DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. S-5786
This Certificate consists of 2 pages

This is to certify that the

Sacrificial Anode for Corrosion Protection

with type designation(s)

A-Guard

Manufactured by

MCPS Limited.
TYNE & WEAR, United Kingdom

is found to comply with
DNV's Recommended Practice B401.
Det Norske Veritas' Type Approval Programme 1-601.2, 2000, Sacrificial Anode Materials

Application
The mean current capacity of the sacrificial anode material after 12 months free running testing is 2357 Ah/kg. The mean closed circuit potential is - 1079 mV vs. Ag/AgCl seawater. The approval is given for use in sea water at temperatures below 30°C.

Place and date
Høvik, 2009-06-17
for DET NORSKE VERITAS AS

Helge Drange
Head of Section

Local Office
DNV Newcastle-upon-Tyne

This Certificate is valid until
2013-06-30

Jan Weitzenböck
Surveyor

Notice: This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Cert. No.: S-5786
File No.: 491.21

Product description

A-Guard; Aluminium-based sacrificial anode material.

Application/Limitation

Approval is given for the sacrificial anode material; not for anode design.

Type Approval documentation

Emails from DNV Newcastle from April to June 2009, including Application for Type Approval dated 2009-04-15, Test Report from DNV Energy of 2008-03-12, Quality Control procedures, and DNV Type Approval Survey Report of 2009-06-02.

Tests carried out

Type Testing carried out according to **Type Approval documentation**, incl.:

- Type Test Report from DNV Energy Report No. 2008-5106 "*Long Term Electrochemical Testing According to DNV-RP-B401, Appendix C of A-guard Aluminium Alloy (Al/Zn/In)*", Rev. 00, of 2008-03-12.

Marking of product

Product shall be marked with *manufacturer's name*; **MCPS,** *type designation*; **AG** and *Melt Number.*

Certificate Retention/Renewal Survey

The scope of the Retention/Renewal Survey is to verify that the conditions stipulated for the Type Approval is complied with and that no alterations are made to the product design or choice of materials.

Survey to be performed after two (2) years (Certificate Retention Survey) and at renewal after four (4) years (Certificate Renewal Survey).

The main elements of the survey are:

- Ensure that **Type Approval documentation** is available.
- Review design, materials, production process, and performance with respect to possible changes, in order to ensure compliance with **Type Approval documentation** and/or referenced material specifications.
- Ensure traceability between manufacturer's product marking and the DNV Type Approval Certificate.

END OF CERTIFICATE