

**ANNEX 2**

**RESOLUTION MSC.573(110)  
(adopted on 26 June 2025)**

**AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY  
FOR HIGH-SPEED CRAFT, 1994 (1994 HSC CODE)**

THE MARITIME SAFETY COMMITTEE,

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

NOTING resolution MSC.36(63), by which it adopted the International Code of Safety for High-Speed Craft ("the 1994 HSC Code"), which has become mandatory under chapter X of the International Convention for the Safety of Life at Sea, 1974 ("the Convention"),

NOTING ALSO article VIII(b) and regulation X/1.1 of the Convention concerning the procedure for amending the 1994 HSC Code,

HAVING CONSIDERED, at its 110th session, amendments to the 1994 HSC Code proposed and circulated in accordance with article VIII(b)(i) of the Convention,

1 ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the 1994 HSC Code, 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 said amendments shall be deemed to have been accepted on 1 July 2027, 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 50% of the gross tonnage of the world's merchant fleet have notified the Secretary-General of their objections to the amendments;

3 INVITES Contracting Governments to the Convention to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 January 2028 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Contracting Governments to the Convention;

5 ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization which are not Contracting Governments to the Convention.

ANNEX

**AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY  
FOR HIGH-SPEED CRAFT, 1994 (1994 HSC CODE)**

**CHAPTER 8  
LIFE-SAVING APPLIANCES AND ARRANGEMENTS**

**8.3 Personal life-saving appliances**

1 Paragraph 8.3.5 is replaced by the following:

"8.3.5 A lifejacket complying with the requirements of regulation III/32.1 or III/32.2 of the Convention should be provided for every person on board the craft and, in addition:

- .1 a number of lifejackets suitable for children equal to at least 10% of the number of passengers on board should be provided or such greater number as may be required to provide a lifejacket for each child;
- .2 every passenger craft should carry lifejackets for not less than 5% of the total number of persons on board. These lifejackets should be stowed in conspicuous places on deck or at muster stations;
- .3 a sufficient number of lifejackets should be carried for persons on watch and for use at remotely located survival craft and rescue boat stations;
- .4 all lifejackets should be fitted with a light, which complies with the requirements of regulation III/32.3 of the Convention; and
- .5 in addition, on all craft, the following should be provided no later than the date of the first renewal survey on or after 1 January 2028:
  - .1 for passenger craft on voyages less than 24 hours, a number of infant lifejackets equal to at least 2.5% of the number of passengers on board should be provided;
  - .2 for passenger craft on voyages 24 hours or greater, infant lifejackets should be provided for each infant on board; and
  - .3 if the adult lifejackets provided are not designed to fit persons weighing up to 140 kg and with a chest girth of up to 1,750 mm, a sufficient number of suitable accessories should be available on board to allow them to be secured to such persons."

**ANNEX 1**

**FORM OF SAFETY CERTIFICATE FOR HIGH-SPEED CRAFT**

**Record of Equipment for High-Speed Craft Safety Certificate**

**2 Details of life-saving appliances**

1 In the table for "Details of life-saving appliances", a new entry 8.3 is inserted under existing entry 8.2, as follows:

"

8.3	Number suitable for infants	.....
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"

**5 Details of navigational systems and equipment**

2 In the table for "Details of navigational systems and equipment", new entries 16.1 to 16.3 are added under existing entry 15, as follows:

"

16.1	Pilot ladder and manropes	.....
16.2	Spare pilot ladder and manropes	.....
16.3	Means of securing a pilot ladder at intermediate length	.....

"

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**ANNEX 3**

**RESOLUTION MSC.574(110)  
(adopted on 26 June 2025)**

**AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY  
FOR HIGH-SPEED CRAFT, 2000 (2000 HSC CODE)**

THE MARITIME SAFETY COMMITTEE,

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

NOTING resolution MSC.97(73), by which it adopted the International Code of Safety for High-Speed Craft, 2000 ("the 2000 HSC Code"), which has become mandatory under chapter X of the International Convention for the Safety of Life at Sea, 1974 ("the Convention"),

NOTING ALSO article VIII(b) and regulation X/1.2 of the Convention concerning the procedure for amending the 2000 HSC Code,

HAVING CONSIDERED, at its 110th session, amendments to the 2000 HSC Code proposed and circulated in accordance with article VIII(b)(i) of the Convention,

1 ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the 2000 HSC Code, 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 said amendments shall be deemed to have been accepted on 1 July 2027, 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 50% of the gross tonnage of the world's merchant fleet have notified the Secretary-General of their objections to the amendments;

3 INVITES Contracting Governments to the Convention to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 January 2028 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Contracting Governments to the Convention;

5 ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization which are not Contracting Governments to the Convention.

ANNEX

**AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY  
FOR HIGH-SPEED CRAFT, 2000 (2000 HSC CODE)**

**CHAPTER 8  
LIFE-SAVING APPLIANCES AND ARRANGEMENTS**

**8.3 Personal life-saving appliances**

1 Paragraph 8.3.5 is replaced by the following:

"8.3.5 A lifejacket complying with the requirements of paragraph 2.2.1 or 2.2.2 of the LSA Code shall be provided for every person on board the craft and, in addition:

- .1 a number of lifejackets suitable for children equal to at least 10% of the number of passengers on board shall be provided or such greater number as may be required to provide a lifejacket for each child;
- .2 every passenger craft shall carry lifejackets for not less than 5% of the total number of persons on board. These lifejackets shall be stowed in conspicuous places on deck or at assembly stations;
- .3 a sufficient number of lifejackets shall be carried for persons on watch and for use at remotely located survival craft and rescue boat stations;
- .4 all lifejackets shall be fitted with a light, which complies with the requirements of paragraph 2.2.3 of the LSA Code;
- .5 in addition, on craft constructed on or after 1 January 2028, the following shall be provided:
  - .1 for passenger craft on voyages less than 24 hours, a number of infant lifejackets equal to at least 2.5% of the number of passengers on board shall be provided;
  - .2 for passenger craft on voyages 24 hours or greater, infant lifejackets shall be provided for each infant on board; and
  - .3 if the adult lifejackets provided are not designed to fit persons weighing up to 140 kg and with a chest girth of up to 1,750 mm, a sufficient number of suitable accessories shall be available on board to allow them to be secured to such persons; and
- .6 craft constructed before 1 January 2028 shall comply with sub-paragraph.5 no later than the date of the first renewal survey on or after 1 January 2028."

**ANNEX 1**

**FORM OF HIGH-SPEED CRAFT SAFETY CERTIFICATE AND RECORD OF EQUIPMENT**

**Record of Equipment for High-Speed Craft Safety Certificate**

**2 Details of life-saving appliances**

1 In the table for "Details of life-saving appliances", a new entry 8.3 is inserted under existing entry 8.2, as follows:

"

8.3	Number suitable for infants	.....
-----	-----------------------------	-------

"

**3 Details of navigational systems and equipment**

2 In the table for "Details of navigational systems and equipment", new entries 18.1 to 18.3 are added under existing entry 17, as follows:

"

18.1	Pilot ladder and manropes	.....
18.2	Spare pilot ladder and manropes	.....
18.3	Means of securing a pilot ladder at intermediate length	.....

"

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**ANNEX 4**

**RESOLUTION MSC.575(110)  
(adopted on 26 June 2025)**

**AMENDMENTS TO THE INTERNATIONAL MARITIME SOLID  
BULK CARGOES CODE (IMSBC CODE)**

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO resolution MSC.268(85) by which it adopted the International Maritime Solid Bulk Cargoes Code (hereinafter referred to as "the IMSBC Code"), which has become mandatory under chapter VI of the International Convention for the Safety of Life at Sea, 1974, as amended ("the Convention"),

RECALLING FURTHER article VIII(b) and regulation VI/1-1.1 of the Convention concerning amendment procedure for amending the IMSBC Code,

HAVING CONSIDERED, at its 110th session, amendments to the IMSBC Code, proposed and circulated in accordance with article VIII(b)(i) of the Convention,

1 ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the IMSBC Code, 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 said amendments shall be deemed to have been accepted on 1 July 2026, 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 50% of the gross tonnage of the world's merchant fleet have notified the Secretary-General of their objections to the amendments;

3 INVITES Contracting Governments to the Convention to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 January 2027 upon their acceptance in accordance with paragraph 2 above;

4 AGREES that Contracting Governments to the Convention may apply the aforementioned amendments in whole or in part on a voluntary basis as from 1 January 2026;

5 REQUESTS the Secretary-General, for the purpose of article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Contracting Governments to the Convention;

6 ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization which are not Contracting Governments to the Convention.

## ANNEX

### **AMENDMENTS (08-25) TO THE ENGLISH VERSION OF THE INTERNATIONAL MARITIME SOLID BULK CARGOES CODE (IMSBC CODE)**

#### **Section 3 – Safety of personnel and ship**

##### **3.6 Cargo under in-transit fumigation**

Footnote to 3.6.1 is replaced by the words "Refer to Revised recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo holds (MSC.1/Circ.1264/Rev.1)."

Footnotes to the third and fifth sentences are replaced by the words "Refer to paragraph 3.3.2.4 of MSC.1/Circ.1264/Rev.1" and "Refer to paragraph 3.3.2.10 of MSC.1/Circ.1264/Rev.1", respectively.

#### **Section 9 – Materials possessing chemical hazards**

##### **9.3 Stowage and segregation requirements**

##### **9.3.3 Segregation between bulk materials possessing chemical hazards and dangerous goods in packaged form**

Table in 9.3.3 is amended as follows:

The oblique line in the first cell on the left is deleted; the cell is separated into two, and the right cell is merged to the next cell after the separation.

The heading of the first column on the left is replaced to read "Bulk materials (classified as dangerous goods)".

In the heading of the fourth column, the term "1.6" is added after the term "1.3".

In the first column on the left, the words "Radioactive materials" are replaced by the words "Radioactive material".

In the second column on the left, the word "MHB" is deleted.

In paragraph 3 ("Separated by a complete compartment or hold from"), replace the words "Means either" by the word "Either".

