of tank ⁽²⁾ plus setting of any the design vapour pressure relief valve	-	
⟨omitted⟩					⟨sane as the current Guidance⟩					
8	Peak tanks	Leak and Structural ⁽¹⁾	The greater of - top of the <u>overflow</u> , or - to 2.4m above top of tank ⁽²⁾	After peak to be tested after installation of stern tube	8	Peak tanks <u>(2024)</u>	Leak and Structural ⁽¹⁾	The greater of - top of the overflow ⁽¹⁰⁾ , or - to 2.4m above top of tank ⁽²⁾	After peak to be tested after installation of stern tube	
⟨omitted⟩					⟨sane as the current Guidance⟩					

Present					Amendments					Reason
20	Ballast ducts	Leak and Structural ⁽¹⁾	The greater of – ballast pump maximum pressure, or – setting of any pressure relief valve	–	20	Ballast ducts	Leak and Structural ⁽¹⁾	The greater of – ballast pump maximum pressure, or – setting of any pressure relief valve	–	– to reflect Table 1 for ANNEX I, PART A of UR S14 (Rev.7 Dec. 2022)
21	Fuel oil tanks	Leak and Structural ⁽¹⁾	The greater of – top of the <u>overflow</u> , – to 2.4m above top of tank ⁽²⁾ , or – to top of tank ⁽²⁾ plus <u>setting of any pressure relief valves</u> , or – to bulkhead deck	–	21	Fuel oil tanks <u>(2024)</u>	Leak and Structural ⁽¹⁾	The greater of – top of the overflow ⁽¹⁰⁾ , – to 2.4m above top of tank ⁽²⁾ , or – to top of tank ⁽²⁾ plus setting of any the design vapour pressure relief valves , or – to bulkhead deck	–	
<u>(newly added)</u>					<u>22</u>	<u>Fuel oil overflow tanks not intended to hold fuel (2024)</u>	<u>Leak and Structural⁽¹⁾</u>	<u>The greater of</u> <u>– top of the overflow⁽¹⁰⁾,</u> <u>– to 2.4m above top of tank⁽²⁾,</u> <u>or</u> <u>– to bulkhead deck</u>	<u>–</u>	
Note: ⁽¹⁾ ~ ⁽⁵⁾ <omitted> ⁽⁶⁾ Where water tightness of a watertight door has not been confirmed by prototype test, testing by filling watertight spaces with water is to be carried out. See SOLAS regulation II-1/16.2 and <u>MSC/Circ.1176</u> . ⁽⁷⁾ ~ ⁽⁹⁾ <omitted> <u>(newly added)</u>					Note: ⁽¹⁾ ~ ⁽⁵⁾ <sane as the current Guidance> ⁽⁶⁾ Where water tightness of a watertight door has not been confirmed by prototype test, testing by filling watertight spaces with water is to be carried out. See SOLAS regulation II-1/16.2 and MSC/Circ.1176 <u>MSC.1/Circ.1572/Rev.1. (2024)</u> ⁽⁷⁾ ~ ⁽⁹⁾ <sane as the current Guidance> <u>⁽¹⁰⁾ Refer to section 3. (3) (2024)</u>					– to reflect Notes of Table 1 for ANNEX I, PART A of UR S14 (Rev.7 Dec. 2022)

Present						Amendments						Reason
Table 3.1.2 Additional Test Requirements for Special Service Ships/Tanks						Table 3.1.2 Additional Test Requirements for Special Service Ships/Tanks						- to reflect Table 2 for ANNEX I, PART A of UR S14 (Rev.7 Dec. 2022)
	Type of ship/tank	Structures to be tested	Type of test	Test head or pressure	Remarks		Type of ship/tank	Structures to be tested	Type of test	Test head or pressure	Remarks	
1	<omitted>					1	<sane as the current Guidance>					- to reflect Notes of Table 2 for ANNEX I, PART A of UR S14 (Rev.7 Dec. 2022)
2	Edible liquid tanks	Independent tanks	Leak and structural ⁽¹⁾	The greater of - top of the <u>overflow</u> , or - to 0.9m above top of tank ⁽²⁾	-	2	Edible liquid tanks <u>(2024)</u>	Independent tanks	Leak and structural ⁽¹⁾	The greater of - top of the overflow ⁽³⁾ , or - to 0.9m above top of tank ⁽²⁾	-	
3	Chemical carriers	Integral or independent cargo tanks	Leak and structural ⁽¹⁾	The greater of - to 2.4m above top of tank ⁽²⁾ , or - to top of tank ⁽²⁾ plus <u>setting of any pressure relief valve</u>	Where a cargo tank is designed for the carriage of cargoes with specific gravities larger than 1.0, <u>an appropriate additional head is to be considered</u> ⁽³⁾	3	Chemical carriers <u>(2024)</u>	Integral or independent cargo tanks	Leak and structural ⁽¹⁾	The greater of - to 2.4m above top of tank ⁽²⁾ , or - to top of tank ⁽²⁾ plus <u>setting of any the design vapour pressure relief valve</u>	Where a cargo tank is designed for the carriage of cargoes with specific gravities larger than 1.0, <u>an appropriate additional head is to be considered</u> ⁽³⁾ <u>see section 4. (4) (A)</u>	- to reflect Notes of Table 2 for ANNEX I, PART A of UR S14 (Rev.7 Dec. 2022)
