



# TÜRK LOYDU

## TYPE APPROVAL CERTIFICATE

This Certificate consists of 2 pages.

This is to certify that the

### MEDIUM AND HIGH VOLTAGE CABLES

With type designations

MVCECH

Manufactured by

ÜNTEL KABLOLARI SANAYİ VE TİC. A.Ş.

Is found to comply with

TÜRK LOYDU Rules for Classification of Steel Ships – Electrical Installation (July 2016) TÜRK LOYDU Rules for the Classification of Naval Ships – Electrical Installation (Jan 2016) IEC 60092/350-354, IEC 60228, IEC 60332/1-2 , IEC 60332-3-22 Cat A , IEC 60754-1/2, IEC 61034-1/2, IEC 60811-3-1, IEC 60684-2, IEC 60811-509, IEC 60811-507, IEC 60811-508

**Application** : Medium and High Voltage Cables for Marine applications

**Design** : 3.6/6kV, 6/10kV, 8.7/15kV, 12/20kV, Temp. class 90°C

**Sizes** : from 10 mm<sup>2</sup> to 400 mm<sup>2</sup> for 1 to 3 core cables  
from 16 mm<sup>2</sup> to 400 mm<sup>2</sup> for 1 to 3 core cables  
from 25 mm<sup>2</sup> to 400 mm<sup>2</sup> for 1 to 3 core cables  
from 35 mm<sup>2</sup> to 400 mm<sup>2</sup> for 1 to 3 core cables



**Address of Manufacturer** : Demirciler Köyü, Makine OSB, 6. Cadde, No:4, 41455 Dilovası/Kocaeli- TÜRKİYE

**Place and date** : İSTANBUL, 12.01.2018

Subject to the conditions referred to in the following pages, this certificate is valid from 29.06.2017 until 22.08.2022.

This certificate supersedes TO.DEB.17-0963 numbered and 23.08.2017 date certificate

**Emrah SÖĞÜTÇÜ**  
New Building Division Manager



**O.Yalçın YALMAN**  
Surveyor

**Product description:** Medium and High Voltage cables for Marine applications

**Type Designation :**

MVCECH (conductor +screen+ insulation+screen+Seperator+bedding+Screen+outer sheath)

**Materials used :**

**Material for conductors:** Stranded+annealed copper wire Class 2 (Tinned Copper or Class 5 on request)

**Screen :** Semiconductive Layer

**Insulation:** HEPR

**Screen :** Semiconductive Layer

**Seperator :** Copper tape

**Bedding :** Bedding/Inner sheath: Halogen free compound, Filler: Flame retardant

**Screen :** Copper braided screen

**Outer sheath:** SHF1

**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.

**Documentation :** Product data sheets and test reports

**Test carried out (and results) :** IEC 60092/350-354, IEC 60228, IEC 60332/1-2 , IEC 60332-3-22 Cat A , IEC 60754-1/2, IEC 61034-1/2,IEC 60811-3-1,IEC 60684-2, IEC 60811-509, IEC 60811-507, IEC 60811-508

**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]

  
**O. Yalçın YALMAN**  
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.