



TÜRK LOYDU

TYPE APPROVAL CERTIFICATE

This Certificate consists of 2 pages.

This is to certify that the

SHIPBOARD POWER, GENERAL INSTRUMENTATION, CONTROL AND COMMUNICATION CABLES, SWITCHBOARD CABLES

With type designations

M2XH, M2XH-FFR, M2XCH, M2XCH-FFR, M2XCH-EMC (0.6/1 kV)
FM2XCH, FM2XCCH, FM2XCH-FFR (250 V)
M2X, M2XY-FR, M2XCY-FR (0.6/1 kV)
FM2XCY-FR, FM2XCCY-FR (250 V)

Manufactured by

ÜNTEL KABLOLARI SANAYİ VE TİCARET A.Ş.

Is found to comply with

Türk Loydu Rules Part B Chapter 5 January 2021, Part E Chapter 105 January 2016,
IEC 60092-350/353/360/376, IEC 60228, IEC 60811
IEC 60331-21, IEC 60332-1-2, IEC 60332-3-22 Cat.A, IEC 60754-1/2, IEC 61034-1/2

Application	: General power, lighting, general instrumentation, control and Communication, Switchboard cables for ships
Design	: Voltage class 0.6/1 kV for M type or 250V for F type Temp. class 90°C
Sizes	: from 0.75 mm ² up to 300 mm ² (0.75 mm ² cables only for general instrumentation, control and communication)
Address of Manufacturer	: Demirciler Köyü, Makine OSB, 6. Cadde, No:4, 41455 Dilovası/KOCAELİ TÜRKİYE
Place and date	: İSTANBUL / 23.06.2021

Subject to the conditions referred to in the following pages, this certificate is valid until 22.06.2026.

Emrah SÖĞÜTÇÜ
New Building Division Manager



Product description : SHIPBOARD POWER, GENERAL INSTRUMENTATION,
CONTROL AND COMMUNICATION CABLES, SWITCHBOARD CABLES

Type Designation :

M2XH	0.6/1 kV.	(con. + ins. + cov. + she.)
M2XH-FFR	0.6/1 kV.	(con + frm + ins + cov. + she.)
M2XCH	0.6/1 kV.	(con + ins + cov. + arm + she.)
M2XCH-FFR	0.6/1 kV.	(con + frm + ins + cov. + arm + she.)
M2XCH-EMC	0.6/1 kV.	(con + ins + cov. + arm /cutape + she.)
FM2XCH	250 V.	(con + ins + cov. + arm + she.)
FM2XCCH	250 V.	(con + ins + ind.scr + cov. + arm + she.)
FM2XCH-FFR	250 V.	(con + frm + ins + cov. + arm + she.)
M2X	0.6/1 kV.	(con. + ins/she)
M2XY-FR	0.6/1 kV.	(con. + ins. + cov. + she.)
M2XCY-FR	0.6/1 kV.	(con + ins + cov. + arm + she.)
FM2XCY-FR	250 V.	(con + ins + cov. + arm + she.)
FM2XCCY-FR	250 V.	(con + ins + ind.scr + cov. + arm + she.)

Materials used :

Conductors (con.) : Stranded copper wire class 2 or class 5 acc. to IEC 60228

Fire resistant material (frm): fire resistive tape around conductor

Insulation (ins.) : XLPE acc. to IEC 60092-360

Individual Screen: Copper braid

Armouring (arm.) : Copper braid

Inner Covering (cov.) : Filler or tape

Outer Sheath (she.) : ST2 for Y type, SHF1 for H type acc. to IEC 60092-360

Application/ Limitation (Approval conditions): For each new building and in service ships under major modifications, factory acceptance tests (routine tests) for cables shall be carried out before mounted to the ship with the witness of TL surveyor. Cables with a conductor cross section of 0.75 mm² may only used for general instrumentation, control and communication with a maximum current consumption of up to 6 Amper. MX type of cable is only usable in switchboards and non-fused conductors leading from the main busbar to fuses and circuit breakers shall be as short as possible, but not longer than 1 m. These wires shall not be run and mounted together with other wires. If not possible, these wires shall be double insulated.

Documentation : Product data sheets and test reports.

Test carried out (and results) : Type tests according to IEC 60092-350, IEC 60092-353 and IEC 60092-376, IEC 60092-360

Place of test carried out : ÜNTEL Cable Factory – Dilovası Kocaeli

Marking of product: The product to be marked same as below mentioned.

ÜNTEL [type] [size] [volt. class] [related standards] [temp. class]



Yağız YILDIRIM *for.*
Surveyor

This certificate is subject to terms and conditions described below:

- Any significant change in design or construction may render this Certificate invalid. Type Approval Certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. This certificate is not valid for products without marking above mentioned. The manufacturer should notify TÜRK LOYDU of any modifications or changes to the equipment in order to obtain valid certificate. This certificate shows that tested specimens as representative of the product complies of the TÜRK LOYDU rules, and relevant international instruments that apply to it.