

# Berk-Tek LANmark-B789 Cat 5e Profinet Solid 2-Pr Shielded TPE



Berk-Tek LANmark Industrial Medium-Duty Ethernet Cables enable the expansion and integration of Ethernet into the Industrial environment. With over 50 years of manufacturing expertise, you can be sure these Industrial Cables will perform both mechanically and electrically. This cable is specifically designed to meet the requirements of the Profinet Type A standard, including its PLTC and ITC listings. With its 600V AWM design, durable TPE jacket, cold-bend performance, and resistance to oil, weld spatter, and sunlight, this cable is suitable for demanding and static industrial applications. This product has both a foil shield and a braid to protect against low- and high-frequency noise on the factory floor. Additionally, the stranded conductors also help maintain performance in a high-vibration environment. Per the NFPA 70 and NEC 500, this PLTC cable is permitted to be installed in Class I, Division 2, hazardous locations.

## DESCRIPTION

### Construction

22 AWG solid tinned copper wire insulated with HDPE. Two insulated conductors twisted together to form a pair and two such pairs to form the basic unit, enclosed by foamed PP tape and shielded with a 75% optical coverage braid and an aluminum/ polyester tape contained within a TPE jacket.

### Related Standards

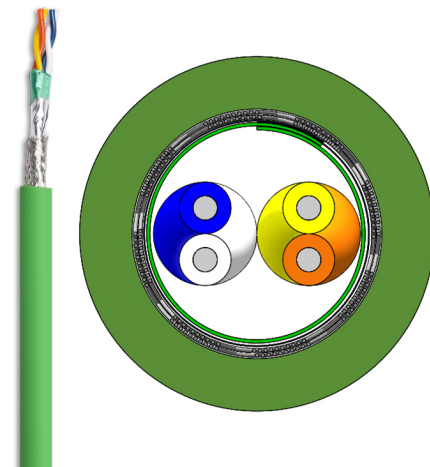
Low Voltage - EU Directive 2014/35/EU, CE Approved

RoHS - EU Directive 2011/65/EU

PoE+ - Type 2 (802.3at)

Ratings		
Description	Method	
Listed Type	UL1666	CMR
Listed Type	UL444	CMX Outdoor
Listed Type	UL13 / UL2250	PLTC / ITC
Oil Resistance	UL1277 12.2	II (75°C)
Sunlight Resistance	UL444 (7.22)	Yes (720 hrs)

Attributes		
Description	Method	
AWM Style	UL758	2463 (600V, 80°C)
Installation Pull Tension (Max):		
Bend Radius: > 3 inch	Internal	40 lbs.
Bend Radius: > 1.22 inch	TIA 568-C.0	25 lbs.
Abrasion	UL2556 7.10	75 cycles/1.5 lb. load



## STANDARDS

**International** ISO/IEC 11801

**National** ANSI/TIA-568.2-D;  
UL 444

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## CHARACTERISTICS

### Construction characteristics

Conductor material	22 AWG Solid Tinned Copper
Insulation	HDPE
Jacket Material	TPE
Braid	Tinned copper - 75% optical coverage
Shielding	Aluminum/Polyester
Core Tape	Foamed polypropylene

### Dimensional characteristics

Insulated conductor diameter (Nominal)	0.054 in
Average jacket thickness	0.04 in
Minimum jacket thickness at any point	0.032 in
Cable diameter (Nominal)	0.305 in
Nominal cable weight	46 lb/kft
Length per reel	1000.0 ft

### Electrical characteristics

Mutual capacitance	5.6 nF/100m max.
DC Resistance (max.)	9.38 Ohm/100m
DC resistance unbalance (max.)	5 %
Nominal velocity of propagation	67 %
Maximum pair to ground unbalance	330 pF/100m


### Transmission characteristics



Skew (max.)	45 ns/100m
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### Usage characteristics

Profinet Type	A
Minimum Bending Radius - Install	2.44 in
Recommended installation temperature range	-20 .. 80 °C
Recommended operating temperature range	-40 .. 80 °C
Recommended storage temperature range	-40 .. 80 °C
Cold Bend	-40 °C
Weld spatter resistance	Yes

## PRODUCT LIST

Part Number	Description	Packaging	Colour
 11100373	LANmark-B789 Cat 5e Profinet Solid 2-Pr Shielded TPE	Reel	Green

 = Make to order,  = In stock

## LANMARK-B789 - TECHNICAL INFORMATION

Electrical Characteristics		
Parameter	Frequency	Equation
RL (dB)	1-10 MHz	$20+5*\text{Log}(F)$
	10-20 MHz	25
	20-100 MHz	$25-7*\text{Log}(F/20)$
Insertion Loss (dB/100m)	1-100 MHz	$1.967*\sqrt{F}+0.023*F+0.050/\sqrt{F}$
NEXT (dB)	1-100 MHz	$35.3-15*\text{Log}(F/100)$
PS-NEXT (dB)	1-100 MHz	$32.3-15*\text{Log}(F/100)$
ACR (dB/100m)	1-100 MHz	NEXT - Insertion Loss
PS-ACR	1-100 MHz	PS-NEXT - Insertion Loss
ACRF (dB)	1-100 MHz	$23.8-20*\text{Log}(F/100)$
PSACRF (dB)	1-100 MHz	$20.8-20*\text{Log}(F/100)$
Propagation Delay	1-100 MHz	$534+(36/\sqrt{F})$
Min Coupling Attenuation (dB/100m)	30-100 MHz	55
Max Transfer Impedance	1; 10; 30; 100	50; 100; 200; 1000
Transmission Characteristics		
Description		
ISO/IEC 11801		Category 5
ANSI/TIA-568.2-D		Category 5e
Coupling Attenuation	IEC 61156-5	Type I
Transfer Impedance	IEC 61156-5	Grade 2
Color Code		
Pair-1	White	Blue
Pair-2	Yellow	Orange