



Lloyd's
Register

LR Type Approval Certificate Extension

This is to certify that Certificate No 11/30001(E3) for the undernoted products is amended, extended and renumbered as shown.

This certificate is issued to:

PRODUCER	Twentsche Kabelfabriek B.V. Spinnerstraat 15 7480 AA HAAKSBERGEN The Netherlands
PLACE OF PRODUCTION	Spinnerstraat 15 7480 AA HAAKSBERGEN The Netherlands
DESCRIPTION	- CU conductor, (HF90) XLHF FR insulated, copper braiding or metal laminated polyester tape and SHF 1 sheathed
TYPES	- CS90 mbzh MarineCom HALOGENFREE, type YOZc X-FR 150/250V - CS90 mbzh Marine2Com HALOGENFREE, type YOZ2c X-FR 150/250V - CS90 mbzh MarineCom HALOGENFREE, type YZafc X-FR 150/250V - CS90 mbzh Marine2Com HALOGENFREE, type YZ2afc X-FR 150/250V
APPLICATION	Fixed instrumentation and communication wiring for Marine and Offshore installation
Certificate No.	11/30001(E4)
Issue Date	05 February 2016
Expiry Date	26 January 2021
Sheet	1 of 3

Lloyd's Register EMEA
P.O. Box 701, 3000 AS Rotterdam

H.L. Reekers
Rotterdam Type Approval
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RATINGS	<u>Voltage rating</u>	: 150/250V/300V
	<u>Maximum rated conductor temp.</u>	: 90 °C
	<u>No. of pairs:</u> 1 to 37	<u>Cross Section Area (mm²)</u> 0.5, 0.75, 1.0, 1.5, 2.5
ADDITIONAL RATINGS	<u>No. of triples:</u> 1 to 24	<u>Cross Section Area (mm²)</u> 0.5, 0.75, 1.0, 1.5, 2.5
	<u>No. of quads:</u> 1	<u>Cross Section Area (mm²)</u> 0.5, 0.75, 1.0, 1.5, 2.5
SPECIFIED STANDARDS	<u>Construction</u>	: according IEC 60092-350, 60092-376
	<u>Conductor</u>	: stranded copper to IEC 60228, class 2 round
	<u>Insulation</u>	: XLHF FR (HF90) to IEC 60092-360 Fire resistant insulated
	<u>Inner covering</u>	: Foil
	<u>Individual screen</u>	: Pair/triple/quad metal laminated foil screening for Marine 2com only.
	<u>Braiding</u>	: copper wire braiding or metal laminated polyester foil
	<u>Outer Sheath</u>	: SHF 1 to IEC 60092-360
	<u>Flame Retardant</u>	: to IEC 60332-3-22 Cat. A IEC 60332-1
	<u>Halogen-acid content</u>	: to IEC 60754-1
	<u>Smoke Density</u>	: to IEC 61034
	<u>Fire resistant</u>	: to IEC 60331-1: 2009 and IEC 60331- 2:2009

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"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify LR of any modification or changes to the equipment in order to obtain a valid certificate."

The attached Design Appraisal Document No. ROT.TA/16590305 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

This certificate is no longer valid when Standards or Rules are amended.

All other details remain as the previous certificate no 11/30001 to which this extension should be attached.

Certificate No.	11/30001(E4)
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