

~~2024-02-2705-16~~  
ISO/FDIS-24682:2024(~~En~~)  
ISO TC 8/SC 8/WG 28  
Secretariat: KATS  
Ships and marine technology — Technical requirements for “B” class fire-resistant compartment systems of composite mineral wool panel

- Style Definition
- Formatted: French (Switzerland)
- Formatted: French (Switzerland)
- Formatted: Different first page header
- Formatted
- Formatted: English (United Kingdom)

# iTeh Standards (<https://standards.itih.ai>) Document Preview

[ISO/FDIS 24682](https://standards.itih.ai/catalog/standards/iso/c28abfae-520f-4c56-86a0-4b9671b5e2c9/iso-fdis-24682)

<https://standards.itih.ai/catalog/standards/iso/c28abfae-520f-4c56-86a0-4b9671b5e2c9/iso-fdis-24682>

© ISO-2023, 2024

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO Copyright Office

CP 401 • CH-1214 Vernier, Geneva

Phone: + 41 22 749 01 11

Email: [copyright@iso.org](mailto:copyright@iso.org)

Email: [copyright@iso.org](mailto:copyright@iso.org)

Website: [www.iso.org](http://www.iso.org)[www.iso.org](http://www.iso.org)

Published in Switzerland.

Formatted: Default Paragraph Font

iTeh Standards  
(<https://standards.iteh.ai>)  
Document Preview

ISO/FDIS 24682

<https://standards.iteh.ai/catalog/standards/iso/c28abfae-520f-4c56-86a0-4b9671b5e2c9/iso-fdis-24682>

## Contents

Foreword .....	v
Introduction .....	vi
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions .....	1
4 Requirements .....	3
4.1 Materials .....	3
4.2 Fire resistance .....	3
4.3 Acoustic insulation .....	15
4.4 Opening in “B” class division .....	16
4.4.1 Opening for “B” class fire door .....	16
4.4.2 Opening for window or balcony door .....	16
4.4.3 Other openings .....	16
4.5 Penetration .....	16
4.5.1 General .....	16
4.5.2 Pipes .....	17
4.5.3 Ventilation ducts .....	17
4.5.4 Electric cables .....	17
4.6 Tolerance requirements .....	17
4.7 Appearance .....	20
5 Inspection .....	20
5.1 Materials .....	20
5.2 Fire resistance .....	20
5.3 Acoustic insulation .....	21
5.4 Opening .....	21
5.5 Penetration .....	21
5.6 Installation tolerance .....	21
5.7 Appearance .....	21
Annex A (informative) “B” class composite mineral wool panel .....	22
Annex B (informative) Typical connection and installation details .....	23
Annex C (informative) Typical construction of penetrations .....	33
Foreword .....	iv
Introduction .....	v
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions .....	1
4 Requirements .....	3
4.1 Materials .....	3
4.2 Fire resistance .....	3
4.3 Acoustic insulation .....	15
4.4 Opening in “B” class division .....	16
4.4.1 Opening for “B” class fire door .....	16

Formatted: Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

4.4.2	Opening for window or balcony door .....	16
4.4.3	Other openings .....	16
4.5	Penetration.....	16
4.5.1	General .....	16
4.5.2	Pipes .....	17
4.5.3	Ventilation ducts.....	17
4.5.4	Electric cables.....	17
4.6	Tolerance requirements.....	17
4.7	Appearance.....	20
5	Inspection .....	20
5.1	Materials .....	20
5.2	Fire resistance .....	20
5.3	Acoustic insulation .....	21
5.4	Opening .....	21
5.5	Penetration.....	21
5.6	Installation tolerance .....	21
5.7	Appearance.....	21
Annex A (informative) "B" class composite mineral wool panel .....		22
Annex B (informative) Typical connection and installation details .....		23
Annex C (informative) Typical construction of penetrations .....		33
Bibliography .....		48

ITeH Standards  
(<https://standards.iteh.ai>)  
Document Preview

**Formatted:** Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

[ISO/FDIS 24682](https://standards.iteh.ai)

<https://standards.iteh.ai/catalog/standards/iso/c28abfae-520f-4c56-86a0-4b9671b5e2c9/iso-fdis-24682>

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at [www.iso.org/patents](http://www.iso.org/patents). ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 8, *Ship design*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

Formatted: Font color: Auto

**ISO/FDIS 24682:2024(E)**

## **Introduction**

“B” class fire-resistant compartment systems made of composite mineral wool panels are widely used in accommodation spaces in ships and offshore installations. Both ships and offshore installations have fire and acoustic insulation capability as required by 1974 International Convention for the Safety of Life at Sea (SOLAS-74) and its amendments.

