

2 A list of all limitations on the operation of a passenger ship including exemptions from any of these regulations, restrictions in operating areas, weather restrictions, sea state restrictions, restrictions in permissible loads, trim, speed and any other limitations, whether imposed by the Administration or established during the design or the building stages, shall be compiled before the passenger ship is put in service. The list, together with any necessary explanations, shall be documented in a form acceptable to the Administration, which shall be kept on board readily available to the master. The list shall be kept updated. If the language used is not English or French, the list shall be provided in one of the two languages."

CHAPTER VI

CARRIAGE OF CARGOES

Regulation 5 - Stowage and securing

38 The following new paragraph 6 is added after existing paragraph 5:

"6 Cargo units, including vehicles and containers, shall be loaded, stowed and secured throughout the voyage in accordance with the Cargo Securing Manual approved by the Administration. In ships with ro-ro cargo spaces, as defined in regulation II-2/3.14, all securing of cargo units, in accordance with the Cargo Securing Manual, shall be completed before the ship leaves the berth. The Cargo Securing Manual shall be drawn up to a standard at least equivalent to the guidelines developed by the Organization."

第 77/2014 號行政長官公告

中華人民共和國於一九九九年十二月十三日以照會通知聯合國秘書長，經修訂的《1974年國際海上人命安全公約》（下稱“公約”）自一九九九年十二月二十日起適用於澳門特別行政區；

國際海事組織海上安全委員會於二零零二年十二月十二日修正公約時加入了新的第II-1/3-6條，將用於檢查的進出通道的技術規定作為公約的強制性規定，並透過第MSC.133(76)號決議通過了《用於檢查的進出通道的技術規定》，且該技術規定自二零零五年一月一日起對澳門特別行政區生效；

基於此，行政長官根據澳門特別行政區第3/1999號法律第六條第一款的規定，命令公佈包含上指技術規定的第MSC.133(76)號決議的中文及英文文本。

二零一四年十月二十一日發佈。

行政長官 崔世安

Aviso do Chefe do Executivo n.º 77/2014

Considerando que a República Popular da China, por nota datada de 13 de Dezembro de 1999, notificou o Secretário-Geral das Nações Unidas sobre a aplicação da Convenção Internacional para a Salvaguarda da Vida Humana no Mar de 1974, adiante designada por Convenção, tal como emendada, na Região Administrativa Especial de Macau a partir de 20 de Dezembro de 1999;

Considerando igualmente que, em 12 de Dezembro de 2002, o Comité de Segurança Marítima da Organização Marítima Internacional procedeu a emendas à Convenção inserindo o novo regulamento II-1/3-6, que torna as Disposições Técnicas relativas aos Meios de Acesso para as Inspeções obrigatórias nos termos da Convenção, que, através da resolução MSC.133(76), adoptou as Disposições Técnicas relativas aos Meios de Acesso para as Inspeções, e que, tais disposições técnicas entraram em vigor, em relação à Região Administrativa Especial de Macau, a partir de 1 de Janeiro de 2005;

O Chefe do Executivo manda publicar, nos termos do n.º 1 do artigo 6.º da Lei n.º 3/1999 da Região Administrativa Especial de Macau, a resolução MSC.133(76), que contém as referidas disposições técnicas, nos seus textos em línguas chinesa e inglesa.

Promulgado em 21 de Outubro de 2014.

O Chefe do Executivo, *Chui Sai On*.

第 MSC.133 (76) 號決議

(2002 年 12 月 12 日通過)

通過用於檢查的進出通道的技術規定

海上安全委員會，

憶及《國際海事組織公約》關於本委員會職責的第 28 (b) 條，

注意到以關於進出和在油輪和散貨船貨物區域的處所內的通道的第 MSC.134 (76) 號決議通過的經修正的《1974 年國際海上人命安全 (SOLAS) 公約》(以下稱為“公約”) 新的第 II-1/3-6 條，

