



TYPE APPROVAL CERTIFICATE
No. ELE109716XG

This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

<i>Description</i>	ELECTRIC CABLES
<i>Type</i>	MMGS & MMGC Series 6/10 kV (12kV); 8.7/15kV (17.5kV)
<i>Applicant</i>	NEXANS DEUTSCHLAND GMBH BONNENBROICHER STR. 2/14 41238 MONCHENGLADBACH GERMANY
<i>Manufacturer</i>	NEXANS DEUTSCHLAND GMBH
<i>Place of manufacture</i>	BONNENBROICHER STR. 2/14 41238 MONCHENGLADBACH GERMANY
<i>Reference standards</i>	IEC 60092-350; IEC 60092-354; RINA Rules for the Classification of Ships; RINA Rules for Testing and Certification of Marine Materials and Equipment.

Issued in **HAMBURG** on **June 1, 2016**. This Certificate is valid until **May 31, 2021**



RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure

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MMGS & MMGC Series 6/10 kV (12kV)
8.7/15kV (17.5kV)

Materials/Components

Halogen free medium voltage shipboard power cable with EPR insulation and outer sheath of crosslinked halogen free compound SHF2.

Type:

MMGSHX, MMGCHX, MMGSHXCHX, MMGSEHX, MMGSEHXCHX

Technical Data/ Range of Application :

Rated voltage: 6/10 kV (12 kV), 8.7/15 kV (17.5 kV)

Max. operating conductor temperature: 90°C

Range of application :

Conductor	Plain or tinned copper, class 2 or class 5 in acc. to IEC 60228
Core insulation	Inner semi-conducting layer EPR insulation acc. IEC 60092-360 Outer semi-conducting layer
Screen	Plain or tinned copper wires as a braid or as concentric wires
Inner sheath	Crosslinked halogen free compound (for HXCHX-types)
Armouring	Plain or tinned copper braid (for ...HXCHX-types)
Outer Sheath	Crosslinked halogenfree compound SHF2 acc. to IEC 60092-360
Number of cores	1 and 3
Cross sections	25 mm ² to 300 mm ²

Test standards:

IEC 60092-350:2014, IEC 60092-360:2014, IEC 60092-352:2005, IEC 60092-354:2014, IEC 60228:2004, IEC 60332-1:2004, IEC 60332-3-22:2009, IEC 60754-1/-2:2011, IEC 61034-2:2005, IEC 60684-2:2011

Test reports:

TMP-SRV-2015-77-05, -06, -07, -08 dated 03.11.2015

TMP-SRV-2015-77-09 dated 11.05.2016

Emission reports 1071, 1072 dated 10.09.2015

Fire test report No. 15091602-1, dated 06.10.2015; No. 15091603-1, dated 06.10.2015 ;

No. 15091604-1, dated 06.10.2015 ; No. 15091605-1, dated 06.10.2015; No. 15091605-2, dated 06.10.2015

Specifications :

MG-S-020, dated 03.11.2015; MG-S-023, dated 03.11.2015; MG-S-030, dated 18.09.2015

MG-S-021, dated 04.11.2014; MG-S-022, dated 16.11.2014; MG-S-031, dated 05.02.2016

Additional Documents :

Accreditation of testlab: Akk_Urkunde_2014_dt_eng.pdf

This certificate annuls and replaces the previous one N° ELE180615XG.



HAMBURG June 1, 2016

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