



Marine & Offshore

Certificate number: 20018/D0 BV

File number: ACE 01/086/06

Product code: 2501H

This certificate is not valid when presented without the full attached schedule
composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

TWENTSCHE KABELFABRIEK BV
HAAKSBERGEN - NETHERLANDS

for the type of product

CABLES (LOW VOLTAGE)

0.6/1 kV - Power cables

MarineLine, MarineLine+ and MarineFlex
(YZp & YOZp (EMC) Types)

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships
IEC 60092-350 (2020), IEC 60092-353 (2016), IEC 60092-360 (2021)
IEC 60228 (2023)
IEC 60331-21 (1999)
IEC 60332-1 (2015), IEC 60332-3-22 Cat.A (2018)
IEC 60754-1/2 (2019)
IEC 61034-1/2 (2019)

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 11 Jun 2029

For Bureau Veritas Marine & Offshore,
At BV GRONINGEN, on 11 Jun 2024

This certificate was created electronically and is valid without signature

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

MarineLine, **MarineLine+** and **MarineFlex** are flame retardant, low smoke and halogen free Marine and Offshore Power cables.

1.1 - Specifications:

Rated voltage:	0.6/1 kV according to IEC 60092-353
Temperature class:	90°C
Flame retardant:	IEC 60332-1-2 and IEC 60332-3-22 Cat. A
Halogen Free:	IEC 60754-1/2
Low Smoke:	IEC 61034-1/2

1.2 - Construction:

Conductor:	Plain or tinned annealed copper - Class 2 (MarineLine) or Class 5 (MarineFlex or MarineLine)
Insulation:	XLPE
Filler:	SHF1 (MarineLine+ & MarineFlex) or None - Foil (MarineLine)
Braid:	Tinned copper wires braid (YOZp Type) or None (YZp Type) Cu/PET-tape and tinned copper braiding (EMC type)
Outer Sheath:	SHF1

1.3 - Product Range:

Type	Number of Core	Cross-Sect. (mm ²)
MarineLine YZp	1 to 5	4 to 300
MarineLine YOZp	1 to 37	1, 1.5 and 2.5
MarineLine YOZp EMC		
MarineLine+ YZp	1 to 5	4 to 300
MarineLine+ YOZp		
MarineLine+ YOZp EMC		
MarineFlex YZp	1 to 5	4 to 300
MarineFlex YOZp	1 to 37	1, 1.5 and 2.5
MarineFlex YOZp EMC		
MarineFlex YOZp EMC	2+3F	10 to 300 + 4 to 50

4. APPLICATION / LIMITATION:

4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships.

4.2 - Approval valid for units having to comply with IMO Resolution A.1023(26) (The "MODU Code").

*** END OF CERTIFICATE ***