還注意到前述條款規定，其中所提及的進出通道根據公約應符合將成為強制性的用於檢查的進出通道的技術規定(以下稱為“技術規定”) 的要求，

認識到上述技術規定並非旨在約束進行船舶檢驗和檢查的經改進通道的新的或新型技術，

在其第七十六次會議上，審議了提議的技術規定的條文，

1. 通過了用於檢驗的進出通道的技術規定，其條文載於本決議的附件中；
2. 請公約的締約國政府注意，該技術規定將在公約的新第 II-1/3-6 條生效後，於 2005 年 1 月 1 日生效；

3. 要求秘書長將本決議和載於附件中的技術規定的條文的核正副本發送給公約的所有締約國政府；
4. 還要求秘書長將決議和附件的副本發送給非公約締約國政府的本組織會員；
5. 請各國政府鼓勵開發旨在促進船舶檢驗和檢查的新型技術並隨時將任何積極成果告知本組織。

附件

用於檢查的進出通道的技術規定

引言

長期以來一直認識到，確保船舶結構符合適用要求的唯一方法，是使其所有的部件在其整個操作壽命期內都得到定期的檢驗，以便確保其不發生諸如斷裂、翹曲或腐蝕引起的變形、超負荷損壞或者接觸損壞，和確保厚度減少是在設定的限度範圍內。船體結構提供旨在進行全面和細緻檢驗和檢查的進出通道是非常必要的，並且此種通道在船舶設計階段就應予以考慮和提供。

船舶在設計和建造時就應適當考慮到在其服務壽命期內如何使其得到船旗國檢查官員和船級社驗船師的檢驗以及船員如何能夠監測船舶的狀況。沒有足夠的進出通道，船舶的結構狀況可能會在未察覺中損壞，也可能會產生重大的結構故障。需要有一個全面的設計和維護途徑，以涵蓋整個的船舶預計壽命期。

為處理此問題，本組織制定了該《用於檢查的進出通道的技術規定》，旨在便利《SOLAS 公約》關於進出和在油輪和散貨船貨物區域的處所內的通道的第 II-1/3-6 條中所述的船舶結構的細節檢查和厚度測量。

定義

《技術規定》中所使用的術語與經修正的《1974 年 SOLAS 公約》和經修正的第 A.744 (18) 號決議中所用的術語含義相同。

技術規定

1. 《SOLAS 公約》第 II-1/3-6 條中所述的船舶結構中需進行細節檢查和厚度測量的結構構件，除雙層底處所內的外，均應提供幅度如表 1 和表 2 中所規定的適用的固定的進出通道。對於油輪和礦砂船船側壓載艙，除所規定的固定進出通道外，還可以使用浮箱，但結構上應計及其能安全和有效使用。
2. 高架通道（如裝有）的最小寬度應為 600mm 並應安裝高度不超過 150mm 的踏板，整個長度上的兩邊應裝有護欄。構成通道的一個部分的斜坡式結構應為不打滑的結構。護欄高度應為 1,000mm，並由扶手和高度為 500mm 的中間欄杆和實質性結構組成。支柱間距不應超過 3m。
3. 高架通道的進出口和通至船底的垂直開口應提供便於通行的通道、梯子或踏板。踏板應配有側向支撐。如梯子的每一級都裝配在垂直面上，則梯級的中心至該表面的距離至少應為 150mm。如在步行水平之上裝配高於 600mm 的垂直人孔，進出口處應配有踏板和把手，兩邊應有平台。
4. 穿過貨艙的通道應在貨艙的每端配有梯子或台階，以便人員便利地穿過此種通道。
5. 除垂直梯子外，安裝在垂直結構上用於細節檢查或厚度測量的固定梯子應為傾斜型的，角度應小於 70°。傾斜梯面的 750mm 內應無障礙，但若是在開口之中則除外，此時空隙可減少至 600mm。梯子的實際長度不應超過 9m。休息平台應有足夠的尺度。梯子和扶手應用鋼材或具有足夠強度和硬度的等效材料建造，並以支撐物將其安全地