#### **Section 13 – References to related information and recommendations**

##### **13.2 Reference list**

In paragraph 13.2.3, "MSC.1/Circ.1395/Rev.6" is replaced by "MSC.1/Circ.1395/Rev.7".

In paragraphs 13.2.6 and 13.2.9, the words "Recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo holds (MSC.1/Circ.1264, as amended by MSC.1/Circ.1396)" are replaced by the words "Revised recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo holds (MSC.1/Circ.1264/Rev.1)".

## APPENDIX 1

### INDIVIDUAL SCHEDULES OF SOLID BULK CARGOES

#### *Amendments to existing individual schedules*

The following individual schedules are amended as indicated below:

#### **ALUMINIUM FERROSILICON POWDER UN 1395**

In the individual schedule for "ALUMINIUM FERROSILICON POWDER UN 1395", in the section for "Precautions", the last sentence is deleted.

#### **ALUMINIUM SILICON POWDER, UNCOATED UN 1398**

In the individual schedule for "ALUMINIUM SILICON POWDER, UNCOATED UN 1398", in the section for "Precautions", the last sentence is deleted.

#### **ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS UN 3170**

In the individual schedule for "ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS UN 3170", in the section for "Precautions", the penultimate sentence is deleted.

#### **CASTOR BEANS or CASTOR MEAL or CASTOR POMACE or CASTOR FLAKE UN 2969**

In the individual schedule for "CASTOR BEANS or CASTOR MEAL or CASTOR POMACE or CASTOR FLAKE UN 2969", BCSN is replaced to read "CASTOR BEANS UN 2969". In the table for "Characteristics", in the box for "MHB", the words "TX and/or CR" are inserted. In the section for "Hazard", the sentence "This cargo is non-combustible or has a low fire risk." is inserted at the end of the section.

#### **DIRECT REDUCED IRON (A), Briquettes, hot-moulded**

The text in the section for "Description" is replaced to read as follows:

**"Direct reduced iron (DRI) (A)** is a metallic grey material, emanating from a densification process, whereby the DRI feed material is hot-moulded into a briquette form with total iron (Fe) content of at least 88% by weight at a temperature greater than 650°C."

The first and second paragraphs in the section for "Loading" are replaced and the associated footnote is added, as follows :

"Prior to loading this cargo, the shipper shall provide the master with a certificate issued by a competent person recognized by the competent authority of the port of loading stating that the cargo, at the time of loading, is suitable for shipment and that it conforms with the requirements of this Code: that the apparent density\* is greater than 5,000 kg/m<sup>3</sup>; the quantity of fines and small particles (under 6.35 mm in size) does not exceed 5% by weight; the moisture content does not exceed 1.0%; and the temperature does not exceed 65°C.

This cargo shall not be loaded and shipped under the provisions of this schedule if the temperature is in excess of 65°C, if its moisture content is in excess of 1.0%, if the quantity of fines and small particles (under 6.35 mm in size) exceeds 5% by weight or if the apparent density\* is equal to or less than 5,000 kg/m<sup>3</sup>.

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\* Apparent density is the mass in air per volume, including both the solid and void spaces within particles, but excluding the void spaces between particles. Apparent density of hot briquetted direct reduced iron is determined according to ISO 15968:2016 "Direct reduced iron - Determination of apparent density and water absorption of hot briquetted iron (HBI)"."

The third paragraph in the section for "Loading" is replaced and the associated footnote is added, as follows:

"Appropriate precautions<sup>†</sup> shall be taken prior to and during loading in order that the cargo be substantially composed of essentially whole and intact briquettes with minimal presence of exposed or loose uncompacted pellets. The cargo shall be loaded in such a way so as to minimize breakage of briquettes and the additional generation of fines and small particles (under 6.35 mm in size) and concentration of fines in any area of the cargo and to minimize the presence of exposed or loose uncompacted pellets and concentration thereof in any area of the cargo. The addition of fines and small particles (under 6.35 mm in size) or dust or loose pellets in homogeneous cargoes of DRI (A) shall be prohibited.

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<sup>†</sup> One example of an appropriate precaution is screening of the material to be loaded."

### **DIRECT REDUCED IRON (B), Lumps, pellets, cold-moulded briquettes**

The text in the section for "Description" is replaced and the associated footnote is added, as follows :

**"Direct reduced iron (DRI) (B)** is a highly porous, black/grey metallic material formed by the reduction (removal of oxygen) of iron oxide at temperatures below the fusion point of iron. Cargoes in briquette form are defined as those with total iron (Fe) content of at least 88% by weight which have been moulded at a temperature not greater than 650°C or which have an apparent density\* of not greater than 5,000 kg/m<sup>3</sup>.

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\* Apparent density is the mass in air per volume, including both the solid and void spaces within particles, but excluding the void spaces between particles."

**FERROSILICON UN 1408 with 30% or more but less than 90% silicon (including briquettes)**

In the individual schedule for "FERROSILICON UN 1408 with 30% or more but less than 90% silicon (including briquettes)", in the "Appendix", in the section for "General requirements for carriage of ferrosilicon", the first paragraph is deleted and the following paragraphs are renumbered, accordingly.

**FERROSILICON with at least 25% but less than 30% silicon, or 90% or more silicon**

In the individual schedule for "FERROSILICON with at least 25% but less than 30% silicon, or 90% or more silicon", in the "Appendix", in the section for "General requirements for carriage of ferrosilicon", the text in paragraph 1 is replaced to read:

- "1 Two sets of self-contained breathing apparatus shall be carried in the ship in addition to those required by SOLAS regulation II-2/10.10. Self-contained breathing apparatus sets carried in accordance with SOLAS regulation II-2/19.3.6.2 may be used to comply with this requirement."

**FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS UN 2793 in a form liable to self-heating**

In the individual schedule for "FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS UN 2793 in a form liable to self-heating", in the section for "Carriage", in the second sentence, the words "or, alternatively, entry is required for this purpose, at least two sets of self-contained breathing apparatus, additional to those required by SOLAS regulation II-2/10.10 shall be provided" are deleted.

**FISH MEAL (FISH SCRAP), STABILIZED Anti-oxidant treated**

In the individual schedule for "FISH MEAL (FISH SCRAP), STABILIZED Anti-oxidant treated" (as adopted by resolution MSC.539(107)), BCSN is replaced to read "FISH MEAL (FISH SCRAP), STABILIZED UN 2216 Anti-oxidant treated. Moisture content greater than 5% but not exceeding 12%, by mass. Fat content not more than 15%"; in the section for "Description", the words "Moisture content: greater than 5% but not exceeding 12%, by mass." and the words "Fat content: not more than 15%, by mass." are deleted; and in the table for "Characteristics", in the box for "Class", the words "Not applicable" are replaced by the number "9"; and in the box for "MHB", the word "SH" is replaced by the word "Not applicable". In the section for "Precautions", the text in paragraph 1 is replaced to read as follows:

- "1 Stabilization of fish meal shall be achieved to prevent spontaneous combustion by the effective application of ethoxyquin or BHT (butylated hydroxytoluene) or tocopherols at the time of production. The said application shall occur within 12 months prior to shipment. Fish scrap or fish meal shall contain remnant measurable anti-oxidant levels of at least 100 ppm (mg/kg) of ethoxyquin, or 100 ppm (mg/kg) of BHT or 250 ppm (mg/kg) of tocopherol at the time of shipment."

**IRON ORE PELLETS**

In the individual schedule for "IRON ORE PELLETS", in the section for "Description", the second and third sentences are replaced to read "This iron oxide is formed into pellets by using binders, such as clay, and then hardening by firing at 1,200°C to 1,315°C. Moisture content: up to 6%."; and in the table for "Characteristics", in the box for "Bulk density", "1,900" is replaced by "1,800"; and in the box for "Stowage factor", the terms "0.45" and "0.52" are replaced by the terms "0.42" and "0.56", respectively.

### ***New individual schedules***

The following new individual schedules are inserted in alphabetical order:

#### **"ALUMINIUM SULPHATE GRANULAR**

##### **Description**

Aluminium sulphate granular consists of inorganic white granules. Hygroscopic in nature. Soluble in water. Used as a coagulant for drinking and wastewater treatment.

##### **Characteristics**

<b>Physical properties</b>			
<b>Size</b>	<b>Angle of repose</b>	<b>Bulk density (kg/m<sup>3</sup>)</b>	<b>Stowage factor (m<sup>3</sup> /t)</b>
less than 3 mm	40° to 45°	900 to 1,100	0.91 to 1.11
<b>Hazard classification</b>			
<b>Class</b>	<b>Subsidiary hazard(s)</b>	<b>MHB</b>	<b>Group</b>
Not applicable	Not applicable	CR	B

##### **Hazard**

Causes serious eye damage.  
This cargo is hygroscopic and will cake if wet.  
This cargo is highly soluble and will be acidic when wet.  
This cargo is non-combustible or has a low fire risk.

##### **Stowage and segregation**

Contact with certain metals, e.g. aluminium and zinc, may form hydrogen gas.  
"Separated from" most other cargoes since it is a drinking water product.

##### **Hold cleanliness**

Clean and dry as relevant to the quality and hazards of the cargo.

##### **Weather precautions**

This cargo shall be kept as dry as practicable. It shall not be handled during precipitation.  
During handling of this cargo, all non-working hatches of the cargo spaces into which this cargo is loaded, or to be loaded, shall be closed.

##### **Loading**

Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code.

##### **Precautions**

Persons who may be exposed to the dust of the cargo shall wear protective gloves and goggles or other equivalent dust eye-protection, face protection and dust filter masks, as necessary. Minimize dust generation when loading.

##### **Ventilation**

The cargo spaces carrying this cargo shall not be ventilated during the voyage.

##### **Carriage**

Hatches of the cargo spaces shall be weathertight to prevent water ingress.

##### **Discharge**

This cargo is hygroscopic and may cake in overhangs, impairing safety during discharge. If this cargo has hardened, it shall be trimmed to avoid the formation of overhangs, as necessary.

