

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Battery (Accumulator)

with type designation(s)
SPL

Issued to

SAFT AB
OSKARSHAMN, Sweden

is found to comply with
IEC 60092-305 (1980)
IEC 60623 (2001-09)
DNV GL rules for classification – Ships and offshore units

Application :

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

This Certificate is valid until **2020-12-31**.

Issued at **Høvik** on **2016-02-15**

DNV GL local station: **Stockholm**

Approval Engineer: **Nicolay Horn**

for **DNV GL**

Marit Laumann
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.

Product description

Dimension in accordance with section 3 in IEC 60623.

Voltage per unit and charge capacities according to manufacturer's data.

Type SLL	Capacity (Ah)	Drwg. No.
SPL 80	80	31-04762
SPL 100	100	31-05240
SPL 130	130	31-04763
SPL 165	165	31-04764
SPL 200	200	31-04765
SPL 250	250	31-04701
SPL 290	290	31-04766
SPL 340	340	31-04702
SPL 380	380	31-04767
SPL 420	420	31-04768

Application/Limitation

Industrial Nickel-Cadmium batteries for mobile and stationary application and for use in ship and Offshore Units.

Installation and maintenance to be done in accordance with the Installation and Operating Instructions and/or the Technical Manual.

Type approval documentation

Test carried out

Type tests in accordance with IEC 60623 (Fourth edition 2001- 09)

item 4.2 - Discharge performance

- sub-clauses
- 4.2.1 - Discharge performance at 20°C
- 4.2.3 - Discharge performance at - 18°C
- 4.2.4 - High rate current test

item 4.3 - Charge retention

item 4.4 - Endurance

- sub-clauses
- 4.4.1 - Endurance in cycles
- 4.4.2 - Permanent charge endurance

item 4.5 - Charge acceptance at constant voltage

item 4.8 - Electrolyte retention

- sub-clauses
- 4.8.1 - Test procedure
- 4.8.2 - Acceptance criteria

item 4.9 - Storage

Vibration test

Job Id: **262.1-004312-5**
Certificate No: **TAE00000YX**

Marking of product

The product to be marked in accordance with section 2 in IEC 60623: Manufacturers name, IEC 60623, type and manufacturing date.

Periodical assessment

The scope of the periodical assessment 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.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and 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.

Assessment to be performed at least every second year.

END OF CERTIFICATE