



Confirmation of Product Type Approval 03/JUL/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 02/MAR/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 05/JUN/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.

ACM BEARINGS LIMITED Model Name(s): L2 Marine

Presented to:

ACM BEARINGS LIMITED
UNIT 2, DERWENT WAY
WATH WEST INDUSTRIAL ESTATE
ROTHERHAM
United Kingdom

Intended Service:	Rudder Bearing Material - Dry and Wet Applications
Description:	Synthetic reinforced resin bonded composite
Ratings:	Up to 10 MPa nominal bearing pressure
Service Restrictions:	Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
Comments:	1) Type approval of this equipment is based on compliance, in all respects, with the ABS Rules in association with the intended service and is limited to the rating as indicated above; 2) The bearings are to be effectively secured against rotation; 3) For new installations, the minimum installed clearance is to be $di/1000 + 1.0$ mm ($di/1000 + 0.04$ in) on the diameter, where di is the inner diameter of the bushing, in mm (in). This clearance is in no case to be taken less than 1.5 mm (0.06 in) on diameter. Diameter is also to be in accordance with ACM L2 marine Engineering Manual
Notes / Documentation:	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.
Term of Validity:	This Design Assessment Certificate number 04-LD436272/2-PDA, dated 06/Jun/2009 will expire on 05/Jun/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:

2009 Steel Vessel Rules 1-1-4/7.7 and 3-2-14/15.1

National Standards:**International Standards:****Government Authority:****EUMED:****Others:**

Manufacturers Standards: L2 Marine Engineering Manual ACM Procedure ABS001 Issue 4



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.