### Clean-up

After discharge of this cargo, the cargo spaces and the bilge wells shall be swept clean and then thoroughly washed out.

### Emergency procedures

<p><b>Special emergency equipment to be carried</b> Protective clothing (gloves, boots, face protection and coveralls). Self-contained breathing apparatus.</p>
<p><b>Emergency procedures</b> Wear protective clothing and self-contained breathing apparatus. <b>Emergency action in the event of fire</b> Use extinguishers appropriate for surrounding materials. The cargo itself is not combustible. <b>Medical first aid</b> Refer to the <i>Medical First Aid Guide (MFAG)</i>, as amended.</p>

## "APATITE CONCENTRATE

### Description

Crystalline fine powder of grey colour.

### Characteristics

Physical properties			
Size	Angle of repose	Bulk density (kg/m <sup>3</sup> )	Stowage factor (m <sup>3</sup> /t)
Less than 0.5 mm	Not applicable	1,429 to 2,000	0.5 to 0.7
Hazard classification			
Class	Subsidiary hazard(s)	MHB	Group
Not applicable	Not applicable	Not applicable	A

### Hazard

This cargo may liquefy if shipped at a moisture content in excess of its transportable moisture limit (TML). See sections 7 and 8 of this Code.

This cargo is non-combustible or has a low fire risk.

### Stowage and segregation

No special requirements.

### Hold cleanliness

No special requirements.

### Weather precautions

When a cargo is carried in a ship other than a ship complying with the requirements in 7.3.2 of this Code, the following provisions shall be complied with:

- .1 the moisture content of the cargo shall be kept less than its TML during loading operations and the voyage;
- .2 unless expressly provided otherwise in this individual schedule, the cargo shall not be handled during precipitation;
- .3 unless expressly provided otherwise in this individual schedule, during handling of the cargo, all non-working hatches of the cargo spaces into which the cargo is loaded, or to be loaded, shall be closed;

- .4 the cargo may be handled during precipitation under the conditions stated in the procedures required in 4.3.3 of this Code; and
- .5 the cargo in a cargo space may be discharged during precipitation provided that the total amount of the cargo in the cargo space is to be discharged in the port.

### **Loading**

Hatch covers, manholes and vent openings shall be checked for weather-tightness. Prior to loading, the holds shall be surveyed carefully to ensure a proper condition of ballast, bilge, fire-extinguishing and other systems. Additionally, manholes of the ballast tanks shall be checked for water leakage into the cargo spaces.

This cargo shall be trimmed to ensure that the height difference between peaks and troughs does not exceed 5% of the ship's breadth and that the cargo slopes uniformly from the hatch boundaries to the bulkheads and to avoid steep surfaces of cargo that collapse during the voyage. When the stowage factor of this cargo is equal to or less than 0.56 m<sup>3</sup>/t, the tank top may be overstressed unless the cargo is evenly spread across the tank top to equalize the weight distribution. Due consideration shall be given to ensure that the tank top is not overstressed during the voyage and during loading by a pile of the cargo forming.

### **Precautions**

Appropriate precautions shall be taken to protect machinery and accommodation spaces from the dust of the cargo. Bilge wells of the cargo spaces shall be protected from ingress of the cargo. Due consideration shall be given to protect equipment from the dust of the cargo. Persons who may be exposed to the dust of the cargo shall wear protective clothing, goggles or other equivalent dust eye-protection and dust filter masks, as necessary. Bilge wells shall be clean, dry and covered, as appropriate, to prevent ingress of the cargo.

### **Ventilation**

The cargo spaces carrying this cargo shall not be ventilated during the voyage

### **Carriage**

The appearance of the surface of this cargo shall be checked regularly during the voyage. If free water above the cargo or fluid state of the cargo is observed during the voyage, the master shall take appropriate action to prevent cargo shifting and potential capsizing of the ship and give consideration to seeking emergency entry into a place of refuge.

### **Discharge**

No special requirements.

### **Clean-up**

After discharge of this cargo, the bilge wells and the scuppers of the cargo spaces shall be checked and any blockage in the bilge wells and the scuppers shall be removed."

## **"ASPHALT GRANULATES**

### **Description**

Granulates from the demolition of asphalt roads. The granulates are re-used for the foundation/sub-base for new roads. The cargo has a dark grey/black colour and contains no more than 10% asphalt. The material has, in principle, no odour, but a light bitumen odour may be possible. The cargo is stored outside (open air).

## Characteristics

Physical properties			
Size	Angle of repose	Bulk density (kg/m <sup>3</sup> )	Stowage factor (m <sup>3</sup> /t)
Up to 60 mm	30° to 45°	1,700 to 1,800	0.55 to 0.59
Hazard classification			
Class	Subsidiary hazard(s)	MHB	Group
Not applicable	Not applicable	Not applicable	C

### Hazard

No special hazards.  
This cargo is non-combustible or has a low fire risk.

### Stowage and segregation

"Away from" alkalis, oxidizing substances, acids, food, drink and animal feeding stuffs.

### Hold cleanliness

No special requirements.

### Weather precautions

No special requirements.

### Loading

Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code. When the stowage factor of this cargo is equal to or less than 0.56 m<sup>3</sup>/t, the tank top may be overstressed unless the cargo is evenly spread across the tank top to equalize the weight distribution. Due consideration shall be given to ensure that the tank top is not overstressed during the voyage and during loading by a pile of the cargo.

### Precautions

Bilge wells shall be clean, dry and covered as appropriate, to prevent ingress of the cargo. Bilge wells of the cargo spaces shall be protected from ingress of the cargo. Persons who may be exposed to cargo shall wear eye/face protection and applicable filter masks (in case of inadequate ventilation).

### Ventilation

No special requirements.

### Carriage

No special requirements.

### Discharge

No special requirements.

### Clean-up

Contaminated washing water shall be retained and disposed of in an appropriate manner/facility."

## "CRUSHED GRANODIORITE, COARSE

The provisions of this schedule shall apply only to cargoes containing less than 0.1% respirable quartz and less than 7% of particles under 2 mm.

### Description

Crushed granodiorite is made by blasting, crushing and sieving the common rock species granodiorite, a grey, very hard and compact mineral stone. The aggregate is used as a component in asphalt, concrete and hydraulically unbound materials.

### Characteristics

Physical properties			
Size	Angle of repose	Bulk density (kg/m <sup>3</sup> )	Stowage factor (m <sup>3</sup> /t)
Up to 200 mm and less than 7% of particles less than 2 mm	34° to 40°	1,340 to 1,900	0.53 to 0.75
Hazard classification			
Class	Subsidiary hazard(s)	MHB	Group
Not applicable	Not applicable	Not applicable	C

### Hazard

No special hazards.

This cargo is non-combustible or has a low fire risk.

### Stowage and segregation

No special requirements.

### Hold cleanliness

No special requirements.

### Weather precautions

No special requirements.

### Loading

During loading, due consideration shall be given to minimize dust generation. Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code. When the stowage factor of this cargo is equal to or less than 0.56 m<sup>3</sup>/t, the tank top may be overstressed unless the cargo is evenly spread across the tank top to equalize the weight distribution. Due consideration shall be given to ensure that the tank top is not overstressed during the voyage and during loading by a pile of the cargo.

### Precautions

Appropriate precautions shall be taken to protect machinery and accommodation spaces from the dust of the cargo. Bilge wells of the cargo spaces shall be protected from ingress of the cargo. Due consideration shall be given to protect equipment from the dust of the cargo. Persons who may be exposed to the dust of the cargo shall wear goggles or other equivalent dust eye-protection and dust filter masks. Those persons shall wear protective clothing, as necessary.

### Ventilation

No special requirements.

### Carriage

No special requirements.

### Discharge

No special requirements.

### Clean-up

No special requirements."

## "FERRIC SULPHATE GRANULAR

### Description

Ferric sulphate consists of inorganic granules, usually yellow, brown or grey in colour. Hygroscopic in nature. Soluble in water. Used as a coagulant for water treatment. No special odour. Moisture normally around 10% (measured at 105°C); no oil in the cargo. Stored under cover.

### Characteristics

Physical properties			
Size	Angle of repose	Bulk density (kg/m <sup>3</sup> )	Stowage factor (m <sup>3</sup> /t)
less than 5 mm	38° to 42°	1,000 to 1,300	0.77 to 1.00
Hazard classification			
Class	Subsidiary hazard(s)	MHB	Group
Not applicable	Not applicable	CR	B

### Hazard

Harmful if swallowed.

Causes skin irritation.

May cause an allergic skin reaction due to sensitization.

Causes serious eye damage.

This cargo is highly soluble and will be acidic when wet.

This cargo is hygroscopic and will cake if wet.

This cargo may be subject to decomposition if heated strongly. Decomposition may produce gases that are toxic (sulphur oxides). However, this cargo is not subject to an explosion hazard.

Corrodes metals under the influence of moisture.

This cargo is non-combustible or has a low fire risk.

### Stowage and segregation

"Away from" certain metals, e.g. aluminium and zinc, that may form hydrogen gas in case of contact with the cargo.

Avoid contact with unalloyed steel or galvanized surfaces; materials not resistant to acid, copper, aluminium and iron.

"Away" from sources of heat.

### Hold cleanliness

Clean and dry as relevant to the hazards of the cargo.

### Weather precautions

This cargo shall be kept as dry as practicable. It shall not be handled during precipitation.

During handling of this cargo, all non-working hatches of the cargo spaces into which this cargo is loaded, or to be loaded, shall be closed.

### Loading

Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code.

### Precautions

Avoid contact with eyes and skin. Persons who may be exposed to the dust of the cargo shall wear protective clothing, gloves and eye-protection, as necessary. Minimize dust generation when loading.

Bilge wells shall be clean, dry and covered, as appropriate, to prevent ingress of the cargo.

### Ventilation

The cargo spaces carrying this cargo shall not be ventilated during the voyage.

### Carriage

Hatches of the cargo spaces shall be weathertight to prevent water ingress.

### Discharge

The product is hygroscopic and may cake in overhangs, impairing safety during discharge. If this cargo has hardened, it shall be trimmed to avoid the formation of overhangs, as necessary. No discharge operations during precipitation.

