



TÜRK LOYDU

TYPE APPROVAL CERTIFICATE

This Certificate consists of 2 pages.

This is to certify that the

SHIPBOARD CABLES
for CONTROL AND INSTRUMENTATION CIRCUITS

With type designations

U-HFFRAT m, U-HFFRAT m (I+C), U-HFFRAT m (I), U-HFFRAT m (C)

Manufactured by

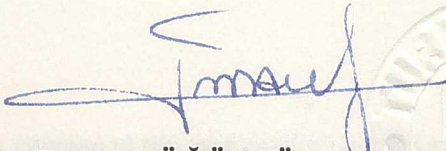
ÜNİKA ÜNİVERSAL KABLO SANAYİ VE TİCARET A.Ş

Is found to comply with


Türk Loydu Rules for the Classification of Steel Ships,
IEC 60092-376, IEC 60331, IEC 60332-3 Cat A/F, IEC 60754, IEC 61034

- Application** : Halogen-free, flame retardant and fire resistive shipboard cables for Control and instrumentation circuits
- Design** : Voltage class: 150/250V (300V), Temp. class: 90°C
- Sizes** : 0.5mm² to 2.5 mm² according to manufacturer production specification
- Address of Manufacturer** : Veliköy Sanayi Bölgesi Çerkezköy – Tekirdağ / Türkiye
- Place and date** : İSTANBUL / 05.04.2018

Subject to the conditions referred to in the following pages, this certificate is valid until 17.06.2023


Emrah SÖĞÜTÇÜ
New Building Division Manager




Yağız YILDIRIM
Surveyor



Product description: SHIPBOARD CONTROL AND INSTRUMENTATION CIRCUITS

Type Designation : U-HFFRAT m (con. + fr.c + ins. + fil. + cov. + she.)
U-HFFRAT m (I+C) or (I) or (C) (con. + fr.c. + ins. + fil. + cov. + dr.w +
scr.+cov.+arm.she.)

I: individual covering with metal coated polyester tape (scr),
C: common covering with metal coated polyester tape (scr).

Materials used :

Conductors (con.) : Stranded or bunched plain or tin-coated annealed copper wire
(class 2 or class 5 according to IEC 60228)

FR Cover (fr.c.) : Hellically applied fire resistant mica tape

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

Filler (fil.): Halogen-free flame retardant thermoplastic extruded compound (optional)

Covering(cov.): Polyester tape

Drain Wire (dr.w.):Plain or tinned copper wire

Screen (scr.): Metal coated polyester tape

Armouring (arm.) :Plain or tinned copper braid

Sheath (she.) : Polyolefin based thermoplastic halogen-free flame retardant compound
(SHF1 according to IEC 60092-360)

Application/ Limitation (Approval conditions): -

Documentation :

Product test reports of ÜNİKA

Test carried out (and results) :

Type tests according to IEC 60092-376/350/360, IEC 60228, IEC 60332-3 Cat A/F, IEC 60754,
IEC 61034

Place of test carried out :

ÜNİKA Cable Factory – ÇERKEZKÖY

Marking of product:

ÜNİKA [type] [size] [volt] [related standards]



Yağız YILDIRIM

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.