附着在艙結構上。支撐的方法和支撐物的長度應為能儘實際可能地將震動減至最小程度。貨艙中的梯子應設計和佈置成能將貨物裝卸機械引起的損壞的風險最小化。

6. 縱桁之間梯子的寬度不應小於 400mm。踏板應以 250mm 與 300mm 之間の間距垂直均分。如果使用鋼材，踏板應由截面不小於 22mm×22mm 的兩塊方條組成，形成邊緣向上的水平踏板。踏板應支撐在邊縱桁上，並以雙面的連續焊接方式將其固定在邊縱桁上。所有坡面梯的兩邊均應配有實質性結構的扶手，安裝在踏板以上的方便距離上。

7. 獨立的便攜梯的長度一律不得超過 5m。

8. 只有在配有固定梯頂的遙控機械裝置的情況下，才能使用長度超過 5m 的便攜梯。

9. 可移動的進出通道應包括下列設備：

- .1 裝有穩定底座和在安全罩殼上裝有就地控制器的液壓臂。操作條件應符合生產商的適用安全要求；和
- .2 鋼索升降台。

10. 對於散貨船，進出貨艙梯應為：

- .1 如果鄰近甲板上部表面之間的垂直距離或甲板與貨物處所底部之間的垂直距離不超過 6m，垂直梯或傾斜梯均可；和
- .2 如果相鄰甲板上部表面之間的垂直距離或甲板與貨物處所底部之間的垂直距離超過 6m，除貨物處所最上端無頂部障礙的 2.5m 和最下端 6m 可使用垂直梯外，一個或多個傾斜梯，但連接垂直梯的一個或多個傾斜梯的垂直幅度不得少於 2.5m。

表 1—油輪進出通道

1. 壓載水艙（右欄中規定者除外）和貨油艙	2. 寬度小於 5m 形成船側雙邊處所的船側壓載水艙及其舳部斜邊艙
頂部結構進出口	
<p>1.1 對於高度為 6m 及以上的艙，應按照 .1 至 .3 提供固定的進出通道：</p> <p>.1 在頂部結構下橫向艙壁上和每個甲板橫材上佈置不間斷的橫向固定的進出通道，最小為 1.8m 至最大為 2.5m。如果進出通道安裝在桁板的無障礙一側，則應在桁板上設置直徑至少為 300mm 的減輕孔，在靠近每個防傾肘板的兩側提供進出通道；</p> <p>.2 頂部結構下至少有一個最小為 1.8m 至最大為 2.5m 的縱向固定的進出通道。如果縱向艙壁有附加肋板，則應在該側提供進出口；和</p> <p>.3 .1 和 .2 中規定的佈置之間和從主甲板至無論 .1 或 .2 的進出口。</p> <p>1.2 對於高度小於 6m 的艙，可使用浮箱或便攜式設備代替固定的進出通道。</p>	<p>2.1 如果水平上部縱材與艙頂甲板間的垂直距離超過 6m，應提供一個貫穿艙櫃全長的不間斷的固定進出通道，以便能穿過橫向緩衝艙壁，從頂部結構安裝成最小為 1.8m 至最大為 2.5m，在每端和艙的中間跨度上設置垂向進出梯。</p> <p>2.2 對於基線至上折角點的垂直距離為 6m 及以上的舳部斜邊艙，應提供一個貫穿艙室全長的縱向固定進出通道。通過艙兩端的垂直固定進出通道可以通行。</p> <p>2.3 如果 2.2 中提及的垂直距離小於 6m，可使用便攜式進出設備代替固定的進出通道。為便於便攜式進出設備的操作，應在水平縱桁中提供直列式開口。開口應有足夠的直徑並應有適當的保護欄杆。</p> <p>2.4 凡可能時，頂部結構與最上端縱桁之間的距離以及縱桁與縱桁之間的距離不應超過 6m。</p>
垂直結構進出口	
<p>1.3 對於含有內部結構的高度為 6m 及以上艙應提供通向每個橫向桁材的固定的進出通道。</p> <p>1.4 對於高度小於 6m 的艙，可使用浮箱或便攜式設備代替固定的進出通道。</p>	<p>2.5 在下列情況中，如果垂直距離為 6m 及以上，應對每個橫向桁材提供垂直固定的進出通道：</p> <p>.1 從基線至舳部斜邊艙的上折角點；</p> <p>.2 從舳部斜邊艙的上折角點至主甲板，如果未提供水平縱桁；和</p>