<p>Note: ⁽¹⁾ Refer to 4 (2) (B)</p> <p>⁽²⁾ Top of tank is deck forming the top of the tank excluding any hatchways.</p> <p>⁽³⁾ For gravity tanks that are to be loaded with cargoes having a cargo density exceeding 1.0, a hydrostatic test is to be carried out with a head of water to the height obtained from the following formula above the top of the tank.</p> $\frac{H}{2}(\gamma-1)+2.4 \text{ (m)}$ <p>H : Vertical distance measured from the lower edge of the bulkhead plate of the tank top of the tank (m)</p> <p>γ : Density of cargoes loaded in the tank</p> <p><omitted></p>						<p>Note: ⁽¹⁾ Refer to 4 (2) (B)</p> <p>⁽²⁾ Top of tank is deck forming the top of the tank excluding any hatchways.</p> <p>⁽³⁾ <same as the current Guidance> <u>Refer to section 3. (3) (2024)</u></p>						

Present	Amendments	Reason
<p style="text-align: center;">PART B – <u>Non-SOLAS Ships and SOLAS Exemption/Equivalent Ships</u></p> <p>1. GENERAL</p> <p>(1) These test procedures are to confirm the watertightness of tanks <u>and</u> watertight boundaries and the structural adequacy of tanks which <u>consist</u> of the watertight subdivisions (watertight subdivision means the main transverse and longitudinal subdivisions of the ship required to satisfy the subdivision requirements of SOLAS Chapter II-1.) of ships. These procedures may also be applied to verify the weathertightness of structures and shipboard outfitting. The tightness of all tanks and watertight boundaries of ships during new construction and those relevant to major conversions or major repairs (major repair means a repair affecting structural integrity) is to be confirmed by these test procedures prior to the delivery of the ship.</p> <p>(2) Testing procedures of watertight compartments are to be carried out in accordance with PART B for <u>non-SOLAS ships and</u> those SOLAS ships (including CSR BC & OT) for which:</p> <p>(A) ~ (B) <omitted></p> <p>2. APPLICATION</p> <p>(1) Testing procedures are to be carried out in accordance with the requirements of PART A in association with the following alternative procedures for 4. (2) (B) of PART A “Testing Schedule for New Construction or Major Structural Conversion” and alternative test requirements for PART A Table 3.1.1.</p> <p>(2) ~ (4) <omitted></p> <p><u><newly added></u></p>	<p style="text-align: center;">PART B – Non-SOLAS Ships and SOLAS Exemption <u>Exempt/Equivalent Ships (2024)</u></p> <p>1. GENERAL</p> <p>(1) These test procedures are to confirm the watertightness of tanks and, watertight boundaries and the structural adequacy of tanks which consist <u>form part</u> of the watertight subdivisions (watertight subdivision means the main transverse and longitudinal subdivisions of the ship required to satisfy the subdivision requirements of SOLAS Chapter II-1.) of ships. These procedures may also be applied to verify the weathertightness of structures and shipboard outfitting. The tightness of all tanks and watertight boundaries of ships during new construction and those relevant to major conversions or major repairs (major repair means a repair affecting structural integrity) is to be confirmed by these test procedures prior to the delivery of the ship. <u>(2024)</u></p> <p>(2) Testing procedures of watertight compartments are to be carried out in accordance with PART B for non-SOLAS ships and those SOLAS ships (including CSR BC & OT) for which: <u>(2024)</u></p> <p>(A) ~ (B) <same as the current Guidance></p> <p>2. APPLICATION</p> <p>(1) Testing procedures are to be carried out in accordance