

1. CONSTRUCTION:
1. CONDUCTOR: STRANDED PLAIN ANNEALED BARE COPPER WIRE 7/0.250±0.008mm (22AWG)
 2. INSULATION: FOAM-PE, 1.75±0.05mm
 3. TWISTING: 1 TWISTED PAIR, 2 SINGLE CONDUCTORS PAIRED, TWISTED PAIR COLOR CODE: WHITE/BLUE
 4. SHIELDING (1): ALUMINUM / MYLAR TAPE, WRAPPED ALUMINUM SIDE FACE-OUT.
 5. SHIELDING (2): TINNED COPPER WIRE BRAIDING, MIN. 85% COVERAGE.
 6. OUTER DIAMETER: 5.3±0.3 mm
 7. JACKET COLOR: RAL 6018 GREEN

2. MECHANICAL PROPERTIES:
1. BEND RADIUS: ≥4X OD WITHOUT LOAD, ≥8X OD WITH LOAD
 2. TEMPERATURE RANGE:
DURING OPERATION: -40°C UP TO 80°C
DURING INSTALLATION: 0°C UP TO 50°C
 3. FIRE RATING:
MATERIAL: PUR
FIRE RATING: IEC 60332-1
 4. OIL RESISTANCE TO UL 758 60°C
 5. UV RESISTANCE TO IEC 60068-2-5

MECHANICAL PROPERTIES	TESTING METHOD	SPECIFICATION
TENSILE INITIAL	UL 1581	MIN 10.3 Mpa
ELONGATION INITIAL		MIN 100%
HEAT AGING (TENSILE)		MIN 70% OF UNAGED SPECIMENS
HEAT AGING (ELONGATION)		MIN 65% OF UNAGED SPECIMENS
HYDROLYSIS (TENSILE)	VDE HD 22.10	±30% OF UNHYDROLYZED SPECIMENS
HYDROLYSIS (ELONGATION)		MIN 300%
		±30% OF UNHYDROLYZED SPECIMENS

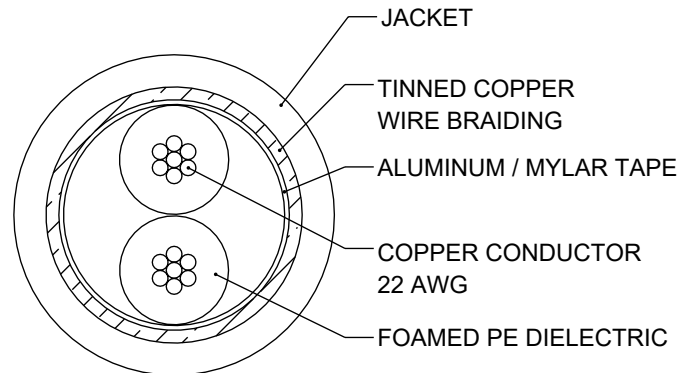
3. REFERENCE STANDARD: IEC 61156-12
4. ELECTRICAL PROPERTIES (AT 20°C ±5°C)
1. DC RESISTANCE: MAX 14.5Ω /100m AT 20°C
 2. RESISTANCE UNBALANCE: MAX 2% AT 20°C
 3. INSULATION RESISTANCE (500V): MIN 5000 MΩ/Km AT 20°C
 4. MUTUAL CAPACITANCE: MAX 5.6nf/100m AT 1kHz
 5. CAPACITANCE UNBALANCE (PAIR TO GROUND): MAX 160pf/100m AT 1kHz
 6. NOMINAL VELOCITY OF PROPAGATION: NOM 67%
 7. TEST VOLTAGE (AC, 1 min): 2kV/1min
 8. COUPLING ATTENUATION: TYPE I

5. TRANSMISSION PERFORMANCE ACC. TO IEC 61156-12 (AT 20°C/100m):

FREQUENCY (MHz)	IMPEDANCE (Ω)	INSERTION LOSS (dB) MAX	RETURN LOSS (dB) MIN	PROPAGATION DELAY (ns) MAX	
1	100±15	3.1	20.0	570	
4		5.6	23.0	552	
10		8.7	25.0	545	
16		11.0	25.0	543	
20		12.2	25.0	542	
31.25		15.5	23.2	541	
62.5		21.8	20.8	538	
100	100±22	27.8	19.0	538	
125		31.2	18.2	537	
200		39.7	16.4	537	
250		44.6	15.6	536	
300		49.0	15.6	536	
500		100±25	64.1	15.6	536
600			70.7	15.6	536

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REVISION					
ZONE	REV	DESCRIPTION	DATE	CHANGED BY	APPROVED
	A	INITIAL RELEASE	02/17/2025	HBAKKE	GUTTADAURO



CROSS-SECTIONAL VIEW

CABLE LENGTH		
PART NO.	FEET	METERS
TSPE05-10M	32.8	10
TSPE05-50M	164.0	50

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS

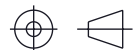
TOLERANCES:
 .X = ±.2 [5] FRACTIONS ± 1/32
 .XX = ±.02 [0.5] ANGLES ± 1°
 .XXX = ±.005 [0.13]

CABLE LENGTH TOLERANCES:
 ≤12 [305] = +1 [25] / -0
 >12 [305] ≤ 60 [1524] = +2 [51] / -0
 >60 [1524] ≤ 120 [3048] = +4 [102] / -0
 >120 [3048] ≤ 300 [7620] = +6 [152] / -0
 >300 [7620] = +5% / -0

ALL DIMENSIONS ARE FOR REFERENCE ONLY AND SUBJECT TO CHANGE WITHOUT NOTICE. UN-DIMENSIONED NON-CRITICAL FEATURES MAY VARY IN SIZE AND LOCATION. COLORS MAY VARY.

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INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5

SCALE: NONE SHEET: 1 OF 1

DESCRIPTION
SINGLE PAIR ETHERNET (SPE) BULK CABLE, 22AWG STRANDED, NO FILLER 5.3mm, DOUBLE SHIELDED, SF/TP, INDUSTRIAL OUTDOOR, PUR GREEN

SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV
A	43321	HBAKKE	TSPE05	A