# iTeh Standards (<https://standards.itih.ai>) Document Preview

[ISO/FDIS 24682](https://standards.itih.ai/catalog/standards/iso/c28abfae-520f-4c56-86a0-4b9671b5e2c9/iso-fdis-24682)

<https://standards.itih.ai/catalog/standards/iso/c28abfae-520f-4c56-86a0-4b9671b5e2c9/iso-fdis-24682>

ISO/~~DIS~~FDIS 24682:2024(En)

This document is aligned with IMO documents, in particular SOLAS 74, IMO Resolution MSC.337 (91), IMO MSC/Circ.917 and the International code for application of fire test procedures (FTP Code).

Formatted: Font: 11.5 pt

Formatted: Centered

Formatted: Font: 11.5 pt

Formatted: Font: 11.5 pt

# iTeh Standards (<https://standards.iteh.ai>) Document Preview

ISO/FDIS 24682

<https://standards.iteh.ai/catalog/standards/iso/c28abfae-520f-4c56-86a0-4b9671b5e2c9/iso-fdis-24682>

Formatted: Font: 9 pt

Formatted: Font: 9 pt

Formatted: Font: 9 pt

Formatted: Centered, Space Before: 0 pt, After: 24 pt,  
Line spacing: At least 12 pt

Formatted: Font: 9 pt

© ISO ~~2023~~2024 - All rights reserved

vii

Edited DIS - MUST BE USED FOR FINAL DRAFT





# Ships and marine technology — Technical requirements for “B” class fire-resistant compartment systems of composite mineral wool panel

Formatted: Section start: New page, Different first page header

Formatted: Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

## 1 Scope

This document provides requirements on fire resistance, acoustic insulation, opening, and penetration, etc. requirements for “B” class fire-resistant compartment systems made of composite mineral wool panel as specified by, which are aligned with the 2010 FTP Code and 1974 International Convention for the safety of Life at Sea (SOLAS 74) and its amendments. This document also specifies how these “B” class fire-resistant compartment systems are to be inspected.

Formatted: English (United Kingdom)

Formatted: English (United Kingdom)

This document is applicable to accommodation spaces made by “B” class composite mineral wool panels for ships and offshore installations where “B” class divisions are required.

Formatted: English (United Kingdom)

Formatted: English (United Kingdom)

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Formatted: Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

~~ISO 717-1, Acoustics — rating of sound insulation in buildings and of building elements — Part 1: airborne sound insulation~~

ISO 1716, Reaction to fire tests for products — Determination of the gross heat of combustion (calorific value)

ISO/FDIS 24682

~~ISO 10140-2, Acoustics — Laboratory measurement of sound insulation of building elements — Part 2: Measurement of airborne sound insulation~~

~~ISO 22262-1, Air quality — Bulk materials — Part 1: Sampling and qualitative determination of asbestos in commercial bulk materials~~

2010 FTP Code — International code for application of fire test procedures, 2010

SOLAS — International Convention for the Safety of Life at Sea

IMO Resolution MSC.337 (91) — Code on noise levels on board ships

IMO MSC/Circ.917 — Guidelines on Fire Safety Construction in Accommodation Areas — (4 June 1999)

Formatted: Font: Not Italic

Formatted: Default Paragraph Font, Font: Not Italic

Formatted: Font: Not Italic

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp> <https://www.iso.org/obp>

Formatted: Centered, Space Before: 0 pt, After: 24 pt, Line spacing: Exactly 12 pt

Formatted: Font: 9 pt

— IEC Electropedia: available at <https://www.electropedia.org/>

3.1

**"B" class**

**"B" class division**

~~division classification~~ formed by bulkheads, decks, ceilings, or linings, including "B-15" and "B-0" class, constructed of approved non-combustible materials (3.6)

[SOURCE: SOLAS, Chapter II-2, Reg. 3.4]

3.2

**"B" class composite mineral wool panel**

panel composed ~~by of a~~ metal sheet, or sheets associated with mineral wool, and which meet "B-15" and "B-0" class requirements

~~NOTE: For the basic construction of "B" class composite mineral wool panel, see Annex A.~~

3.3

**"B" class fire door**

~~door fixed on "B" class division (3.1) door~~ which has an equivalent a fire resistance that is equivalent to the "B" class division (3.1)

~~NOTE~~Note 1 to entry: See 2010 FTP Code, Annex 1, Part 3 for further details on the criteria with which a "B" class fire door must comply.