### Clean-up

After discharge of this cargo, the cargo spaces and the bilge wells shall be swept clean and then thoroughly washed out.

### Emergency procedures

<p style="text-align: center;"><b>Special emergency equipment to be carried</b> Protective clothing (gloves, boots and coveralls). Self-contained breathing apparatus.</p>
<p style="text-align: center;"><b>Emergency procedures</b> Wear protective clothing and self-contained breathing apparatus. <b>Emergency action in the event of fire</b> Use extinguishers appropriate for surrounding materials. The cargo itself is not combustible. <b>Medical first aid</b> Refer to the <i>Medical First Aid Guide (MFAG)</i>, as amended.</p>

### "FISH MEAL (FISH SCRAP), STABILIZED

This schedule shall only apply to fish meal that does not meet any of the criteria on dangerous goods or materials hazardous only in bulk specified in sections 9.2.2 or 9.2.3, respectively.

### Description

Fresh whole pelagic fish or trimmings for food grade fillet factories that are cooked, dried, with added anti-oxidants and milled before storage. The product is light brown to brown in colour. Water content between 5% to 10%, Fat content below 12%. Most particles between 0.08 mm to 1.2 mm. Smells of fish.

### Characteristics

Physical properties			
Size	Angle of repose	Bulk density (kg/m <sup>3</sup> )	Stowage factor (m <sup>3</sup> /t)
Not applicable	Not applicable	300 to 700	1.43 to 3.33
Hazard classification			
Class	Subsidiary hazard(s)	MHB	Group
Not applicable	Not applicable	Not applicable	C

### Hazard

Liable to cause oxygen depletion in cargo space.  
This cargo is non-combustible or has a low fire risk.

### Stowage and segregation

No special requirements.

### **Hold cleanliness**

Clean and dry as relevant to the hazards of the cargo.

### **Weather precautions**

This cargo shall be kept as dry as practicable. This cargo shall not be handled during precipitation. During handling of this cargo, all non-working hatches of the cargo spaces into which this cargo is loaded, or to be loaded, shall be closed.

### **Loading**

Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code. The cargo shall not be accepted for loading when the temperature of the cargo exceeds 35°C or 5°C above the ambient temperature, whichever is higher. The cargo may be loaded without weathering/curing prior to loading.

A certificate from an entity recognized by the competent authority of the port of loading shall be provided by the shipper prior to loading, stating that the material does not meet the MHB (SH) criteria specified in 9.2.3.3 of this Code.

### **Precautions**

The shipper shall further provide the master with a certificate issued by an entity recognized by the competent authority of the port of loading specifying:

- .1 moisture content;
- .2 fat content; and
- .3 details of anti-oxidant treatment.

A suitable equipment for quantitative measurement of the concentration of oxygen in the cargo space shall be provided on board the ship. Entry of personnel into cargo spaces for this cargo shall not be permitted until tests have been carried out and it has been established that the oxygen content has been restored to a normal level.

### **Ventilation**

No special requirements.

### **Carriage**

No special requirements.

### **Discharge**

No special requirements.

### **Clean-up**

No special requirements."

## **"IRON ORE BRIQUETTES**

### **Description**

This cargo is composed of hard briquettes generated in the process of cold agglomeration of iron ore and binders, such as sodium silicate. Iron ore briquettes are odourless and vary in colour, from beige to dark grey, always granular in form, pillow-shaped, not soluble in water and resistant to ageing.

## Characteristics

Physical properties			
Size	Angle of repose	Bulk density (kg/m <sup>3</sup> )	Stowage factor (m <sup>3</sup> /t)
10 mm to 40 mm	Not applicable	1,800 to 2,400	0.42 to 0.56
Hazard classification			
Class	Subsidiary hazard(s)	MHB	Group
Not applicable	Not applicable	Not applicable	C

### Hazard

This cargo may affect magnetic compasses.  
This cargo is non-combustible or has a low fire risk.

### Stowage and segregation

No special requirements.

### Hold cleanliness

No special requirements.

### Weather precautions

No special requirements.

### Loading

Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code.

As the density of the cargo is extremely high, the tank top may be overstressed unless the cargo is evenly spread across the tank top to equalize the weight distribution. Due consideration shall be given to ensure that the tank top is not overstressed during the voyage and during loading by a pile of the cargo.

### Precautions

Loading rates of this cargo are normally very high. Due consideration shall be given to the ballasting operation in developing the loading plan required by SOLAS regulation VI/7.3. Bilge wells shall be clean, dry and protected as appropriate to prevent ingress of the cargo.

### Ventilation

No special requirements.

### Carriage

No special requirements.

### Discharge

No special requirements.

### Clean-up

No special requirements."

## "PEA PROTEIN CONCENTRATE PELLETS

### Description

Fermented and flash-dried raw material containing main components of pea protein, fat, ash and crude fibre. The material is pelletized. Creamy (yellowish) coloured with a neutral odour.

## Characteristics

Physical properties			
Size	Angle of repose	Bulk density (kg/m <sup>3</sup> )	Stowage factor (m <sup>3</sup> /t)
5 mm to 15 mm	24° to 28°	600 to 800	1.25 to 1.67
Hazard classification			
Class	Subsidiary hazard(s)	MHB	Group
Not applicable	Not applicable	Not applicable	C

### Hazard

Loading of dry pellets using cargo blowers may present a risk of dust explosion.  
This cargo flows freely like grain.  
This cargo will cake if wet.  
This cargo is non-combustible or has a low fire risk.

### Stowage and segregation

No special requirements.

### Hold cleanliness

Clean and dry as relevant to the hazards of the cargo.

### Weather precautions

This cargo shall be kept as dry as practicable. This cargo shall not be handled during precipitation. During handling of this cargo, all non-working hatches of the cargo spaces into which this cargo is loaded, or to be loaded, shall be closed.

### Loading

Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code.

### Precautions

Persons who may be exposed to the dust of the cargo shall wear goggles or other equivalent dust eye-protection, dust filter masks and protective gloves, as necessary.

### Ventilation

Surface ventilation, either natural or mechanical, shall be conducted during the voyage for the cargo spaces carrying this cargo, as necessary.

### Carriage

No special requirements.

### Discharge

No special requirements.

### Clean-up

No special requirements."

## "PHOSPHATE ROCK FINES (uncalcined)

### Description

Phosphate rock is an ore in which phosphorus and oxygen are chemically united. Depending on the source, it is tan to dark grey, dry and dusty. It is crushed and washed with a sand-like appearance. Abrasive and dusty. It is a non-cohesive cargo.

## Characteristics

Physical properties			
Size	Angle of repose	Bulk density (kg/m <sup>3</sup> )	Stowage factor (m <sup>3</sup> /t)
Up to 5 mm	30° to 45°	1,250 to 1,800	0.56 to 0.80
Hazard classification			
Class	Subsidiary hazard(s)	MHB	Group
Not applicable	Not applicable	Not applicable	A

## Hazard

This cargo may liquefy if shipped at a moisture content in excess of its transportable moisture limit (TML). See sections 7 and 8 of this Code.

Dust may cause eye, nose and respiratory irritation.

This cargo is non-combustible or has a low fire risk.

## Stowage and segregation

No special requirements.

## Hold cleanliness

No special requirements.

## Weather precautions

When a cargo is carried in a ship other than a ship complying with the requirements in 7.3.2 of this Code, the following provisions shall be complied with:

- .1 the moisture content of the cargo shall be kept less than its TML during loading operations and the voyage;
- .2 unless expressly provided otherwise in this individual schedule, the cargo shall not be handled during precipitation;
- .3 unless expressly provided otherwise in this individual schedule, during handling of the cargo, all non-working hatches of the cargo spaces into which the cargo is loaded, or to be loaded, shall be closed;
- .4 the cargo may be handled during precipitation under the conditions stated in the procedures required in 4.3.3 of this Code; and
- .5 the cargo in a cargo space may be discharged during precipitation provided that the total amount of the cargo in the cargo space is to be discharged in the port.

## Loading

Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code. When the stowage factor of this cargo is equal to or less than 0.56 m<sup>3</sup>/t, the tank top may be overstressed unless the cargo is evenly spread across the tank top to equalize the weight distribution. Due consideration shall be given to ensure that the tank top is not overstressed during the voyage and during loading by a pile of the cargo.

## Precautions

Appropriate precautions shall be taken to protect machinery and accommodation spaces from the dust of the cargo. Bilge wells of the cargo spaces shall be protected from ingress of the cargo. Due consideration shall be given to protect equipment from the dust of the cargo. Persons who may be exposed to the dust of the cargo shall wear protective clothing, goggles or other equivalent dust eye-protection and dust filter masks, as necessary.

### Ventilation

No special requirements.

### Carriage

The appearance of the surface of this cargo shall be checked regularly during the voyage. If free water above the cargo or fluid state of the cargo is observed during the voyage, the master shall take appropriate actions to prevent cargo shifting and potential capsize of the ship and give consideration to seeking emergency entry into a place of refuge.

### Discharge

No special requirements.

### Clean-up

No special requirements."

### "TUFF, COARSE

The provisions of this schedule shall apply only to cargoes containing less than 0.1% respirable quartz.

The provisions of this schedule shall apply only to tuff cargoes with the following particle size distribution:

- .1 not more than 10% by weight of particles less than 1 mm ( $D_{10} > 1$  mm); or
- .2 not more than 50% by weight of particles less than 10 mm ( $D_{50} > 10$  mm); or
- .3 both.

### Description

Porous rock of volcanic origin. Colour may vary from yellow, light brown to red, grey or black.

### Characteristics

Physical properties			
Size	Angle of repose	Bulk density (kg/m <sup>3</sup> )	Stowage factor (m <sup>3</sup> /t)
Up to 80 mm. Not more than 10% of particles less than 1 mm and/or not more than 50% of particles less than 10 mm	Not applicable	900 to 1,200	0.83 to 1.11
Hazard classification			
Class	Subsidiary hazard(s)	MHB	Group
Not applicable	Not applicable	Not applicable	C

### Hazard

Dust of this cargo is abrasive and may cause skin and eye irritation. This cargo is non-combustible or has a low fire risk.

