



Confirmation of Product Type Approval 09/JUN/2009

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product.

This is to certify that, pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 26/MAY/2014. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 26/JAN/2014 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

MARTEK MARINE LTD Model Name(s): BULKSAFE

Presented to:

MARTEK MARINE LTD
6A ADWICK PARK
MANVERS ROTHERHAM
SOUTH YORKSHIRE S63 5AB
United Kingdom

Intended Service:	Water ingress detection system used on board of ACC and ACCU bulk carriers and offshore installations
Description:	The water ingress detection system comprises a centralised BULKSAFE control and alarm panel housing various electrical components and MTL 7789 intrinsically safe barriers connect to maximum 24 off MMS900 level detectors via either a MMS950 'top-hat' deck termination assembly or a suitable junction box. The panel provides unique audible pre-alarm at 0.5 M and main alarm at 2 M conditions as well as system alarms and channel override facilities. The detector contains remote cleansing ports
Ratings:	Power supply input: 115/230 V AC and 24 V DC Output signals: N/O or N/C functions Detector operating temperatures: 20 Degree C to 80 Degree C at 100% RH Detector enclosure protection: IP68 (pressurised immersion for 20 days in 25 M depth) Safe barrier category: [EEEx ia] II C T4, certificate No. Ex 01E2219 with variants and certificate of conformity for the MTL 700 series Ex 832469/4
Service Restrictions:	Unit Certification is not required for this product. If the manufacturer or purchaser's request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined. Recommended cable transits are FIRESTOP 3-6548 Silicone RTV foam, in compliance with IMO-A517 (XIII and AIII) and BS476 Part 22/187 standards with 3 & 4 hour rating tests, or any other marine type approved fire sealant
Comments:	Tests and approval are for hardware only. Each vessel configuration and external connection is to be specifically approved. When loading with a cement cargo the

test ports on the deck termination can be connected to the deck air supply. This results in a constant flow of high-pressure air being driven down the heavy-duty nylon tubing, through the sensor chamber and out of the sensor opening. Thereby ensuring no cement deposits can settle around the sensor opening during loading operations

Notes / Documentation:

The control and alarm panel has been environmentally tested in accordance with TUV report No. BO611167/4 dated August 2003. According to the test specification for the level detector, the material used is a mixture of 50% North Sea water and 50% samples of fine cargo material continuously stirred in a test chamber to form a slurry solution. The samples are coal dust; iron ore dust; wheat and sand. Installation and operation manual.

Term of Validity:

This Design Assessment Certificate number 03-LD402814/2-PDA, dated 27/Jan/2009 will expire on 26/Jan/2014 or at an earlier date should there be alterations to the product's design or changes to the referenced ABS Rules and other specifications, which affect the product. Product use on or after 1 January 2010, will be subject to compliance with the ABS Rules or specifications in effect when the vessel, MODU or facility is contracted. The product's acceptability on board ABS-classed vessels or facilities is defined in the service restrictions of this certificate.

ABS Rules:

This Product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product as follows: 2009 Steel Vessel Rules 1-1-4/7.7 and 4-9-7/7 and Table 9 and 10

**National Standards:
International Standards:**

IMO SOLAS XII/12, MSC 145(77), IACS UR SC180, IEC 60092-504 and IEC 60529

Government Authority:**EUMED:****Others:**


ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.