3.4

**window box**

connection box between the "B" class composite mineral wool panel (3.2) and window or side scuttle

3.5

**"B" class fire-resistant compartment system**

compartment system consisting of a "B" class composite mineral wool panel (3.2), "B" class fire door (3.3), window box (3.4), as well as any other opening/openings and/or penetration/penetrations in the "B" class division (3.1), if any.

3.6

**non-combustible material**

material which neither burns nor gives off flammable vapours in sufficient quantity for self-ignition when heated to approximately 750 °C.

3.7

**combustible material**

material other than *non-combustible material* (3.6)

3.8

**low flame-spread characteristic**

~~the~~ surface material of "B" class division (3.1) shall be designed to adequately restrict the spread of flame, and this being determined in accordance with 2010 FTP Code, Annex 1, Part 5.

[SOURCE: SOLAS, Chapter II-2, Reg. 3.29]

3.9

**"C" class**

"C" class division

Formatted: Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

Formatted: std\_publisher, English (United Kingdom)

Formatted: std\_docNumber, English (United Kingdom)

Formatted: Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

Formatted: Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

Formatted: English (United Kingdom)

Formatted: Font: Italic

Formatted: Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

Formatted: Font: Italic, English (United Kingdom)

Formatted: English (United Kingdom)

Formatted: Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

Formatted: Font: Italic

Formatted: English (United Kingdom)

Formatted: English (United Kingdom)

Formatted: Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

Formatted: Default Paragraph Font, Font: Not Bold

Formatted: Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

Formatted: Don't keep with next

Formatted: Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

Formatted: English (United Kingdom)

Formatted: English (United Kingdom)

Formatted: English (United Kingdom)

Formatted: English (United Kingdom)

Formatted: Source

Formatted: std\_publisher, English (United Kingdom)

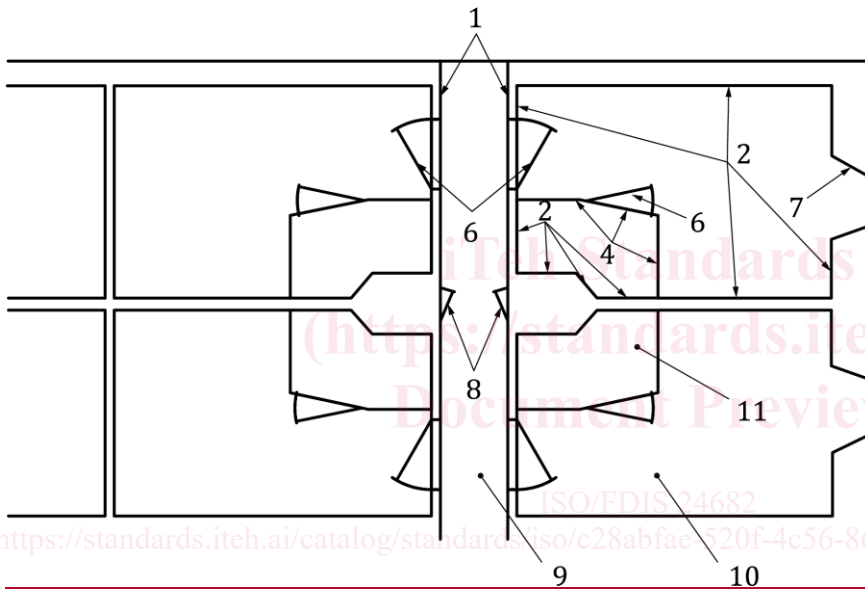
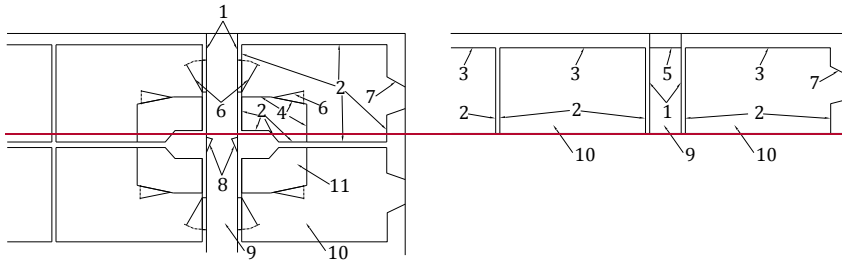
Formatted: std\_docNumber, English (United Kingdom)

