DNV·GL

Certificate No:
TAE000045F
File No:
811.00
Job Id:
262.1-033376-1

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Low Voltage Switchgear and Control Gear Assemblies

with type designation(s)
Finelcomp

Issued to
Finelcomp Oy
Outokumpu, Finland

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

Application :

Product approved by this certificate is accepted for installation on all vessels classed by DNV GL.

Rated voltage (V)	**690 AC**
Rated current (A)	**Up to 4500**
Rated frequency (Hz)	**50 / 60**
Degree of protection	**IP20-55**

This Certificate is valid until **2025-12-07**.

Issued at **Høvik** on **2020-12-08**

DNV GL local station: **Helsinki FIS**

for **DNV GL**

Approval Engineer: **Nicolay Horn**

Marta Alonso Pontes
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

Rated insulation voltage (Ui):	1000 V
Rated impulse voltage (Uimp):	12 kV
Rated operating voltage (Ue):	690 V
Rated current main busbar (In):	4500 A
Rated current vertical withdrawable MCC busbar (In):	1000 A
Rated frequency:	50-60 Hz
Short circuit current main busbar	
Rated short time withstand current (Icw):	100 kA/ 1 sec.
Rated peak with stand (Ipk):	220 kA
Short circuit current vertical withdrawable MCC busbar	
Rated short time withstand current (Icw):	60 kA/ 1 sec.
Rated peak with stand (Ipk):	132 kA
Rated ingress protection:	IP 20 to IP55*
Dimensions:	W:200, 300, 450, 600, 750, 900 & 1050 mm
	H:1600, 1820, 1960 & 2100 mm
	D:500, 650, 800 & 1000 mm

*Se application /limitation.

Application/Limitation

The type approval covers system design principle in accordance with IEC 61439-1 and 2.

Equipments such as circuit breakers etc. are not covered by this type approval.

A DNV GL product certificate for the specific switchboard is required in each case.

The ingress protection to be selected in accordance with the location as stated in the Rules.

Documents and drawings for the actual application as stated in the Rules Pt.4, Ch.8, Sec. 1, Table 2 except E150, shall be submitted for approval in each case by the end manufacturer.

Vertical bus bars may be rated on the basis of the reduced short-circuit stress occurring on the load side of the respective shortcircuitproductive device as stated in IEC 61439-1 item 8.6.1, but not less than 60 % of the rating for the main bus bar and only for single outgoing consumers protected by a fuse or short-circuit limiting breaker without time delay.

Type Approval documentation

Tests carried out

Type tests in accordance with IEC 61439-1 and 2. Internal arc test, Vibration test.

Marking of product

Makers name plate with type and key data in accordance with the DNV GL Rules Pt.4, Ch.8, Sec.4 [1.1.7]

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