



CERTIFICATE OF FIRE APPROVAL

This is to certify that

The product(s) detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations for use on offshore installations classed with Lloyd's Register, and for use on offshore installations when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

Manufacturer Bestobell Oilfield Products

Address Ashby Road
Shepshed
Loughborough
Leicestershire, LE12 9EQ
United Kingdom (UK)

Type H-0 PIPE PENETRATION (HYDROCARBON FIRE TEST)

Equipment Description Single Pipe Bulkhead Penetration Seal - Type: "Bestobell Single Fireflex Pipe Penetration Seal" Fitted on the Fire Exposed Side

Specified Standard UK Department of Energy hydrocarbon time/temperature relationship and the IMO Resolution A.517 (13) performance criteria.

The attached Design Appraisal Document forms 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.

Date of issue 22 September 2009 Expiry date 21 September 2014

Certificate No. SAS F090349

Signed




Sheet No 1 of 2

Name

S. Abraham
Surveyor to Lloyd's Register EMEA
A Member of the Lloyd's Register Group

Note:

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 of any modification or changes to the equipment in order to obtain a valid Certificate.

"Lloyd's Register, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register Group'. The Lloyd's Register Group assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register Group entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract."

DESIGN APPRAISAL DOCUMENT

Date 18 November 2009	Quote this reference on all future communications LDSS/TA/SFS/MF
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ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS F090349

This Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

The Loss Prevention Council (LPC), Borehamwood, United Kingdom, Test Report No. TE82888, dated 14 December 1992.

CONDITIONS OF CERTIFICATION

1. When used in conjunction with an 'H-0' Class Steel Bulkhead. (With no temperature criteria)
2. For use on single steel pipes from 60mm OD up to 1067mm OD, when the seal is fitted on the fire exposed side of the bulkhead.
3. Pipe penetration consists of: steel sleeve (185mm deep x 5mm thick) welded mid-length into bulkhead and the annular cavity between pipe and sleeve filled with Durablanket ceramic fibre (density 128 kg/m³). Seal comprises layers of woven ceramic cloth reinforced with stainless steel wire, ceramic felt, nickel foil, aluminium foil and glass cloth. The overlap joints of the seal to be bonded with a non-flammable neoprene based adhesive and the seal secured to sleeve and pipe using worm drive clips set 25mm from ends of seal.
4. Maximum steel sleeve size: 1220mm Outer Diameter x 185 mm deep x 5mm thick for a 1067mm OD steel pipe and a seal length of 325mm.
5. Minimum steel sleeve size: 114mm Outer Diameter x 185 mm deep x 5mm thick for a 60mm OD steel pipe and a seal length of 175mm.
6. 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.

PLACE OF PRODUCTION

Bestobell Oilfield Products
Ashby Road
Shepshed
Loughborough,
Leicestershire, LE12 9EQ

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).

Martin Harrier
Lead Specialist
Statutory Fire & Safety
London Design Support Services
Lloyd's Register EMEA