	<p>.3 在水平縱桁之間。</p> <p>2.6 應在每個縱桁和艙基之上的每個橫向桁材/緩衝艙壁中提供 600mm 的縱桁進出孔。</p> <p>2.7 如果在 2.5 中提及的垂直距離小於 6m，可使用便攜式設備代替固定的進出通道。</p>
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表 2—散貨船進出通道*

1 貨艙	2 壓載艙
<p>頂部結構進出口</p> <p>1.1 至少應安裝 3 個固定的進出通道，以便提供交叉甲板兩側和中線附近至頂部結構的進出口。每一進出通道應便於從貨艙或直接從主甲板進出，並應安裝在甲板下最小為 1.8m 至最大為 2.5m。</p> <p>1.2 作為選擇，如果內底以上垂直距離為 17m 或以下，可使用移動式進出通道進出交叉甲板頂部結構。</p>	<p>頂邊艙</p> <p>2.1 對於高度為 6m 及以上的每個頂邊艙，應沿着側殼桁材提供一個縱向的不間斷的固定進出通道，並安裝在甲板下，最小為 1.8m 至最大為 2.5m，在該艙的每個進出口附近配置一個垂直進出梯。</p> <p>2.2 如果在櫃基的 600mm 內橫向環形桁材上沒有進出孔，並且桁材構架環在側殼和坡形板中間的桁材高度大於 1m，則應提供梯級/扶手欄杆，以便安全進出每個橫向桁材構架環。</p> <p>2.3 應提供 3 個固定的進出通道，安裝在每個艙端底板和中間底板上，從櫃基跨至坡形板與艙口邊桁的交會點。現有的縱向結構可作為這一進出通道的一部分使用。</p> <p>2.4 對於高度小於 6m 的頂邊艙，可使用便攜式設備代替固定的進出通道。</p>
<p>垂直結構進出口</p> <p>1.3 應在所有貨艙中提供固定的垂直進出通道並安裝在結構上，以便能檢查平均分佈於全艙的左右舷艙內肋骨總數的至少 25%，包括在橫向艙壁途中的每端。但無論如何每側的這種佈置不應少於 3 個固定的垂直進出通道（在貨艙的前、後端和中間跨度上）。應提供易於將繫固於安全罩進出通道的設備。在兩個</p>	<p>艙部斜邊艙</p> <p>2.5 對於高度為 6m 及以上的每個艙部斜邊艙，應沿着側殼桁材提供一個縱向的不間斷的固定進出通道，並安裝在桁材環淨開口頂部下，最小為 1.2m 至最大為 1.8m，在該艙的每個進出通道附近配置垂直進出梯。</p> <p>2.6 如果在櫃基的 600mm 內橫向環形桁材上沒有進出孔，並且桁材構架環在側</p>

* 對於礦砂船，應按表 1 中的適用部分在壓載邊艙中提供固定的進出通道。

<p>相鄰的艙內肋骨之間安裝的固定的垂直進出通道算作檢查兩個艙內肋骨的一個進出口。可使用便攜式進出裝置進出下部斗形壓載艙坡形板。</p> <p>1.4 此外，應使用便攜式或移動式進出裝置進出其餘的艙內肋骨，直至其上部肘板和橫向艙壁。</p>	<p>殼和坡形板中間的桁材高度大於 1m，則應提供梯級/扶手欄杆，以便安全進出每個橫向桁材構架環。</p> <p>2.7 對於高度小於 6m 的舳部斜邊艙，可使用便攜式設備代替固定的進出通道。</p> <p>雙層殼邊艙</p> <p>2.8 應按照表 1 的適用部分提供固定的進出通道。</p>
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RESOLUTION MSC.133(76)
(adopted on 12 December 2002)

ADOPTION OF
TECHNICAL PROVISIONS FOR MEANS OF ACCESS FOR INSPECTIONS

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

NOTING the new regulation II-1/3-6 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended (hereinafter referred to as “the Convention”) adopted by resolution MSC.134(76), concerning access to and within spaces in the cargo area of oil tankers and bulk carriers,

