

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Sacrificial Anode Material for Corrosion Protection**with type designation(s)
ALUNODE V

Issued to

Samgong Co., Ltd.
Busan, Republic of Korea

is found to comply with

DNV GL class programme DNVGL-CP-0107 – Type approval – Sacrificial anode materials
Det Norske Veritas' Recommended Practices, DNV-RP-B401 Cathodic Protection Design**Application :****The mean current capacity of the sacrificial anode material after 12 months free running testing is 2609 Ah/kg. The mean closed circuit potential is -1096 mV vs. Ag/AgCl seawater. The approval is given for use in sea water at temperatures below 30°C.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**Issued at **Høvik** on **2017-09-08**for **DNV GL**This Certificate is valid until **2022-09-07**.DNV GL local station: **Gimhae Station**Approval Engineer: **Gisle Hersvik****Martin Strande**
Head of Section

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.



TYPE APPROVAL CERTIFICATE

This is to certify:

That the Sacrificial Anode Material for Corrosion Protection

with type designation(s)
ZANODE

Issued to

Samgong Co., Ltd.
Busan, Republic of Korea

is found to comply with

Det Norske Veritas' Type Approval Programme 1-601.2, 2009, Sacrificial Anode Materials
Det Norske Veritas' Recommended Practices, DNV-RP-B401 Cathodic Protection Design

Application :

The mean current capacity of the sacrificial anode material after 12 months free running testing is 813 Ah/kg. The mean closed circuit potential is -1037 mV vs. Ag/AgCl/Seawater. The approval is given for use in sea water at temperatures below 50°C.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until **2019-10-15**.

Issued at **Høvik** on **2015-10-16**

DNV GL local station: **Pusan**

Approval Engineer: **Gisle Hersvik**

for **DNV GL**

Martin Strande
Head of Section

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TYPE APPROVAL CERTIFICATE

This is to certify:**That the Sacrificial Anode Material for Corrosion Protection**

with type designation(s)

LALUNODE

Issued to

Samgong Co., Ltd.**Busan, Korea**

is found to comply with

DNV GL class programme DNVGL-CP-0107 – Type approval – Sacrificial anode materials**DNV GL recommended practice DNVGL-RP-B401 – Cathodic protection design, June 2017****Application :**

The mean current capacity of the sacrificial anode material after 12 months free running testing is 2591 Ah/kg. The mean closed circuit potential is -1117 mV vs. Ag/AgCl seawater. The approval is given for use in sea water at temperatures below 5°C.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at **Høvik** on **2017-12-14**for **DNV GL**This Certificate is valid until **2022-09-07**.DNV GL local station: **Gimhae Station**Approval Engineer: **Gisle Hersvik****Martin Strande**
Head of Section

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TYPE APPROVAL CERTIFICATE

This is to certify:

That the **Sacrificial Anode Material for Corrosion Protection**with type designation(s)
HIZANODE

Issued to

Samgong Co., Ltd.
Busan, Korea

is found to comply with

DNV GL class programme DNVGL-CP-0107 – Type approval – Sacrificial anode materials
DNV GL recommended practice DNVGL-RP-B401 – Cathodic protection design, June 2017

Application :

The mean current capacity of the sacrificial anode material after 12 months free running testing is 776 Ah/kg. The mean closed circuit potential is -1002 mV vs. Ag/AgCl/Seawater. The approval is given for use in sea water at temperatures up to maximum 60°C.**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**Issued at **Høvik** on **2017-12-14**for **DNV GL**This Certificate is valid until **2022-09-07**.DNV GL local station: **Gimhae Station**Approval Engineer: **Gisle Hersvik****Martin Strande**
Head of Section

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