with the requirements of PART A in association with the following alternative procedures for 4. (2) (B) of PART A “Testing Schedule for New Construction or Major Structural Conversion” and alternative test requirements for PART A Table 3.1.1. <u>(2024)</u></p> <p>(2) ~ (4) <same as the current Guidance></p> <p><u>(5) For tanks which are less than 2 m³ in volume, structural testing may be replaced by leak testing. (2024)</u></p>	<p>– to reflect ANNEX I, PART B of UR S14 (Rev.7 Dec. 2022)</p> <p>– to reflect 1.1 & 1.2 for ANNEX I, PART B of UR S14 (Rev.7 Dec. 2022)</p> <p>– to reflect 2.1 & 2.5 for ANNEX I, PART B of UR S14 (Rev.7 Dec. 2022)</p>

Present	Amendments	Reason
<p>(5) Where the structural adequacy of the <u>tanks</u> of a vessel were verified by the structural testing required in PART A, Table 3.1.1, subsequent vessels in the series (i.e. sister ships built from the same plans at the same shipyard) may be exempted from structural testing of tanks, provided that:</p> <p>(A) water-tightness of boundaries of all tanks <u>is</u> verified by leak tests and thorough inspections are carried out.</p> <p>(B) structural testing is carried out for at least one <u>tank</u> of “each type” among all <u>tanks</u> of each sister vessel. (2022)</p> <p>Note : The expression of “each type” refers to the purpose of the tanks given in each row of Table 3.1.1 where the structural testing is required.</p> <p>(C) additional <u>tanks</u> may require structural testing if found necessary after the structural testing of the first tank or if deemed necessary by the attending Surveyor.</p> <p>For cargo space boundaries adjacent to other compartments in tankers and combination carriers or boundaries of tanks for segregated cargoes or pollutant cargoes in other types of ships, the provisions of paragraph PART B 2. (3) shall apply in lieu of paragraph PART B 2. (5). (B).</p>	<p>(5) (6) Where the structural adequacy of the tanks <u>and spaces</u> of a vessel were verified by the structural testing required in <u>by either PART A, Table 3.1.1, or PART B 2. (3)</u>, subsequent vessels in the series (i.e. sister ships built from the same plans at the same shipyard) may be exempted from structural testing of tanks, provided that: (2024)</p> <p>(A) water-tightness of boundaries of all tanks is <u>and spaces are</u> verified by leak tests and thorough inspections are carried out.</p> <p>(B) structural testing is carried out for at least one tank <u>or space</u> of “each type” among all tanks/<u>spaces</u> of each sister vessel.</p> <p>Note : The expression of “each type” refers to the purpose of the tanks given in each row of Table 3.1.1 where the structural testing is required.</p> <p>(C) additional tanks <u>and spaces</u> may require structural testing if found necessary after the structural testing of the first tank or if deemed necessary by the attending Surveyor.</p> <p>For cargo space boundaries adjacent to other compartments in tankers and combination carriers or boundaries of tanks for segregated cargoes or pollutant cargoes in other types of ships, the provisions of paragraph PART B 2. (3) shall apply in lieu of paragraph PART B 2. (5). (B). <u>structural tests are to be carried out for at least one tank of a group of tanks having structural similarity (i.e. same design conditions, alike structural configurations with only minor localised differences determined to be acceptable by the attending Surveyor) on each vessel provided all other tanks are tested for leaks by an air test.</u></p>	<p>– to reflect 2.6 for ANNEX I, PART B of UR S14(Rev.7 Dec. 2022)</p>

Present	Amendments	Reason