NOTING ALSO that the aforementioned regulation provides that the means of access referred to therein shall comply with the requirements of Technical provisions for means of access for inspections (hereinafter referred to as “the Technical provisions”) to be made mandatory under the Convention;

RECOGNIZING that the Technical provisions referred to above are not intended to inhibit the development of new or novel technologies which provide for an improved means to carry out ship surveys and inspections,

HAVING CONSIDERED, at its seventy-sixth session, the text of the proposed Technical provisions,

1. ADOPTS the Technical provisions for means of access for inspections, the text of which is set out in the Annex to the present resolution;
2. INVITES Contracting Governments to the Convention to note that the Technical provisions will take effect on 1 January 2005 upon entry into force of the new regulation II-1/3-6 of the Convention;
3. REQUESTS the Secretary-General to transmit certified copies of this resolution and the text of the Technical provisions contained in the Annex to all Contracting Governments to the Convention;
4. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and the Annex to all Members of the Organization, which are not Contracting Governments to the Convention;
5. INVITES Governments to encourage the development of novel technologies aimed at facilitating the survey and inspection of ships and to keep the Organization advised of any positive results.

ANNEX

TECHNICAL PROVISIONS FOR MEANS OF ACCESS FOR INSPECTIONS**Preamble**

It has long been recognised that the only way of ensuring that the condition of a ship's structure is maintained to conform with the applicable requirements is for all its components to be surveyed on a regular basis throughout their operational life so as to ensure that they are free from damage such as cracks, buckling or deformation due to corrosion, overloading or contact damage and that thickness diminution is within established limits. The provision of suitable means of access to the hull structure for the purpose of carrying out overall and close-up surveys and inspections is essential and such means should be considered and provided for at the ship design stage.

Ships should be designed and built with due consideration as to how they will be surveyed by flag State inspectors and classification society surveyors during their in-service life and how the crew will be able to monitor the condition of the ship. Without adequate access, the structural condition of the ship can deteriorate undetected and major structural failure can arise. A comprehensive approach to design and maintenance is required to cover the whole projected life of the ship.

In order to address this issue, the Organization has developed these Technical provisions for means of access for inspections, intended to facilitate close-up inspections and thickness measurements of the ship's structure referred to in SOLAS regulation II-1/3-6 on access to and within spaces in the cargo area of oil tankers and bulk carriers.

Definitions

Terms used in the Technical provisions have the same meaning as those defined in the 1974 SOLAS Convention, as amended, and in resolution A.744(18), as amended.

Technical provisions

1 Structural members subject to the close-up inspections and thickness measurements of the ship's structure referred to in SOLAS regulation II-1/ 3-6, except those in double bottom spaces, shall be provided with a permanent means of access to the extent as specified in table 1 and table 2, as applicable. For oil tankers and wing ballast tanks of ore carriers, rafting may be used in addition to the specified permanent means of access, provided that the structure allows for its safe and effective use.

2 Elevated passageways, where fitted, shall have a minimum width of 600 mm and be provided with toe boards not less than 150 mm high and guard rails over both sides of their entire length. Sloping structure providing part of the access shall be of a non-skid construction. Guard rails shall be 1,000 mm in height and consist of a rail and intermediate bar 500 mm in height and of substantial construction. Stanchions shall be not more than 3 m apart.

3 Access to elevated passageways and vertical openings from the ship's bottom shall be provided by means of easily accessible passageways, ladders or treads. Treads shall be provided with lateral support for the foot. Where the rungs of ladders are fitted against a vertical surface, the distance from the centre of the rungs to the surface shall be at least 150 mm. Where vertical

manholes are fitted higher than 600 mm above the walking level, access shall be facilitated by means of treads and hand grips with platform landings on both sides.

4 Tunnels passing through cargo holds shall be equipped with ladders or steps at each end of the hold so that personnel may easily cross such tunnels.

5 Permanent ladders, except for vertical ladders, which are fitted on vertical structures for close-up inspection or thickness measurement shall be inclined at an angle of less than 70°. There shall be no obstructions within 750 mm of the face of the inclined ladder, except that in way of an opening this clearance may be reduced to 600 mm. The flights of ladders shall not be more than 9 m in actual length. Resting platforms of adequate dimensions shall be provided. Ladders and handrails shall be constructed of steel or equivalent material of adequate strength and stiffness and securely attached to the tank structure by stays. The method of support and length of stay shall be such that vibration is reduced to a practical minimum. In cargo holds, ladders shall be designed and arranged so that the risk of damage from cargo handling gear is minimized.