### Stowage and segregation

No special requirements.

### Hold cleanliness

No special requirements.

### **Weather precautions**

No special requirements.

### **Loading**

Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code.

### **Precautions**

Appropriate precautions shall be taken to protect machinery and accommodation spaces from the dust of the cargo. Bilge wells shall be clean and dry and covered, as appropriate, to prevent ingress of the cargo. Persons who may be exposed to the cargo shall wear protective clothing, gloves, goggles or other equivalent dust eye-protection and dust filter masks, as necessary.

### **Ventilation**

No special requirements.

### **Carriage**

No special requirements.

### **Discharge**

No special requirements.

### **Clean-up**

No special requirements."

### **"ZINC SLAG (coarse)**

#### **Description**

Coarse residue generated from zinc smelting process. This cargo is highly permeable and pore water of this cargo drains quickly. It is black or red-brown in colour and either granular or lump.

#### **Characteristics**

<b>Physical properties</b>			
<b>Size</b>	<b>Angle of repose</b>	<b>Bulk density (kg/m<sup>3</sup>)</b>	<b>Stowage factor (m<sup>3</sup>/t)</b>
80%: larger than 10 mm Up to 60 mm	Not applicable	1,500 to 2,800	0.36 to 0.67
<b>Hazard classification</b>			
<b>Class</b>	<b>Subsidiary hazard(s)</b>	<b>MHB</b>	<b>Group</b>
Not applicable	Not applicable	Not applicable	C

#### **Hazard**

This cargo is abrasive.  
This cargo is non-combustible or has a low fire risk.

#### **Stowage and segregation**

No special requirements.

#### **Hold cleanliness**

No special requirements.

#### **Weather precautions**

No special requirements.

### **Loading**

Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code. When the stowage factor of this cargo is equal to or less than 0.56 m<sup>3</sup>/t, the tank top may be overstressed unless the cargo is evenly spread across the tank top to equalize the weight distribution. Due consideration shall be given to ensure that the tank top is not overstressed during the voyage and during loading by a pile of the cargo.

### **Precautions**

Appropriate action shall be taken to protect machinery and accommodation spaces from the dust of the cargo. Bilge wells of the cargo spaces shall be protected from ingress of the cargo. Due consideration shall be given to protect equipment from the dust of the cargo. Persons who may be exposed to the dust of the cargo shall wear protective clothing, goggles or other equivalent dust eye-protection and dust filter masks, as necessary.

### **Ventilation**

No special requirements.

### **Carriage**

Bilge water shall be removed regularly during the voyage.

### **Discharge**

No special requirements.

### **Clean-up**

No special requirements."

## **APPENDIX 3**

### **PROPERTIES OF SOLID BULK CARGOES**

#### **1 Non-cohesive cargoes**

1.1 In the list, add the following new entries in alphabetical order:

"ALUMINIUM SULPHATE GRANULAR"

"ASPHALT GRANULATES"

"CRUSHED GRANODIORITE, COARSE"

"FERRIC SULPHATE GRANULAR"

"PEA PROTEIN CONCENTRATE PELLETS"

"PHOSPHATE ROCK FINES (uncalcined)"

## APPENDIX 4

### INDEX

Delete the entries for "CASTOR FLAKE UN 2969", "CASTOR MEAL UN 2969" and "CASTOR POMACE UN 2969".

Replace the BCSNs for "FISH MEAL, STABILIZED" and "FISH SCRAP, STABILIZED" by "FISH MEAL, STABILIZED UN 2216" and "FISH SCRAP, STABILIZED UN 2216", respectively.

Insert the following new entries in alphabetical order:

"

Material	Group	Reference
ALUMINIUM SULPHATE GRANULAR	B	
APATITE CONCENTRATE	A	
ASPHALT GRANULATES	C	
CRUSHED GRANODIORITE, COARSE	C	
FERRIC SULPHATE GRANULAR	B	
FISH MEAL, STABILIZED	C	
FISH SCRAP, STABILIZED	C	
IRON ORE BRIQUETTES	C	
PEA PROTEIN CONCENTRATE PELLETS	C	
PHOSPHATE ROCK FINES (uncalcined)	A	
TUFF, COARSE	C	
ZINC SLAG (coarse)	C	

"

## APPENDIX 5

### BULK CARGO SHIPPING NAMES IN THREE LANGUAGES (ENGLISH, SPANISH AND FRENCH)

Delete the entries for "CASTOR FLAKE UN 2969", "CASTOR MEAL UN 2969" and "CASTOR POMACE UN 2969".

Replace the BCSNs for "FISH MEAL, STABILIZED" and "FISH SCRAP, STABILIZED" by "FISH MEAL, STABILIZED UN 2216" and "FISH SCRAP, STABILIZED UN 2216", respectively.

Insert the following new entries in the corresponding alphabetical order:

"

English	French	Spanish
ALUMINIUM SULPHATE GRANULAR	SULFATE D'ALUMINIUM EN GRAINS	SULFATO DE ALUMINIO GRANULAR
APATITE CONCENTRATE	CONCENTRÉ D'APATITE	CONCENTRADO DE APATITA
ASPHALT GRANULATES	GRANULATS D'ASPHALTE	GRANULADOS ASFÁLTICOS

"

<b>English</b>	<b>French</b>	<b>Spanish</b>
CRUSHED GRANODIORITE, COARSE	GRANODIORITE CONCASSÉE (GROS GRAINS)	GRANODIORITA TRITURADA, GRUESA
FERRIC SULPHATE GRANULAR	SULFATE DE FER EN GRAINS	SULFATO FÉRRICO GRANULAR
FISH MEAL, STABILIZED	FARINE DE POISSON STABILISÉE	HARINA DE PESCADO ESTABILIZADA
FISH SCRAP, STABILIZED	DÉCHETS DE POISSON STABILISÉS	DESECHOS DE PESCADO ESTABILIZADOS
IRON ORE BRIQUETTES	BRIQUETTES DE MINÉRAI DE FER	BRIQUETAS DE MINERAL DE HIERRO
PEA PROTEIN CONCENTRATE PELLETS	GRANULÉS DE CONCENTRÉ DE PROTÉINES DE POIS	PÉLETS DE CONCENTRADOS DE PROTEÍNAS DE GUISANTES
PHOSPHATE ROCK FINES (uncalcined)	FINES DE ROCHE PHOSPHATÉE (non calcinée)	FINOS DE FOSFATO EN ROCA (no calcinado)
TUFF, COARSE	TUF (à gros grains)	TOBA VOLCÁNICA (GRUESA)
ZINC SLAG (coarse)	SCORIES DE ZINC (à gros grains)	ESCORIA DE CINC (gruesa)

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## ANNEX 5

### RESOLUTION MSC.576(110) (adopted on 26 June 2025)

#### PERFORMANCE STANDARDS FOR PILOT TRANSFER ARRANGEMENTS

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO resolution A.886(21) on *Procedure for the adoption of, and amendments to, performance standards and technical specifications*, by which the Assembly resolved that the function of adopting performance standards and technical specifications, as well as amendments thereto, shall be performed by the Maritime Safety Committee, on behalf of the Organization,

RECALLING FURTHER resolution A.1045(27) on *Pilot transfer arrangements*, which was amended by resolution A.1108(29),

NOTING resolution MSC.572(110) by which it adopted amendments to regulation V/23 of the International Convention for the Safety of Life at Sea, 1974 ("the Convention") to make the performance standards on pilot transfer arrangements mandatory under the Convention,

RECOGNIZING that the responsibility for safe practices for the transfer of pilots and other personnel rests with each person involved in the activity including the shipowner, operator, master and crew, pilotage provider, pilot and pilot boat crew, as well as the person being transferred,

HAVING CONSIDERED, at its 110th session, the recommendation made by the Sub-Committee on Navigation, Communications and Search and Rescue at its eleventh session,

1 ADOPTS the *Performance standards for pilot transfer arrangements*, set out in the annex to the present resolution;

2 INVITES Contracting Governments to the Convention to note that the *Performance standards for pilot transfer arrangements* will take effect on 1 January 2028 upon entry into force of the amendments to regulation V/23 of the Convention adopted by resolution MSC.572(110);

3 NOTES that, under the provisions of regulation V/23 of the Convention, amendments to the *Performance standards for pilot transfer arrangements* shall be adopted, brought into force and take effect in accordance with the provisions of article VIII of the Convention concerning the amendment procedure applicable to the annex to the Convention other than chapter I;

4 REQUESTS the Secretary-General to transmit certified copies of this resolution and the text of the *Performance standards for pilot transfer arrangements* contained in the annex to all Contracting Governments to the Convention;

5 ALSO 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;

6 INVITES Governments to encourage the development of novel technologies aimed at improving the safety of pilot transfer arrangements and to keep the Organization advised of any positive results;

7 URGES all parties concerned to observe both the spirit and intent of these performance standards, to ensure safety is not compromised;

8 INVITES the Assembly to revoke resolutions A.1045(27) and A.1108(29) as of 1 April 2030, and endorse the action taken by the Maritime Safety Committee.

## ANNEX

### PERFORMANCE STANDARDS FOR PILOT TRANSFER ARRANGEMENTS

#### INTRODUCTION

##### 1 Purpose

These performance standards provide for requirements for the design, manufacture, construction, rigging, installation of pilot ladder winch reels, operational readiness, onboard inspection and maintenance, familiarization and approval in relation to pilot transfer arrangements required under regulation V/23 of the 1974 SOLAS Convention, adopted by resolution MSC.572(110).

