



Marine &amp; Offshore

Certificate number: 38100/C0 BV

File number: AC11200/219/001

Product code: 5170H

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**BIP INDUSTRIES CO., LTD.**

Gyeongsangnam-do - KOREA (REPUBLIC OF)

*for the type of product*

**B15 CLASS DOORS**

B-15 Class Inspection Hatch - Type "BIP APL-25F"

### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships Part C Chapter 4

SOLAS 74 Convention, as amended, Chapter II-2.

IMO Res. MSC.307(88) -(2010 FTP Code)-

IMO MSC/Circ.1120 and IMO MSC.1/Circ.1581

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 04 Jul 2029**

**For Bureau Veritas Marine & Offshore,**

At BV PUSAN, on 01 Jul 2024,

Won-jun JANG

***This certificate was created electronically and is valid without signature***



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <http://www.veristarpn.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=vre9uq0gv7>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## **THE SCHEDULE OF APPROVAL**

### **1. PRODUCT DESCRIPTION:**

#### **B-15 Class Inspection Hatch - Type "BIP APL-25F"**

##### **1.1 - When hatch is insulated with "mineral wool" boards (nominal density 240 kg/m<sup>3</sup>):**

Hatch consists of two 0.6 mm thick steel sheets (reinforced along perimeter of the door leaf with 1.6 mm thick hatch frame) and an insulating core made up of "**mineral wool**" boards (nominal density 240 kg/m<sup>3</sup>, manufactured by KCC Co., Ltd.). Hatch frame is made up of 1.6 mm thick steel angle and fitted to the bulkhead. Hinges of the hatch are stainless steel piano hinges with 0.7 mm thick. Mineral wool board is glued to the steel sheets by adhesive "**BNUR-1000**" (maximal application rate: 200 g/m<sup>2</sup>; manufactured by BN Steel Chemical Co., Ltd.).

Alternative glue: "**OCUA-1000RC**" (maximal application rate: 200 g/m<sup>2</sup>; manufactured by DAE HAN POLYMER Co., Ltd.).

Maximum size of clear opening: 900 x 1770 mm (width x height)  
Maximum size of hatch: 950 x 1820 mm (width x height)  
Thickness of hatch: 25 mm

**N.B.:** This hatch was tested with the sill being part of the frame.

Integrity criteria satisfied for: 30 minutes  
Insulation criteria satisfied for: 15 minutes

##### **1.2 - When hatch is insulated with "mineral wool" boards (nominal density 140 kg/m<sup>3</sup>):**

Hatch consists of two 0.6 mm thick steel sheets (reinforced along perimeter of the door leaf with 1.6 mm thick hatch frame) and an insulating core made up of "**mineral wool**" boards (nominal density 140 kg/m<sup>3</sup>, manufactured by KCC Co., Ltd.). Hatch frame is made up of 1.6 mm thick steel angle and fitted to the bulkhead. Hinges of the hatch are stainless steel piano hinges with 0.7 mm thick. Mineral wool board is glued to the steel sheets by the polyurethane adhesive "**OCUA-1000RC**" (maximal application rate: 200 g/m<sup>2</sup>; manufactured by DAE HAN POLYMER Co., Ltd.).

Alternative polyurethane glue: "**BNUR-1000**" (maximal application rate: 200 g/m<sup>2</sup>; manufactured by BN Steel Chemical Co., Ltd.).

Maximum size of clear opening: 540 x 1900 mm (width x height)  
Maximum size of hatch: 590 x 1950 mm (width x height)  
Thickness of hatch: 25 mm

**N.B.:** This hatch was tested with the sill being part of the frame.

Integrity criteria satisfied for: 30 minutes  
Insulation criteria satisfied for: 15 minutes

### **2. DOCUMENTS AND DRAWINGS:**

#### **2.1 - When hatch is insulated with "mineral wool" boards (nominal density 240 kg/m<sup>3</sup>):**

As per the Manufacturer's drawings N° F2013-APL25F-R5 dated 18/04/2013.

#### **2.2 - When hatch is insulated with "mineral wool" boards (nominal density 140 kg/m<sup>3</sup>):**

As per the Manufacturer's drawings N° F2019-APL25F-R0 dated 20/09/2019.

### **3. TEST REPORTS:**

#### **3.1 - When hatch is insulated with "mineral wool" boards (nominal density 240 kg/m<sup>3</sup>):**

Test report N° AK2013-0457 dated 06/03/2014, as per IMO 2010 FTP Code Annex 1 Part 3, from FILK, Korea.

#### **3.2 - When hatch is insulated with "mineral wool" boards (nominal density 140 kg/m<sup>3</sup>):**

Test report N° KOMERI-0402-19T4661(E)-A dated 29/01/2020, as per IMO 2010 FTP Code Annex 1 Part 3, from KOMERI, Korea.

### **4. APPLICATION / LIMITATION:**

The fitting aboard to be the same as used for the test.

**5. PRODUCTION SURVEY REQUIREMENTS:**

5.1 - The **B-15 Class Inspection Hatch - Type "BIP APL-25F"** are to be supplied by **BIP INDUSTRIES Co., Ltd.** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **BIP INDUSTRIES Co., Ltd.** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - For information, **BIP INDUSTRIES CO., LTD.** has declared to Bureau Veritas the following production site(s):

**BIP INDUSTRIES CO., LTD.**  
**67, Baedungongdan-gil,**  
**Heohwa-myeon**  
**Gyeongsangnam-do, Gosung-gun**  
**KOREA (REPUBLIC OF)**

5.5 - The following components have to be covered by a valid type approval certificate, issued by the Society.

- the insulating material "**mineral wool**" (nominal densities 140 and 240 kg/m<sup>3</sup>),
- the adhesive materials "**BNUR-1000**" and "**OCUA-1000RC**",
- any added finish surface material(s).

**6. MARKING OF PRODUCT:**

The product or packing is to be marked with Manufacturer name, type designation and fire-technical rating.

**7. OTHERS:**

7.1 - It is **BIP INDUSTRIES Co., Ltd.**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This Certificate supersedes the Type Approval Certificate N° 38100/B1 BV issued on 27/04/2020 by the Society.

\*\*\* END OF CERTIFICATE \*\*\*