6 The width of ladders between stringers shall not be less than 400 mm. The treads shall be equally spaced at a distance apart, measured vertically, of between 250 mm and 300 mm. When steel is used, the treads shall be formed of two square bars of not less than 22 mm by 22 mm in section, fitted to form a horizontal step with the edges pointing upward. The treads shall be carried through the side stringers and attached thereto by double continuous welding. All sloping ladders shall be provided with handrails of substantial construction on both sides, fitted at a convenient distance above the treads.

7 No free-standing portable ladder shall be more than 5 m long.

8 Portable ladders more than 5 m long may only be utilized if fitted with a remotely controlled mechanical device to secure the upper end of the ladder.

9 Movable means of access includes such devices as:

- .1 hydraulic arm fitted with a stable base and with local control at the safety cage. The operational conditions should be in accordance with applicable safety requirements of the manufacturer; and
- .2 wire lift platform.

10 For bulk carriers, access ladders to a cargo hold shall be:

- .1 where the vertical distance between the upper surface of adjacent decks or between deck and the bottom of the cargo space is not more than 6 m, either a vertical ladder or an inclined ladder; and
- .2 where the vertical distance between the upper surface of adjacent decks or between deck and the bottom of the cargo space is more than 6 m, an inclined ladder or ladders, except the uppermost 2.5 m of a cargo space measured clear of overhead obstructions and the lowest 6 m may have vertical ladders, provided that the vertical extent of the inclined ladder or ladders connecting the vertical ladders is not less than 2.5 m.

Table 1 - Means of access for oil tankers

1 Water ballast tanks, except those specified in the right column, and cargo oil tanks	2 Wing water ballast tanks of less than 5 m width forming double side spaces and their bilge hopper sections
Access to the overhead structure	
<p>1.1 For tanks of which the height is 6 m and over, permanent means of access shall be provided in accordance with .1 to .3:</p> <p>.1 continuous athwartship permanent access arranged at the transverse bulkheads and at every deck transverse, at a minimum of 1.8 m to a maximum of 2.5 m below the overhead structure. If the access is fitted on the side of the unobstructed side of the web plating, then lightening holes of at least 300 mm diameter shall be fitted in the web plating, providing access adjacent to both sides of each tripping bracket;</p> <p>.2 at least one longitudinal permanent means of access at a minimum of 1.8 m to a maximum of 2.5 m below the overhead structure. Where the longitudinal bulkhead contains attached framing, the access shall be provided at that side; and</p> <p>.3 access between the arrangements specified in .1 and .2 and from the main deck to either .1 or .2.</p> <p>1.2 For tanks of which the height is less than 6 m, raft or portable means may be utilized in lieu of the permanent means of access.</p>	<p>2.1 Where the vertical distance between horizontal upper stringer and deck head exceeds 6 m, one continuous permanent means of access shall be provided for the full length of the tank with a means to allow passing through transverse swash bulkheads installed a minimum of 1.8 m to a maximum of 2.5 m from the overhead structure with a vertical access ladder at each end and mid-span of tank.</p> <p>2.2 For bilge hopper sections of which the vertical distance from baseline to the upper knuckle point is 6 m and over, one longitudinal permanent means of access shall be provided for the full length of the tank. It shall be accessible by vertical permanent means of access at both ends of the tank.</p> <p>2.3 Where the vertical distance referred to in 2.2 is less than 6 m, portable means of access may be utilised in lieu of the permanent means of access. To facilitate the operation of the portable means of access, in-line openings in horizontal stringers should be provided. The openings should be of an adequate diameter and should have suitable protective railings.</p> <p>2.4 Whenever practicable, the distance between the overhead structure and the uppermost longitudinal stringer and between the longitudinal stringers should not exceed 6 m.</p>
Access to the vertical structures	
<p>1.3 For tanks of which the height is 6 m and over, containing internal structures, permanent means of access shall be provided to each transverse web.</p> <p>1.4 For tanks of which the height is less than 6 m, raft or portable means may be utilized in lieu of the permanent means of access.</p>	<p>2.5 Vertical permanent means of access shall be provided to each transverse web in the following cases where the vertical distance is 6 m and over:</p> <p>.1 from baseline to the upper knuckle point of the bilge hopper section;</p> <p>.2 from the upper knuckle point of the bilge hopper section to main deck where no horizontal stringers are provided; and</p> <p>.3 between horizontal stringers.</p> <p>2.6 Access holes within 600 mm of the stringer shall be provided in each transverse web/swash bulkhead above each stringer and tank base.</p> <p>2.7 In the case where the vertical distance referred to in 2.5 is less than 6 m, portable means may be utilised in lieu of the permanent means of access.</p>

