DNV·GL

Certificate No:
TAE00002AS

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electric Bus Bar

with type designation(s)
SC-R with ALUMINIUM Conductors or COPPER Conductors

Issued to
BKS Stromschienen AG
Balsthal, Switzerland

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

Application :

Bus bar trunking system for installation outside of switchboards/enclosures onboard ships and offshore units.

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

Issued at **Hamburg** on **2017-10-09**
This Certificate is valid until **2022-10-08**.
DNV GL local station: **Augsburg**

Approval Engineer: **Carsten Hunsalz**

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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Product description

Busbar Trunking System Type SC-R with aluminium conductor and cast resin insulation

Rated insulation voltage (V AC)	1000
Rated current (A)	400, 630, 800, 1000, 1250, 1400, 1600, 2000, 2500, 3200, 4000, 5000
Frequency (Hz)	50/60
Rated short time withstand current (kA 1/sec.)	12, 12, 27, 27, 53, 53, 65, 65, 80, 100, 100, 100
Rated peak withstand current (dyn. kA)	24, 24, 56, 56, 117, 117, 143, 143, 176, 220, 220, 220
Rated impulse withstand voltage (kV)	12
Derating factor at 45°C ambient temperature	0,901
IP- Degree	68
Conductor design	Aluminium 3 phase or 3 phase+PEN or 3 phase+N+PE
Enclosure material	Cast resin

Busbar Trunking System Type SC-R with copper conductor and cast resin insulation

Rated insulation voltage (V AC)	1000
Rated current (A)	630, 800, 1000, 1350, 1600,1700, 2000, 2500, 3200, 4000, 5000, 6300
Frequency (Hz)	50/60
Rated short time withstand current (kA 1/sec.)	23, 23, 38, 38, 65, 65, 80, 80, 100, 100, 125, 125
Rated peak withstand current (dyn. kA)	48, 48, 80, 80, 140, 140, 176, 176, 220, 220, 275, 275
Rated impulse withstand voltage (kV)	12
Derating factor at 45°C ambient temperature	0,901
IP- Degree	68
Conductor design	copper 3 phase or 3 phase+PEN or 3 phase+N+PE
Enclosure material	Cast resin

System elements: Straight length, Elbow, Knee, Expansion Element, Transformer Connection, Switchgear Connection.

A60 fire resistant Bulkhead / Deck penetration modules for 400 A up to 6300 A in combination with Roxtec type SRC frame special and H seal.

Application/Limitation

Current ratings given are for nominal temperature of 35 °C. When used for ship and offshore nominal current ratings to be modified for ambient conditions temperature of 45 °C.

Installation and use shall be in accordance with DNV GL Rules and BKS installation procedures.

The Bulkhead / Deck penetration modules have the category class A-60. The installation shall be carried out acc. drawings included in test reports DMT-DO-53-063 and DMT-DO-53-067.
Approved for water tightness up to a design pressure of 2 bar, test pressure 3.0 bar.
Approved for air tightness up to a design pressure of 0.53 bar, test pressure 0.8bar.

Type Approval documentation

Test Reports: LOVAG Cert. IT 16.049, IT 16.050, IT 16.051, IT 16.052, IT 16.053, IT 16.054,

IT 16.055, IT 16.056, IT 16.057, IT 16.058, IT 16.059, IT 16.060,
IT 16.062, IT 16.063, IT 16.064, IT 16.065, IT 16.066, IT 16.067,
IT 16.068, IT 16.069, IT 16.070, IT 16.071, IT 16.072, IT 16.073;
DMT No. DMT-DO-53-063 dated 2017.04.28,
DMT No. DMT-DO-53-067 dated 2017.05.10;
Roxtec dated 2017.06.21;
VIRLAB, S.A. No. 170608E1 2017.06.13;

Specification: BKS BUSBAR SYSTEMS resin IP-68

Tests carried out

Type tests according to IEC 61439-1:2011 and IEC 61439-6:2012, vibration acc. DNVGL-CG-0339:2016, flame retardant acc. IEC 60332-3-22:2009, A60 acc. IMO Res. MSC.307(88)-(2010 FTP Code)

Marking of product

SC-R - Type designation, nominal voltage and current

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