

NCB-5ESBLUR-305

305M Category 5E STP Solid Cord
Specification

Doc. Version: 1.01
2010/09/30

1 Introduction

Overview

This standard is emphasized in the D-Link product development design should request in view of in the Ethernet cable and the attention item, to consistent the standard of material specification in selected.

Scope

All D-Link developed or outsourcing product request to follow the standard.

Acronym

The acronyms are contains to this document.

Acronym	Definition
UTP	Unshielded twisted pair
STP	Spanning Tree Protocol
AWG	American wire gauge
BC	Bare Copper
CCA	Copper clad aluminum wire
CCAM	Copper clad aluminum magnesium wire
CCS	Copper clad steel wire
8P	Eight pin Position in modular connector
8C	Eight real pin Contact in modular connector
4C	Four real pin Contact in modular connector
VW-1	Vertical Wire Flame test by UL
CM	Vertical Tray Flame Test by UL
FT-1	Flame Test 1, vertical flame test by CSA
SR	Strain Relief
TR-068	Technical Report 068; A standard which provided by Broadband Forum

2 Twisted Pair Specification

2.1 Cable

Category 5e STP Solid cable

Conductor: 24 AWG(0.517 ±0.007mm), Multi-cores (Solid), see picture 2.1-1.

Conductor Metal: Bare Copper

Insulation Material: HD-PE

OD: 1.03 ±0.05mm

Average Thickness: 0.25 mm

Outside-Tape Metal: MYLAR

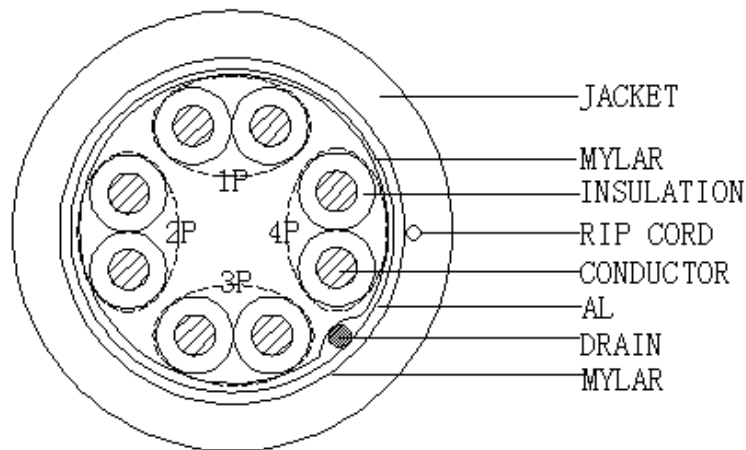
Overlap Rate: 25%

Drain Wire: 24 AWG(0.500 ±0.007mm)

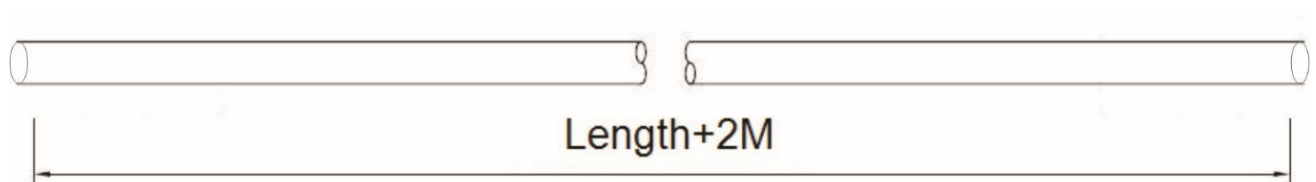
Jacket hardness: 45P (90A ± 2A, Shore)

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- Material: PVC UL94V-0
- OD: 6.0mm ±0.2
- Average Thickness: 0.60 mm
- Color: Blue 288C
- Length type: 305M + 2M
see picture 2.1-2.
- Heat-resistant: 75°C minimum
- Flame resistant: The purpose of the vertical flame test is to screen out flammable wires.
That follow to VW-1 (UL); FT-1 (CSA), either.



Picture 2.1-1_Profile of Cat 5e Cable



Picture 2.1-2_Length Dimension of Cat 5e

2.2 Technical Details

- Mutual Capacitance: 5.6nF/100m nominal
- Characteristic Impedance: 100Ω±15%, 1-400MHz
- Nominal Velocity of Propagation: 69%
- Operating Temperature: -20°C-60°C(-4°F-140°F)
- Storage Temperature: -20°C-80°C(-4°F-176°F)

2.3 Approval/ Certification

UL 444

UL 758/ Style 2835

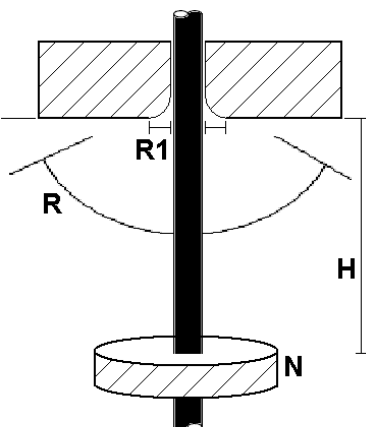
UL 1581

TIA/EIA-568B.2

FCC Part 68.500 or IEC 60603-7-4

D-Link Product Hazardous Substance Management.

2.4 Electrical/ Reliability Test

No	Test Item	Standards	Condition	Note
1	Fluke test	a. TIA or ISO Cat. 5e STP 90M LINK b. POE 2-Pair Cat.5e STP 90M LINK	Room temp: 25°C ±3°C Sample size: each set	In production test process
2	Swing test	D-Link spec. To run 1000 times with on going electrical & function test	Room temp: 25°C ±3°C Sample size: 5 sets Load(N): 300g Bend Angle(R): +/-60° (水平角度) Clamp Angle(R1): <20° (弧形角度) Load Height(H): The distance between clamp and load is 300mm Speed: 20 times/ minute	

2.5 Package

Marking: The marking consists with “Appliance Wiring Material (AWM) marking requirements”.

To reference some contents:

- a. Cable type
- b. AWG number
- c. Heat-resistant (Operating temperature)

- d. UL certificated number
- e. UL factory certificated number
- f. TIA/EIA-568B.2
- g. Cat.5e STP Path Cable
- h. Flame property
- i. Others...

Brown-Box

2.6 Application

10BASE-T, 100BASE-TX Fast Ethernet, 1000BASE-T (IEEE802.3)

100VG-AnyLAN (IEEE802.12)

550 MHz Broadband Video

Voice, T1, ISDN

155/ 622 Mbps ATM

Power over Ethernet (POE)