

1) CONSTRUCTION:		NOM. DIA.
CONDUCTOR:	26 AWG 7/34 STRANDED TINNED COPPER	.019"
INSULATION:	HIGH DENSITY POLYETHYLENE, .009" NOM. WALL THICKNESS	.036"
PAIRS:	COLOR CODED SINGLES TWISTED INTO PAIRS	.072"
CABLE:	(4) TWISTED PAIRS TWISTED TOGETHER WITH A CENTRAL SPLINE AND WRAPPED WITH A FOAM POLYPROPYLENE TAPE TO FORM A CABLE CORE.	.176"
SHIELDS:	AN OVERALL SHIELD OF 38 AWG TINNED COPPER BRAID (80% MINIMUM COVERAGE), SHALL BE APPLIED OVER THE CABLE CORE. A SECOND SHIELD OF ALUMINIZED POLYESTER FOIL (FOIL IN, 100% COVERAGE) SHALL BE APPLIED OVER THE BRAID.	.195"
JACKET:	ZHFR POLYURETHANE, (COLOR, PER CHART 1) , .037" NOM. WALL THICKNESS	.269" ± .010" (BY CALIPER)
	OVERALL CABLE DIAMETER	

2) PHYSICAL PROPERTIES:	
TEMPERATURE RATING, MAX.	75°C
TEMPERATURE RATING, MIN.	-40°C
WT./M', NOM., NET.	37.3 LBS.
FLEX LIFE*	1 MILLION CYCLE TEST (10X CABLE O.D., MINIMUM RADIUS) 10 MILLION CYCLE TEST (20X CABLE O.D., MINIMUM RADIUS)
TORSION TEST*	
(1 LB LOAD, 360°, 71 CYCLES/MIN, @ 20°C)	3 MILLION CYCLE TEST
JACKET SMOKE GENERATION PER ASTM E662, NOM.	Ds = 251 (FLAMING, @ 4 MINUTES) Ds = 16 (NON-FLAMING, @ 4 MINUTES)
JACKET OIL RESISTANCE	
(IRM 902 OIL, 7 DAYS @ 100°C)	
TENSILE STRENGTH RETENTION, NOM.	100%
ELONGATION RETENTION, NOM.	80%

CHART 1:

QUABBIN P/N	JACKET COLOR
5123	BLACK
5124	BLUE
5125	TEAL
5126	RED
5127	YELLOW

*BASED ON TESTING OF SIMILAR CABLES

- 3) ELECTRICAL CHARACTERISTICS:
SEE PAGE 2
- 4) AGENCY APPROVALS:
NEC (ETL) TYPE CMX
CEC C(ETL) TYPE CMX
EU CE MARK: MEETS EU DIRECTIVE 2011/65/EU (RoHS II)

5) APPLICATION:
PASSES VW-1.

6) PRINT: (WHITE INK ON BLACK JACKET, ALL OTHERS BLACK INK)
QUABBIN DATAMAX EXTREME HIGH FLEX ZERO HALOGEN INDUSTRIAL ETHERNET/IP PATCH CORD CAT 6a SF/UTP P/N **(P/N PER CHART 1)** -- C(ETL)US TYPE CMX OIL RES I 26 AWG 75C -- CE RoHS -- **(LOT DESIGNATOR) (SEQUENTIAL FOOTAGE)**

- 7) COLOR CODE:
- 1. BLUE X WHITE/BLUE
- 2. ORANGE X WHITE/ORANGE
- 3. GREEN X WHITE/GREEN
- 4. BROWN X WHITE/BROWN

8) PACKAGING:
TO BE PACKAGED AS PER QWC'S STANDARD PACKAGING

JACKET

SHIELD

BRAID

SPLINE

PAIR

FOAM TAPE

Created 10/29/18	DRAWN: SGH 07/16/21
REV. 03	CHECKED: ZRS 08/05/21

TITLE
4PR SF/UTP INDUSTRIAL HIGH FLEX ETHERNET/IP PATCH CORD – CATEGORY 6/6a

DRAWING# QWC0111 1 of 2

CUSTOMER APPROVAL: _____ DATE: _____

3) ELECTRICAL CHARACTERISTICS:

POE COMPLIANT TO 70 METERS WHEN INSTALLED PER RECOMMENDATIONS IN TIA TSB-184
 CABLE WILL MEET CAT 6a CHANNEL REQUIREMENTS TO 70 METER LENGTH
 CAPACITANCE, MUTUAL, NOM. 13.5 PF/FT. AT 1 MHz
 DIELECTRIC WITHSTANDING, MIN. 1500V RMS
 VOLTAGE RATING, MAX. 300V
 D.C. RESISTANCE, MAX. 42.6 Ω/1,000'

NOTE: TESTING FOR THE FOLLOWING IS CONDUCTED OFF THE REEL. (FOR 100m OF CABLE)

IMPEDANCE, NOM.	100 ± 15 Ω 1 - 100 MHz 100 ± 20 Ω 100 - 500 MHz	
RETURN LOSS	1 ≤ f < 10 MHz 10 ≤ f < 20 MHz 20 ≤ f ≤ 100 MHz 100 < f ≤ 250 MHz	20 + 6 LOG(f) dB MIN* 26 dB MIN* 26 - 5 LOG(f/20) dB MIN* 25 - 8.6 LOG(f/20) dB MIN
PS NEXT	1 ≤ f ≤ 500 MHz	42.3 - 15 LOG (f/100) dB MIN
NEXT	1 ≤ f ≤ 500 MHz	44.3 - 15 LOG (f/100) dB MIN
PS ACRF	1 ≤ f ≤ 500 MHz	24.8 - 20 LOG(f/100) dB MIN
ACRF	1 ≤ f ≤ 500 MHz	27.8 - 20 LOG(f/100) dB MIN
INSERTION LOSS	1 ≤ f ≤ 500 MHz	1.5[1.82 √(f) + 0.0091(f) + 0.25/√(f)] dB MAX
DELAY	4 ≤ f ≤ 500 MHz	534 + 36/√(f) ns MAX**
DELAY SKEW	1 ≤ f ≤ 500 MHz	<45 ns
PS ANEXT LOSS (6 AROUND 1)	1 ≤ f ≤ 500 MHz	62.5 - 15 LOG(f/100) dB 50 - 500 MHz 67 dB 1 - 50 MHz
PS AFEXT (6 AROUND 1)	1 ≤ f ≤ 500 MHz	38.2 - 20 LOG(f/100) dB
COUPLING ATTENUATION TESTED PER IEC 62153-4-9	30 ≤ f ≤ 250 MHz	100 - 20 LOG(f) (MAX 60 dB) E3 * Segregation class d acc. EN 50174-2
VELOCITY OF PROPAGATION	68%	

*PER ODVA VOLUME 2 ETHERNET/IP
 **PER IEC 61156-6

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