Formatted: Don't keep with next

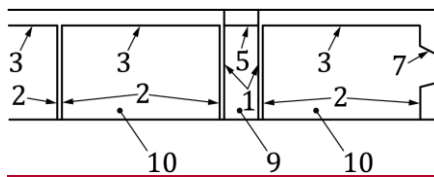
Formatted: Font: Not Bold

Formatted





a) Top view



b) Side view

**Key**

- |                         |               |
|-------------------------|---------------|
| 1 "B-15" class bulkhead | 7 window box  |
| 2 "B-0" class bulkhead  | 8 access door |
| 3 "B-0" class ceiling   | 9 corridor    |
| 4 "C" class bulkhead    | 10 cabin      |
| 5 "C" class ceiling     | 11 toilet     |

**Formatted:** Figure subtitle, Left, Tab stops: 0.7 cm, Left + 1.4 cm, Left + 2.1 cm, Left + 2.8 cm, Left + 3.5 cm, Left + 4.2 cm, Left + 4.9 cm, Left + 5.6 cm, Left + 6.3 cm, Left + 7 cm, Left

**Formatted:** Font: 9 pt

**Formatted:** Font: 9 pt, Not Bold

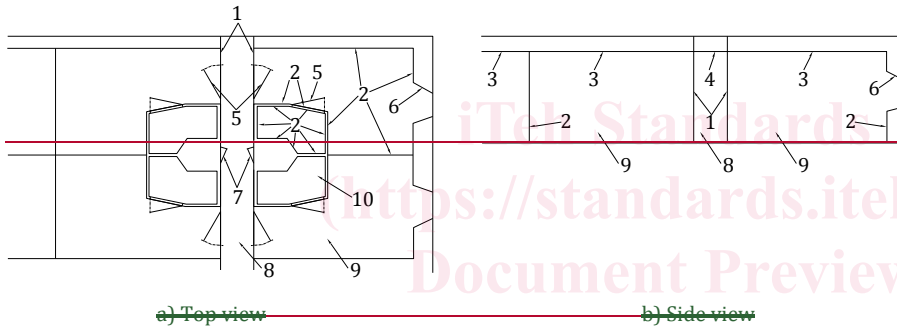
6 fire door

**Figure 1 — Construction details of “B” class fire-resistant compartment systems — Type I construction**

- |                         |               |
|-------------------------|---------------|
| 1 “B-15” class bulkhead | 7 window box  |
| 2 “B-0” class bulkhead  | 8 access door |
| 3 “B-0” class ceiling   | 9 corridor    |
| 4 “C” class bulkhead    | 10 cabin      |
| 5 “C” class ceiling     | 11 toilet     |
| 6 fire door             |               |

NOTE 1: Corridor is “B-15” bulkheads extending from deck to deck and “C” class ceiling (where provided). Cabin is “B-0” continuous constructed, and bulkheads construction. Bulkheads (except the door) between the cabin and corridor or other cabins are not common. Toilet is separated with a “C” class bulkhead from the cabin.

NOTE 2: This construction type is applied to passenger ships and cargo ships.