##### 2 Definitions

For the purpose of these performance standards, the following definitions apply:

- .1 *Pilot transfer arrangements* refers to all equipment and arrangements used solely for the embarkation and disembarkation of pilots and other personnel, including pilot ladders, accommodation ladders, embarkation platforms, manropes, pilot ladder winch reels, securing arrangements and other associated equipment.
- .2 *Point of access* means the location at which pilots or other personnel transfer between a pilot ladder or accommodation ladder and the deck or side opening of a ship.
- .3 *Manropes* means ropes hung on either side of a pilot ladder for assistance in ascending and descending.
- .4 *Trapdoor* means an aperture with a cover located in a platform allowing the pilot ladder and manropes to pass through without obstruction or distortion and used by pilots or other personnel to transfer between the pilot ladder and the accommodation ladder.
- .5 *Securing a pilot ladder at intermediate length* means securing a pilot ladder at a point other than the thimble ends.

##### 3 General

3.1 Pilot transfer arrangements shall be designed, installed, inspected, maintained and rigged to enable pilots and other personnel to embark and disembark safely in all seagoing conditions of draught and trim.

3.2 The height of climb on a pilot ladder shall not be less than 1.5 m and not more than 9 m from the surface of the water to the point of access in all seagoing conditions of draught and trim. Whenever the height of climb on a pilot ladder from the surface of the water to the point of access exceeds 9 m, the ship shall be provided with and rig an accommodation ladder in conjunction with the pilot ladder (i.e. a combination arrangement).

3.3 Where the height of climb is less than 1.5 m from the surface of the water and a pilot ladder is not used as part of a pilot transfer arrangement, this does not exempt any vessel or personnel involved in the transfer from ensuring that the transfer is completed safely, is adequately risk assessed and any equipment other than a pilot ladder is used in accordance with these performance standards.

3.4 Pilot transfer arrangements shall be provided to enable pilots and other personnel to embark and disembark safely on either side of the ship. Necessary equipment shall be carried on each side unless the equipment is capable of being transferred for use on either side.

3.5 Pilot ladders and manropes used for the transfer of pilots and other personnel shall be clearly identified with permanent marking so as to enable identification of each appliance for the purposes of survey, inspection and record-keeping.

3.6 Reference in these performance standards to an accommodation ladder<sup>1</sup> includes a sloping ladder used as part of the pilot transfer arrangements.

3.7 The onboard inspection and rigging of the pilot transfer arrangements and the embarkation and disembarkation of pilots and other personnel shall be supervised by a designated responsible officer. During the transfer of pilots or other personnel, the responsible officer shall have means of communication with the navigation bridge and shall arrange for the escort of the pilot by a safe route to and from the navigation bridge and other personnel to an appropriate safe location.

## **PART A – DESIGN, MANUFACTURE AND CONSTRUCTION**

### **4 Pilot ladders**

- 4.1 The steps of the pilot ladders shall comply with the following requirements:
- .1 if made of hardwood, they shall be made in one piece, free of any knots. Wood shall not be treated or coated with paint, varnish or other coatings;
  - .2 if made of material other than hardwood, they shall be made from resilient plastic or rubber of equivalent strength, stiffness and durability;
  - .3 they shall have an efficient non-slip surface;
  - .4 they shall be long enough to accommodate a distance between the inner surface of the side ropes of not less than 400 mm, and shall be not less than 115 mm in width and 25 mm in thickness, excluding any non-slip device or grooving;
  - .5 they shall be equally spaced not less than 310 mm and not more than 350 mm apart measured from the top of each step or spreader step;
  - .6 they shall be secured in such a manner that each will remain horizontal; and
  - .7 the four lowest steps shall be of rubber of sufficient strength and stiffness or other equivalent material.

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<sup>1</sup> Refer to SOLAS regulation II-1/3-9 on Means of embarkation on and disembarkation from ships.

4.2 Pilot ladders with more than five steps shall have spreader steps complying with paragraph 4.1 and each spreader step shall be not less than 1.8 m in length. The lowest spreader step shall be the fifth step from the bottom of the ladder and additional spreader steps shall be provided at such intervals as will prevent the pilot ladder from twisting, conforming to standards acceptable to the Organization.<sup>2</sup>

4.3 Permanent measuring marking shall be provided at a regular interval of every three steps, approximately every 1 m, throughout the length of the pilot ladder consistent with ladder design, use and maintenance in order to facilitate the rigging of the ladder to the required height.

4.4 Pilot ladders shall be permanently marked by the manufacturer with at least the following information on the underside of the uppermost step and the lowermost spreader step:

- .1 the name of the manufacturer;
- .2 an equipment serial number or other means of unique identification which the manufacturer shall be able to validate;
- .3 date of manufacture; and
- .4 name and details of the approving authority.

4.5 Pilot ladders shall be of a single length capable of reaching the surface of the water from the point of access or, where a combination arrangement is used, from the platform of the combination arrangement, in all seagoing conditions of draught and trim and the specific condition of an adverse list of 15° in the lightest seagoing condition.

4.6 The side ropes on each side of the pilot ladder shall consist of a double length of uncovered rope not less than 20 mm and not more than 22 mm in diameter. The double length shall be made from a continuous length of rope with no joints having a breaking strength of at least 24 kN. The midpoint of the double length shall be located on a thimble. The ends of each of the side ropes shall be properly finished.<sup>3</sup>

4.7 Each of the side ropes shall be mildew-resistant manila rope<sup>4</sup> or other material of equivalent strength, durability, elongation characteristics and grip which has been protected against actinic degradation.

4.8 Each of the side ropes shall be secured together both above and below each step with an arrangement properly designed for this purpose. Where a seizing method<sup>5</sup> with step fixtures, such as chocks or wedges, is used, it shall hold each step horizontal in all planes at all times. Where a mechanical clamping device is used to secure each of the side ropes together, it shall grip each of the side ropes in the pair independently and with the same grip force. Any surface of a mechanical clamping device that pilots or other personnel may handle shall be suitable to be grasped by bare hands. The use of cable ties, u-clamps or worm driven clips as a means of securing steps is prohibited.

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<sup>2</sup> Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 799-1:2019 *Ships and marine technology – Pilot ladders – Part 1: Design and specification*.

<sup>3</sup> Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 799-1:2019 *Ships and marine technology – Pilot ladders – Part 1: Design and specification*.

<sup>4</sup> Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 1181:2004 *Fibre ropes – Manila and sisal – 3-, 4- and 8-strand ropes*.

<sup>5</sup> Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 799-1:2019 *Ships and marine technology – Pilot ladders – Part 1: Design and specification*.

## 5 Combination arrangements

5.1 The length of the accommodation ladder shall be sufficient to ensure that its angle of slope does not exceed 45°. In ships with large draught ranges, several pilot ladder hanging positions shall be provided, resulting in lesser angles of slope. The accommodation ladder shall be at least 600 mm in width. The accommodation ladder hoisting and lowering mechanism shall include protection that ensures the mechanism cannot be inadvertently operated during the transfer of pilots and other personnel.

5.2 Intermediate platforms, if fitted, shall be self-levelling. Treads and steps of the accommodation ladder shall be so designed that an adequate and safe anti-skid foothold is provided at the operative angles.

5.3 The accommodation ladder and platform shall be equipped on both sides with stanchions and rigid handrails, but if hand ropes are used, they shall be tight and properly secured. The vertical space between the handrail or hand rope and the stringers of the ladder shall be securely fenced.

5.4 Accommodation ladders, together with any suspension arrangements or attachments fitted and intended for use in accordance with these performance standards, shall meet the requirements for the means of embarkation on and disembarkation from ships as required by regulation II-1/3-9.

5.5 In the case of a combination arrangement using an accommodation ladder with a trapdoor in the lower platform, the lower platform shall:

- .1 have an aperture with dimensions not less than 750 mm x 750 mm which is open to the ship's hull on the inboard side and which is designed to ensure that the horizontal distance between the pilot ladder and adjacent edges of the aperture is between 0.1 and 0.2 m;
- .2 be designed and constructed to:
  - .1 allow the pilot ladder and manropes to pass through the aperture without obstruction or distortion;
  - .2 ensure the pilot ladder lies flat against the ship's side;
  - .3 ensure that structural members shall not interfere with or lay against the pilot ladders; and
  - .4 ensure the highest step of the pilot ladder is at least 2 m above the lower platform and remain compliant with part B;
- .3 not be provided with fixtures other than the frame referred to in paragraph 5.5.7, which allows a pilot ladder to be suspended from the lower platform of the accommodation ladder;
- .4 have a trapdoor which opens upwards and which is secured flat on the embarkation platform or against a stanchion either at the aft end or outboard side of the platform, and in any case not obstructing the access to the ship;

- .5 be provided with sufficient round handholds with a diameter of no less than 28 mm and not more than 32 mm to allow safe mounting or dismounting of the pilot ladder. The structure of the platform itself shall not be relied upon to provide handholds;
- .6 be provided with sufficient handholds with a height of not less than 1.2 m above the platform; and
- .7 where a structural frame is used to comply with paragraph 5.5.2, the following shall apply:
  - .1 the accommodation ladder platform, frame, pilot ladder connection points, accommodation ladder winch, running gear, pad eyes of manropes and locking arrangements shall be designed to withstand vertical forces of at least 48 kN;
  - .2 the highest step of the pilot ladder is at least 2 m above the platform and is secured to pad eyes on the inboard side of the frame so that it rests firmly against the side of the ship; and
  - .3 manropes are secured directly to additional pad eyes 2 m above the platform on the inboard side of the frame.

5.6 On all ships to which section 5 applies, a two-tone visual mark, the upper half being white and the lower half being red, not less than 4 m in height and 0.5 m in width shall be provided in the midship half-length of the ship in the vicinity of the pilot boarding position to indicate to the user whether or not a combination arrangement is to be rigged. The dividing line between the upper and the lower halves of the pilot line shall be 9 m below the point of access.

## **6 Securing arrangements**

6.1 All strong points, shackles and securing ropes provided or used in accordance with part A or part B shall have a breaking strength of not less than 48 kN. Securing ropes shall be tagged or otherwise permanently marked in the same way as provided in paragraph 11.3 and those used to aid in rigging the pilot ladder, shall be at least 3 m in length. The securing arrangements shall be positioned not less than 915 mm, or, if not possible, the maximum distance permitted by the width of the deck, from the edge of the deck, except for the case of a combination arrangement using an accommodation ladder. Strong points and shackles shall have breaking strength or equivalent safe working load limits clearly and permanently marked. Documentation of the conformance of the strong points, shackles and securing ropes shall be maintained on board and available for inspection purposes.

