

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, Korea, Republic of
Type	B-15 Bulkhead
Description	Fire Resisting Bulkhead
Trade Name	BIP W-E80S
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 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.

Jessica Evans

Senior Surveyor to Lloyd's Register EMEA
A member of the Lloyd's Register group

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ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS F180311-02

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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This certificate is an amendment of certificate number: SAS F180311

APPROVAL DOCUMENTATION

TEST REPORTS

Fire Insurers Laboratories of Korea (FILK), 69-1 Simseok-Ri, Ganam-Myeon, Yeosu-Gun, Gyeonggi-Do, 469-881, Korea; Test Report No. AK2012-0930 and No. AK2012-0932 both dated 20th February 2013.

BIP Drawing No. F2012-WE80S-R0 dated 2nd November 2012 pages 1-5.

CONDITIONS OF CERTIFICATION

1. Vertical sandwich interlocking panel system consisting of: vertical panels of 0.6mm thick galvanised steel sheet panel bonded on both sides of an insulation core (15mm thick, 140 kg/m³ density) mineral wool insulation manufactured by KCC Corporation using urethane adhesive 'OCUA-1000RC' manufactured by Dae Han Polymer Industries Co.
2. Panels incorporate longitudinal cable conduits, dimensions 2400mm long from top edge of panel x 80mm deep x 24mm deep, located centrally along width of panel and at unexposed face of panel.
3. Maximum width of panels: 600mm wide
4. Total thickness of panels: 50mm
5. Adjacent panels connected together longitudinally with spline joints.
6. Panels secured along perimeter of bulkhead by screws into steel channel 2.0mm thick, dimensions 40mm x 56mm x 40mm. Channel secured by welding to fixing cleats.
7. 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.
8. 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.
9. 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.
10. 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

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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 Baedun-gong Dangil
Hoehwa-myeon, Goseong-gun
Gyeongsangnam-do
Republic of Korea



Jessica Evans
Senior Specialist
Statutory Fire & Safety
Marine Technology and Engineering Services
Global Technology Centre
Lloyd's Register EMEA

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).