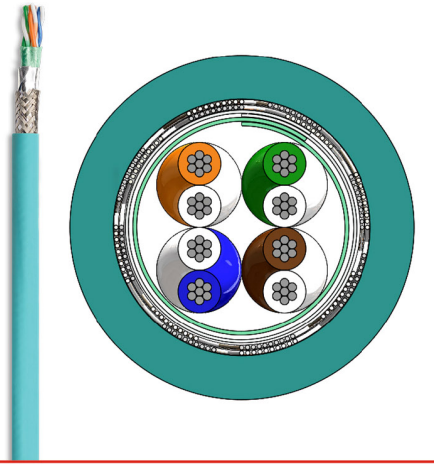
Nexans LANmark™ Industrial HD CAT5e High Flex 4-Pr Shielded TPE

11100656, C542

Nexans 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 the most demanding, continuous-motion, 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. It is rated CMR and CMX Outdoor, so it easily transitions from indoor to outdoor environments and is also suitable for cable tray installations.



DESCRIPTION

Construction

24 AWG stranded tinned copper wire insulated with HDPE. Two insulated conductors twisted together to form a pair and four such pairs to form the basic unit, surrounded by polypropylene tape. Aluminum/polyester tape shield and 38 AWG braid of 75% optical coverage 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)

STANDARDS

International ISO/IEC 11801

National ANSI/TIA-568-C.2; UL 444

Agency Ratings		
Description	**Method**	
Listed Type	UL1685	CMR
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	Trailing Chain 10x OD	1 million cycles
Flex Life	Trailing Chain 20x OD	10 million cycles
Flex Life	Torsion (+/- 270°)	3 million cycles
Installation Pull Tension (Max):		
Bend Radius: > 3 inch	Internal	40 lbs.
Bend Radius: > 1.2 inch	TIA 568-C.0	25 lbs.
Abrasion	UL2556 7.10	50 cycles/1.5 lb. load

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CHARACTERISTICS

Construction characteristics	
Conductor material	24 AWG Stranded Tinned Copper (7/32)
Insulation	HDPE
Jacket Material	TPE
Braid	Tinned copper - 75% optical coverage
Shielding	Aluminum/Polyester
Core Tape	Foamed polypropylene
Dimensional characteristics	
Insulated conductor diameter (Nominal)	0.046 in
Average jacket thickness	0.03 in
Minimum jacket thickness at any point	0.024 in
Cable diameter (Nominal)	0.3 in
Nominal cable weight	46 lb/kft
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	66 %
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	1.2 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	Length per reel [ft]	Colour
11099188	LANmark-C542 Cat 5e High Flex Shielded TPE	1000.0	Teal

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LANMARK-C542 - TECHNICAL INFORMATION

Electrical Characteristics		
Parameter	**Frequency**	**Equation**
RL (dB)	1-10 MHz	20+5*Log(F)
	10-20 MHz	25
	20-100 MHz	25-7*Log(F/20)
Insertion Loss (dB/100m)	1-100 MHz	(1.967*√F+0.023*F+0.050/√F)*1.2
NEXT (dB)	1-100 MHz	35.3-15*Log(F/100)
PS-NEXT (dB)	1-100 MHz	32.3-15*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*Log(F/100)
PSACRF (dB)	1-100 MHz	20.8-20*Log(F/100)
Propagation Delay	1-100 MHz	534+(36/√F)
Max Transfer Impedance (mΩm)	1; 10; 30; 100 MHz	50; 100; 200; 1000
Min Coupling Attenuation (dB/100m)	30-100 MHz	55

Transmission Characteristics		
Description		
ISO/IEC 11801		Category 5
ANSI/TIA-568-C.2		Category 5e
Coupling Attenuation	IEC 61156-5	Type II
Transfer Impedance	IEC 61156-5	Grade 2

Color Code		
Pair-1	White/Blue	Blue
Pair-2	White/Orange	Orange
Pair-3	White/Green	Green
Pair-4	White/Brown	Brown