6.2 Permanent or removable means of bowing a pilot ladder or embarkation platform to the ship's hull shall not be used to support the weight of the boarding arrangement or pilot and shall not be used for any other purpose than to secure the arrangement against the ship's side. Removable means of bowing a pilot ladder or embarkation platform to the ship's side shall be able to be applied and removed by a single person and shall have a holding force of not less than 4 kN when used for the purpose of securing the lower platform of an accommodation ladder or 3 kN when used for securing the pilot ladder or manropes.<sup>6</sup>

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<sup>6</sup> Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 799-3:2022 *Ships and marine technology – Pilot ladders, part 3: Attachment and associated equipment*.

6.3 There shall be a means of securing a pilot ladder at intermediate lengths which shall be capable of securing the pilot ladder to strong points described in paragraph 6.1 by gripping each set of side ropes of the pilot ladder. The means of securing, shall have a breaking strength of not less than 48 kN and be designed to prevent any slippage of the side ropes under the conditions of the ladder and step attachment strength test and unrolling tests described in a standard acceptable to the Organization.<sup>7</sup> When type approving means of securing a pilot ladder at intermediate lengths in accordance with Part F, these tests shall be modified to reflect the attachment of the pilot ladder using a means of securing the pilot ladder other than using its own attachments.

## **7 Ships' side openings, doors and platforms**

7.1 Ships' side doors used for the transfer of pilots or other personnel shall not open outwards unless located below the freeboard deck.<sup>8</sup> The side opening shall enable a safe, convenient and unobstructed passage large enough for the transfer of pilots and other personnel, with a minimum clearance of 2,200 mm in height and 915 mm in width.

7.2 Ships' side openings without a boarding platform shall be provided with strong points which are on the lowest deck of the opening and inboard of the ship's side opening. Strong points shall also be provided on the deck head and inboard of the ship's side opening if it is intended to rig manropes in the manner provided for in paragraph 15.1.1.3.

7.3 In any event, boarding platforms deployed from ships' side openings and outboard of the ship shall not be provided where the distance from the platform to the surface of the water in all seagoing conditions of draught and trim associated with the normal operation of the ship is less than 5 m. Platforms shall be mechanically attached to the ship and be marked with safe working load limits. Certification of successful testing shall be maintained on board and available for inspection.

7.4 The boarding platform shall extend outboard from the ship's side for a minimum distance of 750 mm, with a longitudinal length of a minimum of 750 mm. The platform shall be securely guarded by handrails.

## **8 Access to ship's deck**

Means shall be provided to ensure safe, convenient and unobstructed passage for pilots and other personnel embarking on, or disembarking from, the ship between the head of the pilot ladder, or of any accommodation ladder, and the ship's deck; such access shall be gained directly by a clean and unobstructed platform securely guarded by handrails. Where such passage is by means of:

- .1 a gateway in the rails or bulwark, adequate handholds with a diameter of not less than 32 mm and not more than 36 mm shall be provided at the point of embarking on or disembarking from the ship on each side which shall be not less than 0.7 m and not more than 0.8 m apart in clear width. Each handhold shall be rigidly secured and locked to the ship's structure at or near its base and also to the ship at a higher point, and shall extend not less than 1.2 m above the deck to which it is fitted. Stanchions or handrails of the gateway shall not be attached to the bulwark ladder to prevent the bulwark ladder from overturning and shall be positioned no greater than 0.12 m inboard of the edge of the deck. A ring or eye with an inner diameter not less than 60 mm at a height of the stanchion above the deck shall be provided to accommodate manropes;

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<sup>7</sup> Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 799-1:2019 *Ships and marine technology – Pilot ladders – part 1: Design and specification*.

<sup>8</sup> Refer to regulation 21 of annex I of the International Convention on Load Lines.

- .2 a bulwark ladder, it shall be securely attached to the ship to prevent overturning. Two separate handhold stanchions with a diameter of not less than 32 mm and not more than 36 mm shall be fitted at the point of embarking on or disembarking from the ship on each side which shall be not less than 0.7 m and not more than 0.8 m apart in clear width. Each stanchion shall be rigidly secured and locked to the ship at or near its base and also at a higher point and shall extend not less than 1.2 m above the top of the bulwarks. Stanchions or handrails of the gateway shall not be attached to the bulwark ladder to prevent the bulwark from overturning and shall be positioned no greater than 0.12 m inboard of the edge of the deck. A ring or eye with an inner diameter not less than 60 mm at a height of the stanchion above the deck shall be provided to accommodate manropes; or
- .3 a shipside opening or door, adequate handholds with a diameter of not less than 32 mm and not more than 36 mm shall be provided at the point of embarking on or disembarking from the ship on each side which shall be not less than 0.7 m and not more than 0.8 m apart in clear width. Each handhold shall be rigidly secured and locked to the ship's structure at or near its base and also to the ship at a higher point to prevent dislodgement and shall extend not less than 1.2 m above the entry threshold. Stanchions or handrails shall be positioned no greater than 0.12 m inboard of the edge of the deck. A ring or eye with an inner diameter not less than 60 mm at a height of the stanchion above the deck shall be provided to accommodate manropes.

## **9 Protection from chafing**

Equipment and arrangements shall be designed and installed so that it is not possible for a pilot ladder side rope or manrope to make contact with any part of the ship's hull or associated fixtures and fittings which could have the potential to cause sharp bends, chafing, abrasion, pinching or otherwise degrade their performance. Where contact is unavoidable, contact points shall be rounded to minimize chafing. The means of rounding could be a permanent fixture, such as a rounded pipe. Where it is not possible to round contact points owing to ship design, removable chafing pads or other temporary arrangements may be used. They shall be considered acceptable to the Administration, provided these arrangements do not prevent pre-use inspections, are removed after use and stowed in accordance with section 23.

## **10 Safe approach of the pilot boat**

Where rubbing bands or other constructional features prevent the safe approach of a pilot boat, these shall be cut back to provide at least 6 m of unobstructed ship's side. Specialized offshore ships less than 90 m or other similar ships less than 90 m for which a 6 m gap in the rubbing bands would not be practicable, as determined by the Administration, may be exempted. In this case, other appropriate measures shall be taken to ensure that pilots and other personnel are able to embark and disembark safely.

## **11 Associated equipment**

Manropes shall be:

- .1 not less than 28 mm and not more than 32 mm in diameter and shall be mildew-resistant manila rope,<sup>9</sup> or other material of equivalent strength, durability, elongation characteristics and grip;
- .2 of a single length free from splices and knots; and
- .3 tagged or otherwise permanently marked by the manufacturer with at least the following information:
  - .1 the name of the manufacturer;
  - .2 an equipment serial number or other means of unique identification which the manufacturer shall be able to validate;
  - .3 date of manufacture; and
  - .4 name and details of the approving authority.

## **PART B – RIGGING**

### **12 Pilot ladder**

In all ships, when it is intended to embark and disembark pilots or other personnel by means of the pilot ladder, the pilot ladder shall be secured to the dedicated strong points meeting the requirements of paragraph 6.1 and positioned so that:

- .1 it is clear of any possible discharge from the ships and at all times hangs vertically, free and without obstruction;
- .2 it is within the parallel body length of the ship and within the midship half-length of the ship;
- .3 each step rests firmly against the ship's side and is horizontal in all planes throughout the entire vertical length of the ladder;
- .4 when used in conjunction with ships' side openings, the ladder is secured in accordance with section 14;
- .5 when a retrieval line is considered necessary to ensure the safe rigging of a pilot ladder, the line is secured to the forward end, at or above the lowest spreader step and leads forward. The retrieval line shall not hinder the pilot or other personnel nor obstruct the safe approach of the pilot boat; and
- .6 the lowest step of the pilot ladder, by using the means specified in paragraph 6.3, is at the height above the surface of the water requested by the pilot or other personnel being transferred.

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<sup>9</sup> Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 1181:2004 Fibre ropes – Manila and sisal – 3-, 4- and 8-strand ropes.

### **13 Combination arrangements**

13.1 The combination arrangement shall be so positioned and secured that:

- .1 the pilot ladder complies with the requirements in section 12;
- .2 the accommodation ladder leads aft and is clear of any discharges;
- .3 the lower platform of the accommodation ladder is secured to the ship's side by means of permanent fixtures or removable fixtures within the parallel body length of the ship and within the midship half-length;
- .4 the lower platform is in a horizontal position when in use and is a minimum of 5 m above the surface of the water in all seagoing conditions of draught and trim;
- .5 the pilot ladder and manropes are secured to the ship's side at a point of nominally 1.5 m above the lower platform of the accommodation ladder except as outlined in paragraph 5.5.7;
- .6 the pilot ladder and manropes are not secured to the lower platform of the accommodation ladder at any time; and
- .7 the pilot ladder is rigged immediately adjacent to the lower platform of the accommodation ladder and the highest step of the pilot ladder is at least 2 m above the lower platform. The horizontal distance between the pilot ladder and the lower platform shall be between 0.1 and 0.2 m.

13.2 In the case of a combination arrangement using an accommodation ladder with a trapdoor in the lower platform, the lower platform shall be positioned and rigged in accordance with the requirements of paragraphs 5.5 and 13.1.

### **14 Ships' side openings**

14.1 Pilot ladders rigged from ships' side openings without a boarding platform shall not extend above the lowest deck of the opening and shall not be rigged from any other position, including the freeboard deck.

14.2 Pilot ladders used in conjunction with ships' side openings with a boarding platform complying with paragraph 7.3 shall be rigged aft of such platforms and may be rigged from the freeboard deck provided that the ladder and manropes are secured above the platform in accordance with paragraphs 13.1.5 and 13.1.7.