Table 2 - Means of access for bulk carriers*

1 Cargo holds	2 Ballast tanks
<p>Access to overhead structure</p> <p>1.1 At least 3 permanent means of access shall be fitted to provide access to the overhead structure at both sides of the cross deck and in the vicinity of the centreline. Each means of access shall be accessible from the cargo hold access or directly from the main deck and installed at a minimum of 1.8 m to a maximum of 2.5 m below the deck.</p> <p>1.2 Alternatively, movable means of access may be utilized for access to the overhead structure of cross deck if its vertical distance is 17 m or less above the tank top.</p>	<p>Top side tanks</p> <p>2.1 For each topside tank of which the height is 6 m and over, one longitudinal continuous permanent means of access shall be provided along the side shell webs and installed at a minimum of 1.8 m to a maximum of 2.5 m below deck with a vertical access ladder in the vicinity of each access to that tank.</p> <p>2.2 If no access holes are provided through the transverse ring webs within 600 mm of the tank base and the web frame rings have a web height greater than 1 m in way of side shell and sloping plating, then step rungs/grab rails shall be provided to allow safe access over each transverse web frame ring.</p> <p>2.3 Three permanent means of access, fitted at the end bay and middle bay of each tank, shall be provided spanning from tank base up to the intersection of the sloping plate with the hatch side girder. The existing longitudinal structure may be used as part of this means of access.</p> <p>2.4 For topside tanks of which the height is less than 6 m, a portable means may be utilized in lieu of the permanent means of access.</p>
<p>Access to vertical structures</p> <p>1.3 Permanent means of vertical access shall be provided in all cargo holds and built into the structure to allow for an inspection of a minimum of 25 % of the total number of hold frames port and starboard equally distributed throughout the hold including at each end in way of transverse bulkheads. But in no circumstance shall this arrangement be less than 3 permanent means of vertical access fitted to each side (fore and aft ends of hold and mid-span). Means to readily secure safety cages to the permanent means of access shall be provided. Permanent means of vertical access fitted between two adjacent hold frames is counted for an access for the inspection of both hold frames. A means of portable access may be used to gain access over the sloping plating of lower hopper ballast tanks.</p> <p>1.4 In addition, portable or movable means of access shall be utilized for access to the remaining hold frames up to their upper brackets and transverse bulkheads.</p>	<p>Bilge hopper tanks</p> <p>2.5 For each bilge hopper tank of which the height is 6 m and over, one longitudinal continuous permanent means of access shall be provided along the side shell webs and installed at a minimum of 1.2 m to a maximum of 1.8 m below the top of the clear opening of the web ring with a vertical access ladder in the vicinity of each access to the tank.</p> <p>2.6 If no access holes are provided through the transverse ring webs within 600 mm of the tank base and the web frame rings have a web height greater than 1 m in way of side shell and sloping plating, then step rungs/grab rails shall be provided to allow safe access over each transverse web frame ring.</p> <p>2.7 For bilge hopper tanks of which the height is less than 6 m, a portable means may be utilized in lieu of the permanent means of access.</p> <p>Double skin side tanks</p> <p>2.8 Permanent means of access shall be provided in accordance with the applicable sections of table 1.</p>

* For ore carriers, permanent means of access in wing ballast tanks shall be provided in accordance with the applicable section of table 1.