



## 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-15 Bulkhead
<b>Description</b>	Fire Resisting 'B' Class Bulkhead Panel System - Type: "BIP W-102SH " steel panel insulated with 2 layers of mineral wool insulation (23.5mm thick and 140kg/m <sup>3</sup> density)
<b>Trade Name</b>	BIP W-102SH
<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 EMEA 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

**Keith Taylor**

Team Lead Fire & Safety to Lloyd's Register  
EMEA  
A member of the Lloyd's Register group

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**ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. LR22408526SF**

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.

**APPROVAL DOCUMENTATION**

1. Fire Insurers Laboratories of Korea (FILK), 1030, Gyeongchung-daero, Ganam-eup, Yeoju-si, Gyeonggi-do, Korea; Fire Test Report No. AK2022-0124, dated 22 April 2022.

**CONDITIONS OF CERTIFICATION**

1. B -15 Class Bulkhead vertical panel system 'BIP W-102SH' consisting of: 0.6mm thick galvanized steel plate bonded to either side of two layers of mineral wool insulation (23.5 mm thick, 140kg/m<sup>3</sup> density) manufactured by KCC Corporation, bonded with one of the following two adhesive types: 'BNUR-1000' manufactured by BN Steel Chemical Co., Ltd; or 'OCUA-1000RC' manufactured by DAI HAN POLYMER Co., Ltd.
2. Total bulkhead panel thickness is 50mm.
3. Maximum panel width is 600mm.
4. Maximum panel height is 2460mm.
5. Each panel fitted with M-Profile (48.5mm x 18mm x 3mm) of steel at the end sides for connecting. Adjacent panels connected longitudinally with Spline profile joints of 3mm x 30mm wide steel, inserted between panel end side M-Profile.
6. Panels secured within perimeter angle steel frame consisting of 40mm x 57mm x 40mm of 2.3mm thick.
7. For use in escape routes in ro-ro passenger ships, the bulkhead panel system is to be subjected to strength tests where handrails are to be attached, in accordance with IMO MSC/Circ.910 under independent witness and test reports submitted to final design Project Approval Authority for approval on a case-by-case basis.
8. The joining and securing arrangements of the panel system to be sufficiently strong to prevent detachment of the panel due to ship vibration.
9. Composition of all product components shall be maintained in production as per the originally tested formula. Their method of application/installation onboard must be in full compliance with manufacturer's instructions, to ensure the final product assembly is of the same specification and capable of providing at least the same fire performance as the tested and approved prototype.
10. 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.
11. The Certificate holder is solely responsible for the products supplied under this Certificate and to ensure that their products 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.



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**PLACE OF PRODUCTION**

**BIP Industries Co., Ltd.**

67, Baedungongdan-gil  
Hoehwa-myeon  
Goseong-gun  
Gyeongsangnam-do  
Republic of Korea

Keith Taylor  
Team Lead, Fire & Safety  
Statutory Discipline Team  
UK&I Technical Support Office, Marine & Offshore  
Lloyd's Register

**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)*