- Key
- |                         |               |
|-------------------------|---------------|
| 1 “B-15” class bulkhead | 6 window box  |
| 2 “B-0” class bulkhead  | 7 access door |
| 3 “B-0” class ceiling   | 8 corridor    |
| 4 “C” class ceiling     | 9 cabin       |
| 5 fire door             | 10 toilet     |

**Figure 2 — Construction details of “B” class fire-resistant compartment systems — Type II construction**

Formatted: Centered

Formatted: Figure note, Adjust space between Latin and Asian text, Adjust space between Asian text and numbers

Formatted: English (United Kingdom)

Formatted: English (United Kingdom)

Formatted: Font: 9 pt, Not Bold

Formatted: Key Title, Tab stops: 0.7 cm, Left + 1.4 cm, Left + 2.1 cm, Left + 2.8 cm, Left + 3.5 cm, Left + 4.2 cm, Left + 4.9 cm, Left + 5.6 cm, Left + 6.3 cm, Left + 7 cm, Left

Formatted: English (United Kingdom)

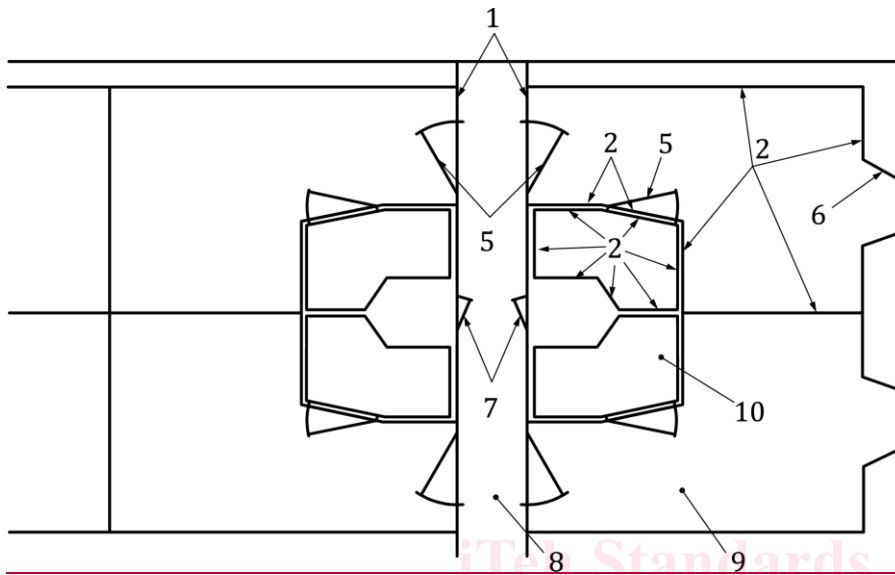
Formatted: Figure title, Left, Level 1

Formatted: English (United Kingdom)

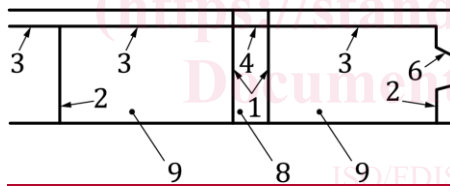
Formatted: English (United Kingdom)

Formatted: English (United Kingdom)

Formatted: Font: Not Bold, English (United Kingdom)



a) Top view



b) Side view

**Key**

- |                         |               |
|-------------------------|---------------|
| 1 "B-15" class bulkhead | 6 window box  |
| 2 "B-0" class bulkhead  | 7 access door |
| 3 "B-0" class ceiling   | 8 corridor    |
| 4 "C" class ceiling     | 9 cabin       |
| 5 fire door             | 10 toilet     |

NOTE 1- Corridor is 1 The corridor has "B-15" bulkheads extending from deck to deck and "C" class ceiling (where provided). Cabin is 2 The cabin has "B-15" bulkhead against corridor and "B-0" bulkheads against other spaces, and there is it has a "B-0" continuous ceiling. Bulkheads are common with corridors and other cabins. Toilet 3 The toilet unit is fully separate including the ceiling and there is a gap between the cabin and toilet unit, all bulkheads of the toilet unit are "B-0".

NOTE 2- It 2 This construction type is applied to passenger ships and cargo ships.

Formatted: Font: 9 pt

Formatted: Key Title, Tab stops: 0.7 cm, Left + 1.4 cm, Left + 2.1 cm, Left + 2.8 cm, Left + 3.5 cm, Left + 4.2 cm, Left + 4.9 cm, Left + 5.6 cm, Left + 6.3 cm, Left + 7 cm, Left

Formatted: Font: 9 pt, Not Bold

Formatted: Figure note, Adjust space between Latin and Asian text, Adjust space between Asian text and numbers

Formatted: English (United Kingdom)