DNV·GL

Certificate No:
TAE000030X

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Battery (Accumulator)

with type designation(s)
Power Safe SOL 140G to Power Safe SOL 1680G, GAZ SOL 140G to GAZ SOL 1680G

Issued to
GAZ Geräte- und Akkumulatorenwerk Zwickau GmbH
Zwickau, Sachsen, Germany

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

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

Issued at **Hamburg** on **2018-07-25**
This Certificate is valid until **2022-06-10**.
DNV GL local station: **Hamburg**

for **DNV GL**

Approval Engineer: **Maik Gagern**

Arne Schaarmann
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.

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Job Id: **262.1-027703-1**
Certificate No: **TAE000030X**

Product description

Ni Cd Batteries

Types:	Power Safe SOL 140G to Power Safe SOL 1680G GAZ SOL 140G to GAZ SOL 1680G
Capacity range	132 Ah to 1590 Ah C5 rating acc. IEC 62259/ IEC 60623 140 Ah to 1680 Ah C120
Nominal voltage	1.2V
Temperature range	-20°C up to +50°C

Application/Limitation

Suitable for various application, e.g. maritime, off-shore, PV, alternative energy Stations

Environmental Category

Temperature Class:	A
Humidity Class:	A
Vibration Class:	A
EMC Class:	N/A

Type Approval documentation

Tests carried out

Guidelines for the Performance of Type Approvals, Chapter 2- Test Requirements for Electrical / Electronic Equipment and Systems (VI-7-2), Edition 2012
IEC 61427-1:2013 / DIN EN 61427-1:2014

Marking of product

The products to be marked with:
- Model name
- Manufacturer name
- Serial number

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.
The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE