DNV·GL

Certificate No:
TAE00001VS

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Battery (Accumulator)

with type designation(s)
Lead-acid accumulators for high service life, with positive 3D-structure electrode, series grid | power V M (OSP.HC) (105 Ah to 1785 Ah) and grid | power V H (OSP.XC) (120 Ah to 1955 Ah)

Issued to
Hoppecke Batterien GmbH & Co.KG
Brilon, 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 **2017-07-21**
This Certificate is valid until **2022-07-20**.
DNV GL local station: **Essen**

Approval Engineer: **Maik Gagern**

for **DNV GL**

Duy Nam Le
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: **262.1-023709-1**
Certificate No: **TAE00001VS**

Product description

Lead-acid accumulators for high service life
grid | power V M: 105 … 1785
grid | power V H: 120 … 1955

Application/Limitation

The accumulators are suitable for the operation in power stations, railways, switchgears, UPS systems, starting applications and similar systems on board of ships.
The accumulators are able to deliver high currents.
The accumulators can be equipped with AquaGen® recombination plugs (with integrated flame arresters).
For charging conditions the manufacturer's instruction shall be considered.

Type Approval documentation

Tests carried out

Germanischer Lloyd Guidelines for the Performance of Type Approvals, Part 2, Edition 2003

Marking of product

Manufacturer, type of accumulator

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