### **15 Associated equipment**

15.1 The following associated equipment shall be available and ready for immediate use at the point of access whilst the pilot or other personnel are being transferred:

- .1 two manropes complying with the requirements stipulated within section 11 which shall:
  - .1 be free from contamination and knots; however, knots used to tie or secure manropes to strong points are acceptable;

- .2 when required by pilots or other personnel embarking or disembarking, be rigged and secured in accordance with relevant requirements of these performance standards; and
  - .3 when rigged, be fixed at the rope end to dedicated strong points on the deck and pass through the ring or eye fitted at the top of the stanchions at the point of access to the deck. When the pilot ladder is rigged from a ship side opening, manropes may be rigged from the deck head, provided that the manropes pass through the ring or the eye at the top of the stanchions at the point of access;
- .2 a lifebuoy equipped with a self-igniting light; and
  - .3 a heaving line free from contamination and having a length which can reach the waterline in any seagoing condition of draught or trim.

15.2 When required by section 8 of these performance standards, stanchions and bulwark ladders shall be provided.

## **PART C – INSTALLATION OF PILOT LADDER WINCH REELS**

### **16 Stowage of pilot ladders on winch reels**

If a pilot ladder is to be stowed on a winch drum, the drum diameter shall be not less than 0.16 m and the drum shall be provided with sunken securing points.

### **17 Point of access**

17.1 When a pilot ladder winch reel is provided, it shall be situated at a position which will ensure pilots and other personnel embarking on, or disembarking from, the ship between the pilot ladder and the point of access to the ship, have safe, convenient and unobstructed access to or egress from the ship.

17.2 The point of access position and adjacent area shall be kept clear of obstructions, including the pilot ladder winch reel, for distances as follows:

- .1 915 mm in width measured longitudinally;
- .2 915 mm in depth, measured from the ship's side plating inwards; and
- .3 2,200 mm in height, measured vertically from the access deck.

### **18 Physical positioning of pilot ladder winch reels**

18.1 Pilot ladder winch reels which are fitted on a ship's upper deck for the purpose of providing a pilot ladder which services a ship's side opening below the upper deck or, alternatively, an accommodation ladder when a combination arrangement is provided shall:

- .1 be situated at a location on the upper deck from which the pilot ladder is able to be suspended vertically, in a straight line, to a point adjacent to the ship's side opening access point or the lower platform of the accommodation ladder;

- .2 be situated at a location which provides a safe, convenient and unobstructed passage for pilots or other personnel embarking on, or disembarking from, the ship between the pilot ladder and the place of access on the ship; and
- .3 enable compliance with the relevant requirements of part A and part B.

18.2 Pilot ladder winch reels fitted inside a ship's side opening shall:

- .1 be situated at a position which provides a safe, convenient and unobstructed passage for pilots or other personnel embarking on, or disembarking from, the ship between the pilot ladder and the place of access on the ship;
- .2 be situated at a position which provides an unobstructed clear area with a minimum length of 915 mm and minimum width of 915 mm and minimum vertical height of 2,200 mm; and
- .3 if situated at a position which necessitates a section of the pilot ladder to be partially secured in a horizontal position on the deck so as to provide a clear access as described above, then allowance shall be made so that this section of the pilot ladder may be covered with a rigid platform for a minimum distance of 915 mm measured horizontally from the ship's side inwards.

## **19 Handrails and handgrips**

Handrails and handgrips shall be provided in accordance with section 8 to assist the pilot and other personnel to safely transfer between the pilot ladder and the ship, except as noted in paragraph 7.4 for arrangements with platforms extending outboard. The horizontal distance between the handrails and/or the handgrips shall be not less than 0.7 m or more than 0.8 m apart.

## **20 Securing of the pilot ladder**

Where the pilot ladder is stowed on a pilot ladder winch reel which is located either within the ship's side opening or on the upper deck:

- .1 the pilot ladder winch reel shall not be relied upon to support the pilot ladder when the pilot ladder is in use;
- .2 the pilot ladder shall be secured to strong points, independent of the pilot ladder winch reel; and
- .3 the pilot ladder shall be secured at deck level inside the ship's side opening or, when located on the ship's upper deck, at a distance of not less than 915 mm measured horizontally from the ship's side inwards.

## **21 Mechanical securing of pilot ladder winch reel**

21.1 All pilot ladder winch reels shall have means of preventing the winch reel from being accidentally operated as a result of mechanical failure or human error.

21.2 Pilot ladder winch reels may be manually operated or, alternatively, powered by either electrical, hydraulic or pneumatic means.

21.3 Manually operated pilot ladder winch reels shall be provided with a brake or other suitable arrangements to control the lowering of the pilot ladder and to lock the winch reel in position once the pilot ladder is lowered into position.

21.4 Electrical, hydraulic or pneumatically driven pilot ladder winch reels shall be fitted with safety devices which are capable of cutting off the power supply to the winch reel and thus locking the winch reel in position.

21.5 Powered winch reels shall have clearly marked control levers or handles which may be locked in a neutral position.

21.6 A mechanical device or locking pin shall also be utilized to lock powered winch reels.

#### **PART D – OPERATIONAL READINESS, ONBOARD INSPECTION AND MAINTENANCE**

22 Periodic maintenance and inspections shall be carried out to ensure the pilot transfer arrangements are in good condition, free from contamination and ready for use. Regardless of the date of installation, maintenance and inspection of accommodation ladders used in the combination arrangement shall be carried out in accordance with SOLAS regulation II-1/3-9.3.

23 Pilot ladders, manropes and all associated equipment, when not in use, shall be stowed to prevent degradation caused by moisture, icing and sunlight, chemicals and greases and similar contaminants, and in accordance with the manufacturer's instructions.

24 Instructions for care, maintenance, inspection and stowage shall be supplied with each pilot ladder, manropes and all associated equipment. These instructions shall include:

- .1 pre- and post-use inspection instructions;
- .2 detailed periodic inspection procedures, including those for side ropes;
- .3 instructions for inspecting and repairing rope seizings or securing devices, along with a list of permitted onboard repairs;
- .4 care and stowage instructions, including warnings about chemical exposure, sunlight impact and other potential causes of ladder degradation;
- .5 factors affecting pilot ladder life, including stowage arrangements;
- .6 acceptable method(s) of securing ladder to strong points;
- .7 pictorial examples and detailed written description of damage or conditions warranting withdrawing the ladder from service; and
- .8 care and maintenance specifics for natural fibre rope ladders.

25 Pilot transfer arrangements shall be subject to:

- .1 inspection before and after each use by a responsible officer on board; and
- .2 a detailed inspection every three months by a responsible officer on board.

26 In order to determine the suitability for ongoing use of the pilot transfer arrangements, inspections shall include the following:

- .1 the pilot ladder including spares;
- .2 the accommodation ladder used in a combination arrangement;
- .3 winch reels;
- .4 securing arrangements;
- .5 conditions of point of access;
- .6 relevant equipment, in particular stanchions and stanchion sockets welded onto the deck; and
- .7 stowage arrangements.

27 A maintenance plan shall be developed and shall be available for inspection. The maintenance plan shall be easily understood, illustrated as appropriate wherever possible, and shall include the following:

- .1 a checklist for use when carrying out the inspections required by section 25;
- .2 maintenance, repair and stowage instructions, in accordance with manufacturer's instructions;
- .3 schedule of periodic inspection and maintenance;
- .4 list of sources of spare parts or replacements;
- .5 log for records of inspections and maintenance; and
- .6 record of when the pilot ladder or manropes were brought into service and their anticipated date of withdrawal from service in accordance with section 30 of these performance standards.

28 Repair or replacement of pilot ladder steps or spreader steps shall be prohibited.

29 At least one spare compliant pilot ladder and one spare set of compliant manropes shall be carried on board the ship.

30 Pilot ladders and manropes, including their spares, shall be removed from service, either at any time not complying with these performance standards, or within 36 months after the date of manufacture or within 30 months after the date of being placed into service, whichever comes first, and shall not be used for the embarkation and disembarkation of pilots or other personnel.

## **PART E – FAMILIARIZATION**

31 Onboard personnel involved in the inspection, maintenance, rigging or operation of any equipment for pilot transfer arrangements shall receive familiarization to perform their assigned duties. This shall form part of the onboard familiarization of the crew.

32 On ships to which SOLAS chapter IX applies, the company, as defined in SOLAS regulation IX/1.2, ensures that onboard personnel involved in the operation of inspection, maintenance, rigging or operation of any equipment for pilot transfer arrangements are familiarized with the onboard pilot transfer arrangements for safe operation in accordance with STCW regulation I/14.

33 On ships to which SOLAS chapter IX does not apply, familiarization on board shall include, but not be limited to:

- .1 operation and use of the equipment and arrangements for the transfer of pilots and other personnel provided on board the ship;
- .2 the characteristics of pilot transfer arrangements which shall not be used for the transfer of pilots or other personnel;
- .3 carrying out inspections and maintenance of the pilot transfer arrangements, including spare ladders on board;
- .4 replacement procedures of pilot ladders and manropes; and
- .5 when applicable, measures and additional equipment or operational considerations to be made to ensure the integrity of the pilot ladder in special conditions, i.e. freezing or windy condition or rough weather especially when there is moderate swell.

## **PART F – APPROVAL**

34 Pilot transfer arrangements installed in accordance with SOLAS regulation V/23.3 shall be approved by the Administration in accordance with these performance standards before being put into service for the first time and after repair, alteration or modification to the arrangements provided for in sections 5 to 8 and section 10 of part A, or part C, of these performance standards.

35 Pilot transfer arrangements installed in accordance with SOLAS regulations V/23.4 and 23.5 shall be approved by the Administration in accordance with these performance standards after alteration or modification, if any, or repair, to the arrangements provided for in sections 5 to 8 and section 10 of part A, or part C, of these performance standards.

36 A pilot ladder, including the means of securing the pilot ladder at intermediate lengths, and manropes shall be type-approved by the Administration in accordance with these performance standards.

37 A manufacturer quality control system shall be required and shall be audited by a competent authority to ensure continuous compliance with the type approval conditions. Alternatively, the Administration may use final product verification procedures where compliance with the type approval certificate is verified by a competent authority before the product is installed on board ships.

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