



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.

Manufacturer	BIP Industries Co., Ltd.
Address	1817 Jungang-Daero, Geumjeong-gu, Busan, Republic of Korea
Type	B-15 Bulkhead
Description	Fire Resisting B-15 Bulkhead Panel System
Trade Name	BIP W-162
Specified Standard	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.



ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No.LR23414439SF

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.

This Design Appraisal Document forms part of the Certificate.

This Certificate is a Renewal of Certificate Number SAS F180336-02.

APPROVAL DOCUMENTATION

TEST REPORTS

Korea Marine Equipment Research Institute (KOMERI), 435 Heayang-ro, Yeongdo-gu, Busan, Republic of Korea, Fire Test Report No. KOMERI-0402-12T579 dated 5th September 2012.

CONDITIONS OF CERTIFICATION

1. Vertical sandwich panel system 'BIP W-162' consisting of: vertical panels of 0.6mm thick steel sheet bonded on both sides of a 30mm thick insulation core, comprising two layers of (15mm thick, 200 kg/m³ density) mineral wool manufactured by KCC Corporation using type 'OCUA-1000RC' urethane adhesive manufactured by Dae Han Polymer Ind Co. Ltd. or 'BNUR-1000' manufactured by BN Chemical Co., Ltd. to bond the insulation together and the insulation to the steel panel. The insulation layers inside each panel are to contain no joints.
2. Maximum width of panels: 600mm wide
3. Total thickness of panels: 30mm thick (45mm including omega joint profile)
4. Adjacent panels connected together using (1.2mm thick, 10mm x 15mm x 52.4mm x 10mm x 15mm) omega steel profiles and 4mm diameter steel screws through each panel at 300mm maximum vertical centres; one layer of the same insulation also fills the omega joint profiles.
5. Panels secured along perimeter bulkhead by screws into steel profile 0.6mm thick, dimensions 165mm x 70mm at top side, 1.2mm thick, dimensions 25mm x 55mm at end vertical boundaries and square pipe 2.1mm thick, dimensions 30mm x 30mm x 2400mm at bottom side. Channel secured by welding to fixing cleats.
6. For use in escape routes in ro-ro passenger ships, B Class 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.
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.



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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.

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)