<p>(6) Sister ships built (i.e. keel laid) two years or more after the delivery of the last ship of the series, may be tested in accordance with PART B 2. (5) at the discretion of the <u>Classification Society</u>, provided that:</p> <p>(A) general workmanship has been maintained (i.e. there has been no discontinuity of shipbuilding or significant changes in the construction methodology or technology at the yard, shipyard personnel are appropriately qualified and demonstrate an adequate level of workmanship as determined by the <u>Classification Society</u>); and</p> <p>(B) an NDT plan is implemented and evaluated by the <u>Classification Society</u> for the tanks not subject to structural tests. Shipbuilding quality standards for the hull structure during new construction are to be reviewed and agreed during the kick-off meeting. Structural fabrication is to be carried out in accordance with IACS Recommendation 47, “Shipbuilding and Repair Quality Standard”, or a recognised fabrication standard which has been accepted by the Classification Society prior to the commencement of fabrication/construction. The work is to be carried out in accordance with the Rules and under survey of the <u>Classification Society</u>.</p>	<p>(6) (7) Sister ships built (i.e. keel laid) two years or more after the delivery of the last ship of the series, may be tested in accordance with PART B 2. (5) (6) at the discretion of the <u>Classification Society</u>, provided that: (2024)</p> <p>(A) general workmanship has been maintained (i.e. there has been no discontinuity of shipbuilding or significant changes in the construction methodology or technology at the yard, shipyard personnel are appropriately qualified and demonstrate an adequate level of workmanship as determined by the <u>Classification Society</u>); and</p> <p>(B) an NDT plan is implemented and evaluated by the <u>Classification Society</u> for the tanks not subject to structural tests. Shipbuilding quality standards for the hull structure during new construction are to be reviewed and agreed during the kick-off meeting. Structural fabrication is to be carried out in accordance with IACS Recommendation 47, “Shipbuilding and Repair Quality Standard”, or a recognised fabrication standard which has been accepted by the Classification Society prior to the commencement of fabrication/construction. The work is to be carried out in accordance with the Rules and under survey of the <u>Classification Society</u>.</p>	<p>– to reflect 2.7 for ANNEX I, PART B of UR S14(Rev.7 Dec. 2022)</p>

Present	Amendments	Reason
<p><u><newly added></u></p>	<p style="text-align: center;"><u>PART C – Non-SOLAS Ships (2024)</u></p> <p><u>1. GENERAL</u></p> <p>(1) <u>These test procedures are to confirm the watertightness of tanks, watertight boundaries and the structural adequacy of tanks which form part of the watertight subdivisions (watertight subdivision means the main transverse and longitudinal subdivisions of the ship) of ships. These procedures may also be applied to verify the weathertightness of structures and shipboard outfitting. The tightness of all tanks and watertight boundaries of ships during new construction and those relevant to major conversions or major repairs (major repair means a repair affecting structural integrity) is to be confirmed by these test procedures prior to the delivery of the ship.</u></p> <p>(2) <u>Testing procedures of watertight compartments are to be carried out in accordance with PART C for non-SOLAS ships, see SOLAS Chapter I, Regulation 1 and Regulation 3.</u></p> <p><u>2. APPLICATION</u></p> <p>(1) <u>Testing procedures are to be carried out in accordance with the requirements of PART A in association with the following alternative procedures for 4. (2) (B) of PART A “Testing Schedule for New Construction or Major Structural Conversion”.</u></p> <p>(2) <u>The tank boundaries are to be tested from at least one side. The tanks for structural test are to be selected so that all representative structural members are tested for the expected tension and compression.