

Berk-Tek LANmark-C539 Cat 5e High Flex TPE

Berk-Tek LANmark Industrial Heavy-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. 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, continuous-motion, industrial applications. Additionally, the stranded conductors also help maintain performance in a high-vibration environment. It is also suitable for cable tray installations.

DESCRIPTION

Construction

24 AWG stranded tinned copper wire insulated with FRPE. Two insulated conductors twisted together to form a pair and four such pairs to form the basic unit, enclosed by polyester tape, with TPE jacket.

Related Standards

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

RoHS - EU Directive 2011/65/EU

PoE+ - Type 2 (802.3at)

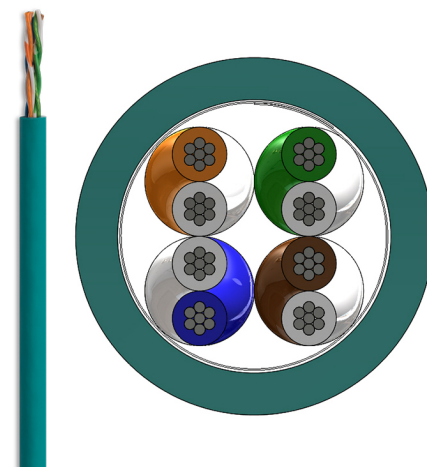
ODVA EtherNet/IP™ Compliant

Agency Ratings

Description	Method	
Listed Type	UL1685	CM
Listed Type	UL444	CMX Outdoor
Oil Resistance	UL1277 11.2	II (75°C)
Sunlight Resistance	UL444 7.22	Yes (720 hrs)

Attributes

Description	Method	
AWM Style	UL758	2463 (600V, 80°C)
Flex Life	C-Track, 5" radius	> 35 million cycles
Flex Life	Torsion (+/- 270°)	> 3 million cycles
Installation Pull Tension (Max):		
Bend Radius: > 3 inch	Internal	40 lbs.
Bend Radius: > 1.00 inch	TIA 568-C.0	25 lbs.
Abrasion	UL2556 7.10	75 cycles/1.5 lb. load



EtherNet/IP™
ODVA Compliant

STANDARDS

International ISO/IEC 11801;
ODVA EtherNet/IP Compliant

National ANSI/TIA-568.2-D;
UL 444

CHARACTERISTICS

Construction characteristics

Conductor material	24 AWG Stranded Tinned Copper (7/32)
Insulation	FRPE
Jacket Material	TPE
Core Tape	Polyester

Dimensional characteristics

Insulated conductor diameter (Nominal)	0.041 in
Average jacket thickness	0.03 in
Minimum jacket thickness at any point	0.024 in
Cable diameter (Nominal)	0.25 in
Nominal cable weight	32 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
Insertion loss de-rating factor	1.2

Usage characteristics

Minimum Bending Radius - Install	1 in
Recommended installation temperature range	-20 .. 80 °C
Recommended operating temperature range	-40 .. 80 °C
Recommended storage temperature range	-40 .. 80 °C
Maximum cable length	83 m
Cold Bend	-40 °C
Weld spatter resistance	Yes

PRODUCT LIST

Part Number	Description	Packaging	Colour
 11099204	LANmark-C539 Cat 5e High Flex TPE	Reel	Teal
 11101962	LANmark-C539 Cat 5e High Flex TPE	Reel	Black

 = Make to order,  = In stock

LANMARK-C539 - 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	$(1.967*\sqrt{F}+0.023*F+0.050/\sqrt{F})*1.2$
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	$537+(36/\sqrt{F})$
Transmission Characteristics		
Description		
ISO/IEC 11801		Category 5
ANSI/TIA-568.2-D		Category 5e
ODVA EtherNet/IP™ Compliant		Category 5e
Color Code		
Pair-1	White/Blue	Blue
Pair-2	White/Orange	Orange
Pair-3	White/Green	Green
Pair-4	White/Brown	Brown