



## Certificate Of Fire Approval

This is to certify that the product detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations and with the International Convention for the Safety of Life at Sea, (SOLAS), 1974, as amended, for use on ships and offshore installations classed with Lloyd's Register, and for use on ships and offshore installations when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

|                           |   |
|---------------------------|---|
| <b>Manufacturer</b>       | <b>BIP Industries Co., Ltd.</b>                             |
| <b>Address</b>            | 1817, Jungang-daero, Geumjeong-gu, Busan, Republic of Korea |
| <b>Type</b>               | B-0 Ceiling   |
| <b>Description</b>        | Fire Resisting B-0 Class Continuous Ceiling Panel System    |
| <b>Trade Name</b>         | BIP C452  |
| <b>Specified Standard</b> | IMO Res. MSC.307(88) – (2010 FTP Code) Annex 1 Part 3       |

This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Lloyd's Register Asia of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document and its supplementary Type Approval Terms and Conditions form part of this Certificate.

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached Design Appraisal Document are complied with and the equipment remains satisfactory in service.

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

**Kwang-Baek Kim**

Fire & Safety - Senior Specialist to Lloyd's Register Asia  
A member of the Lloyd's Register group

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**ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No.LR23377943SF**

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions, and this Design Appraisal Document forms part of the Certificate.

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**APPROVAL DOCUMENTATION**

**TEST REPORTS**

Korea Marine Equipment Research Institute (KOMERI), 24-20, Noksansandan 335-ro, Gangseo-gu, Busan, Republic of Korea; Test Report No. KOMERI-0402-21T5147(E) dated 28<sup>th</sup> February 2022.

**CONDITIONS OF CERTIFICATION**

1. Ceiling panel system 'BIP C452' consisting of: 600mm x 600mm square panels of 0.6mm thick perforated galvanised steel sheet panels (diameter of perforations 1.8mm, distance of centres 3.5mm/5mm) formed into trays 25mm deep, filled on non-exposed upper side with one sheet of (25mm thick, 60 kg/m<sup>3</sup> density) mineral wool insulation manufactured by KCC Corporation. Width of insulation 580mm with 10mm uninsulated width at edge of panel for overlapping joint connection. Total thickness of ceiling 27mm. Note: non perforated galvanised steel sheet panels of identical dimensions may also be used.
2. Adjacent panels connected together with overlapping joints and clip bars.
3. Panels secured to bulkhead with self tapping screws to steel profile.
4. Panels suspended by clip bar attached to carrying channel. Carrying channel suspended from deck with the hanger set.
5. Maximum distance between ceiling hangers: 1200mm
6. Minimum distance between top of ceiling and bottom of overhead deck: 273mm
7. Composition, application and installation of sub components, including any adhesives, seals and any fire retardants, to be maintained in production and use in accordance with originally tested composition formula and method of application and installation, and manufacturer's instructions.
8. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as the approved prototype.
9. The certificate holder is solely responsible for the products supplied under this Certificate and to ensure that their products, whether manufactured by themselves or their licensee manufacturers, if agreed by Lloyd's Register, are fully compliant with the relevant statutory regulations and Lloyd's Register Class rules as applicable and designed, manufactured and installed to the same quality and specifications as the prototype tested, including components that are designed and manufactured by third parties.



## DESIGN APPRAISAL DOCUMENT

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Certificate No: LR23377943SF  
Issue Date: 05/10/2023  
Expiry Date: 04/10/2028  
Reference: BTSO/F&S/TA/KBK/CHA2302607/PRJ11100417181

### ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No.LR23377943SF

#### **PLACE OF PRODUCTION**

BIP Industries Co Ltd  
67, Baedungongdan-gil  
Hoehwa-myeon, Goseong-gun  
Gyeongsangnam-do  
Republic of Korea

*K B Kim*

Kwang-Baek Kim  
Senior Specialist, Fire & Safety to Lloyd's Register Asia  
Busan Technical Support Office, Marine & Offshore  
Lloyd's Register Group

#### **Supplementary Type Approval Terms and Conditions**

*This certificate and Design Appraisal Document relates to type approval, it certifies that the prototype(s) of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein, it does not mean or imply approval for any other use, nor approval of any products designed or manufactured otherwise than in strict conformity with the said prototype(s)*

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