</u></p> <p>(3) <u>The requirements given in Table 3.1.1 of Part A to structurally test tanks to 2.4 m above the top of the tank do not apply. Instead, the minimum test pressure for structural testing is to be taken as 0.3D + 0.76 m above the top of the tank where the top of the tank is the deck forming the top of the tank, excluding any hatchways and D is the depth of the ship. The minimum test pressure need not be taken greater than 2.4 m above the top of the tank.</u></p> <p>(4) <u>Structural tests are to be carried out for at least one tank of a group of tanks having structural similarity (i.e. same design conditions, alike structural configurations with only minor localised differences determined to be acceptable by the attending Surveyor) on each vessel provided all other tanks are tested for leaks by an air test.</u></p> <p><u>The acceptance of leak testing using an air test instead of a structural test does not apply to cargo space boundaries adjacent to other compartments in tankers and combination carriers or to the boundaries of tanks for segregated cargoes or pollutant cargoes in other types of ships.</u></p> <p>(5) <u>Additional tanks may require structural testing if found necessary after the structural testing of the first tank.</u></p> <p>(6) <u>For tanks which are less than 2 m³ in volume, structural testing may be replaced by leak testing.</u></p>	<p>– to reflect ANNEX I, PART C of UR S14 (Rev.7 Dec. 2022)</p>

Present	Amendments	Reason
<p><u><newly added></u></p>	<p><u>(7) Where the structural adequacy of the tanks and spaces of a vessel were verified by the structural testing required by either PART A or PART C 2. (4), subsequent vessels in the series (i.e. sister ships built from the same plans at the same shipyard) may be exempted from structural testing of tanks, provided that:</u></p> <p><u>(A) water-tightness of boundaries of all tanks and spaces are verified by leak tests and thorough inspections are carried out.</u></p> <p><u>(B) structural testing is carried out for at least one tank or space among all tanks/spaces of each sister vessel.</u></p> <p><u>(C) additional tanks and spaces may require structural testing if found necessary after the structural testing of the first tank or if deemed necessary by the attending Surveyor.</u></p> <p><u>For cargo space boundaries adjacent to other compartments in tankers and combination carriers or boundaries of tanks for segregated cargoes or pollutant cargoes in other types of ships, structural tests are to be carried out for at least one tank of a group of tanks having structural similarity (i.e. same design conditions, alike structural configurations with only minor localised differences determined to be acceptable by the attending Surveyor) on each vessel provided all other tanks are tested for leaks by an air test.</u></p> <p><u>(8) Sister ships built (i.e. keel laid) two years or more after the delivery of the last ship of the series, may be tested in accordance with PART C 2. (7) at the discretion of the Society, provided that:</u></p> <p><u>(A) general workmanship has been maintained (i.e. there has been no discontinuity of shipbuilding or significant changes in the construction methodology or technology at the yard, shipyard personnel are appropriately qualified and demonstrate an adequate level of workmanship as determined by the Society); and</u></p> <p><u>(B) an NDT plan is implemented and evaluated by the Society for the tanks not subject to structural tests. Shipbuilding quality standards for the hull structure during new construction are to be reviewed and agreed during the kick-off meeting. The work is to be carried out in accordance with the Rules and under survey of the Society.</u></p>	<p>– to reflect ANNEX I, PART C of UR S14 (Rev.7 Dec. 2022)</p>