



## Airport lighting cable

## CEDD® Airfield Eca 1.2 2 kV

Article number: 39001

29-2-2024

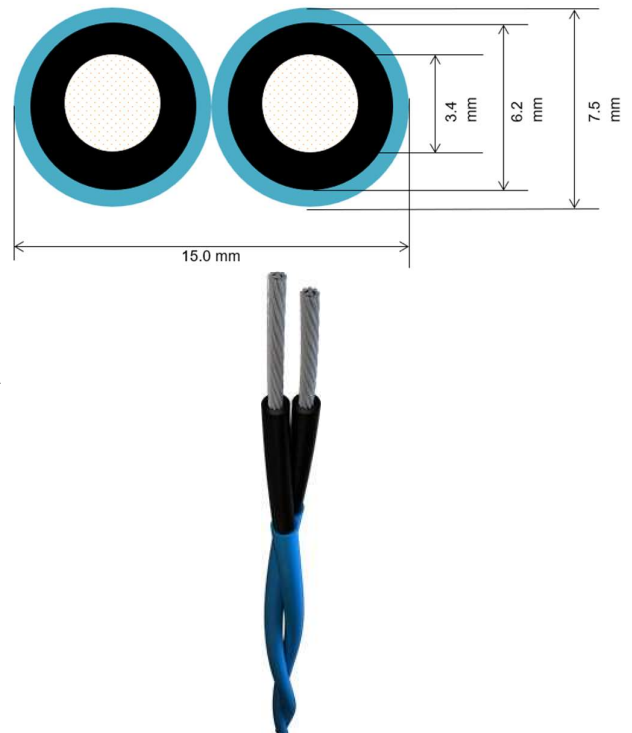
**Description**CEDD® Airfield Eca 1.2 2 kV 2 x 6,8 mm<sup>2</sup>**Introduction**

The CEDD® Twisted Pair cable is part of the CEDD® Airfield Ground Lighting system and is designed for installation in clean and pressure washed saw-cuts in concrete or asphalt in combination with an approved sealing material. The CEDD® Twisted Pair cable consists of a twisted pair assembly of two 6,8 mm<sup>2</sup> double insulated conductors. The mechanical design of the construction, in combination with the applied materials, results in a cable covering the relevant airfield lighting cable standards in addition to the CEDD® system needs for installation, power transmission and data transfer. The CEDD Airfield cable is designed and tested to the functional requirements of the FAA L-824, FAA AC 150/5345-7F, ANSI/ICEA S-95-658, NEMA WC70 for Airfield Lighting cables.

**Handling and installation of the cable**

Before installing the cables in the cutted cable slots, these have to be cleaned and pressure washed. The cable should not be installed or pulled around sharp edges, a minimum radius of edges of 5 mm shall be observed.

In cable installation, care shall be taken not to exceed the maximum pulling force of 300N. When the cable is pulled or moved over rough surface areas, such as Tarmac, special care should be given to protect the cable against abrasion.





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**Trading information**

Product group	Airport lighting cable
Type	CEDD Airfield Eca 1.2 2 kV
Net. Weight	0.196 kg/m
Sheath marking	{Length} TKF - TKH Airport Solutions CEDD © Airfield U20-00177 R2 - 1 x 6,8 mm <sup>2</sup> - 2 kV - {Batch} {Year}

**Trade lengths**

Minimal order

1 meter	39001 / 8713182399061)	1 MTR
Reel à 4800	(39001H X 4800 / 8713182399078)	1 PCE

**Construction characteristics**

Standardization	Gen. FAA L824/ ICEA S-95-658-2009 / NEMA WC 70-2009
Number of cores	2
Nominal cross section conductor	6.8 mm <sup>2</sup>
Conductor material, according to IEC 60228	Tinned Copper
Shape of conductor	Round
Conductor category, according to IEC 60228	Class 5
Insulation Material	XLPO (E-2 acc. to ANSI/ICEA S-95-658 table 3)
Diameter over CEDD core	7.5 ± 0.2 mm
Insulation wall thickness	1.38 mm
Outersheath wall thickness	0.62 mm
Twisted pair overall diameter	15 mm ± 0.4 mm
Twists per Meter	Randomized twist length with 5 twists/meter
Flame retardance	IEC 60332-1-2
CPR Class	Eca
Colour outer sheath	Blue, close to RAL 5005

**Electrical characteristics**

Maximum rated circuit voltage phase to phase (U)	2 kV
Voltage test completed cable (100%)	10 kV AC during 5 minutes
Voltage test insulation (100%)	10 kV AC
Insulation Resistance	typically >10 GΩ/km
DC Conductor resistance @ 20°C	< 2.7 Ω/km
AC Conductor resistance @ 20kHz, 90°C	< 6.0 Ω/km
Mutual Capacitance (in air) @ 20 kHz	48 nF/km

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Mutual Inductance @ 20 kHz	0.7 mH/km
Attenuation @ 20kHz (in air)	0.4 dB/km
Attenuation @ 400kHz (in air)	2 dB/km
Attenuation @ 1300kHz (in air)	7 dB/km
Relative permittivity $\epsilon_r$ (single core in air)	Typically 2,47

**Installation and operation properties**

Minimum bending radius after installation @ -40°C to +70°C	20 mm
Minimum bending radius during installation @ 0°C to +50°C	20 mm
Tensile load (max)	310 N
Crush Resistance (max)	10000 N
Conductor temperature (max)	90°
Installation temperature (min/max)	0 / +40°C
Operating temperature (min/max)	-40 / 75°C
Emergency overload temperature (max)	130°C

**Values Insulation Resistance Test after installation**

IR>10 G $\Omega$ /km	Circuit is ok
IR> 2 < 10 G $\Omega$ /km	Circuit requires investigation
IR< 2 G $\Omega$ /km	Circuit not ok, high probability cable damage

**Environmental & Chemical Resistance Test results**

Pass = mechanical properties outer sheath material comply with table 4.2 in ANSI/NEMA WC 70-2009/ICEA S-95-658-2009 for oil resistance requirements.

Chemical resistance	Test Method	Test Duration	Result
Jet Fuel (UN1863)	IEC 60811:2012	4 h @ 70°C 24 h @ 70°C	Pass Pass
Airplane De-icing fluid (Propylene Glycol)	IEC 60811:2012	4 h @ 80°C 24 h @ 80°C	Pass Pass
Airplane De-Icing fluid (Ethylene Glycol)	IEC 60811:2012	4 h @ 80°C 24 h @ 80°C	Pass Pass
Runway De-Icing (Potassium Acetate, Clearway®)	IEC 60811:2012	4 h @ 50°C 24 h @ -18°C	Pass Pass
Diesel (EDC 95-11)	IEC 60811:2012	4 h @ 80°C 24 h @ 80°C	Pass Pass
Oil (IRM 902)	IEC 60811:2012	4 h @ 80°C 24 h @ 80°C	Pass Pass
Blowing Lubricant	IEC 60811:2012	4 h @ 80°C 24 h @ 80°C	Pass Pass
Runway rejuvenator (Eshalite healtack)	$\epsilon_r$ change	48 h @ 50°C	< 1%



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Environmental Resistance	Test Method	Condition/Duration	Result
Sunlight resistance (UV)	UL 1581:1200	720 hours	Pass
Cold vibration	FAA Advisory Circular 150/5345-46D paragraph 4.5.5.1	-40°C	Pass
Cold bend	IEC 60811-504:2014	-40°C	Pass
Cold impact	IEC 60811-506:2014	-35°C	Pass