Prysmian Group

TECHNICAL DATA

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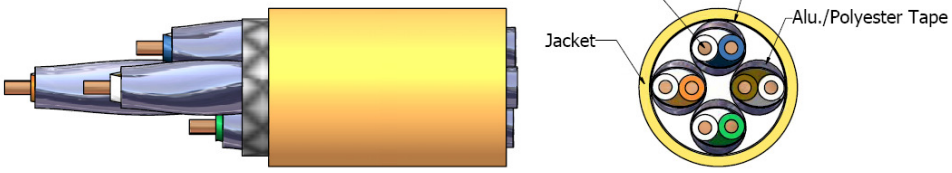
Edition	2.0
Doc No.	TR-120378

Category 7	4 X 23AWG – 600MHz S-FTP PVC Cable	67904

A - APPLICATION :

For horizontal network and voice application in a structured cabling system, including IEEE 802.3an : 10G Base-T Gigabit Ethernet, 2.4/1.2Gb/s ATM, digital video, broadband & baseband analog video.

B – CONSTUCTION :



Solid bare copper conductors insulated with foam thermoplastics polyolefin. Two insulated conductors twisted together to form a pair shielded with Aluminum/polyester foil. Four such pairs cabled to form the basic unit. Tinned copper braiding overall the 4pairs. Overall jacket with PVC compound.

C - REFERENCE STANDARDS :

IEC 61156-5 ED 2.0

D - CERTIFICATION :

Delta EC

E - CABLE DESCRIPTION :

1 – CONDUCTOR		
	Size	23AWG
	Type	Solid bare copper
	Diameter (mm)	0.56± 0.01
2 – INSULATION		
	Type	Foam PE
	Diameter (mm)	1.28 ± 0.05
	Min. thickness (mm)	0.32

E. CABLE DESCRIPTION :	
Color code	
Pair 1 -	Blue / White
Pair 2 -	Orange / White
Pair 3 -	Green / White
Pair 4 -	Brown / White
4 – SHIELD	
tinned copper drain wire	0.495 mm
Type (each Pair Shielded)	Aluminum Polyester Tape
Type (Overall braiding)	Tinned Copper 40% Braiding
5 – JACKET	
Type	PVC
Overall Diameter (mm)	7.76± 0.3

F. TECHNICAL DATA – PHYSICAL :		
1. Flame retardant test		
2. Cold bend test	-20 ± 2℃ X 4hrs no. crack	
3. Dielectric strength	AC 1.7 KV for 2 s	
4.Insulation	**Before Aging**	**After aging**
Min. Tension strength (psi)	1300	75% before aging (100℃ X 48hrs)
Min elongation (%)	300	75% before aging (100℃ X 48hrs)
5. Jacket		
Min. Tension strength (psi)	2000	85% before aging (100℃ X 48hrs)
Min elongation (%)	100	50% before aging (100℃ X 48hrs)
6. Min. bending radius (mm)	240	
7. Max. pulling tension (lbs)	40	
8. Installation temperature	0℃ to +50℃	
9. Operating temperature	-10℃ to +50℃	

G. PACKING :
500/1000m on a wooden drum overall wrapped over by PE film

H. TECHNICAL DTAT - ELECTRICAL			
1. **Conductor resistance** (Ω/100m @ 20℃)	Max.	9.5	
2. **DC resistance unbalance** (%)	Max.	4	
3. **Pair-to-ground capacitance unbalance** (pF/km)	Max.	1600	
4. **Delay skew** (ns/100m)	Max.	25	4 ≦ f ≦ 600MHz
5. **Insertion Loss** (dB/100m)	Max.	1.8 * √f + 0.01 * f +0.2/√f	
6. **Pair to Pair NEXT** (dB/100m)	Min.	102.4 - 15 * log(f)	
		Values greater than 75dB shall be converted to 75dB	
7. **PowerSum pr-pr NEXT** (dB/100m)	Min.	99.4 - 15 * log(f)	
		Values greater than 75dB shall be converted to 75dB	
8. **ELFEXT** (dB/100m)	Min.	95.3 - 20 * log(f)	
		Values greater than 75dB shall be converted to 75dB	
9. **PowerSum ELFEXT** (dB/100m)	Min.	92.3 - 20 * log(f)	
		Values greater than 75dB shall be converted to 75dB	
10. **Return Loss** (dB)	Min.	20 + 5 * log(f)	1 ≦ f < 10MHz
		25	10 ≦ f < 20MHz
		25 - 7 * log(f / 20)	20 ≦ f ≦ 250MHz
		17.3	250 < f ≦ 600MHz
11. **Propagation Delay** (ns/100m)	Max.	534 + 36 / √f	
12. **Input Impedance** (Ω)		100 ± 15%	1 ≦ f ≦ 250MHz
		100 ± 22%	f > 250MHz

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IEC 61156-5 ed.2.0 Category 7 horizontal cable parameters

Freq. (MHz)	Ins. Loss	RL	Pair to Pair		Power Sum		Delay Skew	Po. Delay
			NEXT	ELFEXT	NEXT	ELFEXT		
	(dB/100m)	(dB)	(dB/100m)		(dB/100m)		(ns/100m)	(ns/100)
	Max.	Min.	Min.	Min.	Min.	Min.	Max	Max.
1	-	20.0	-	-	-	-	-	-
4	3.7	23.0	75	75	75.0	75.0	25	552.0
10	5.9	25.0	75	75	75.0	72.3	25	545.4
16	7.4	25.0	75	71.2	75.0	68.2	25	543.0
20	8.3	25.0	75	69.3	75.0	66.3	25	542.0
31.25	10.4	24.3	75	65.4	75.0	62.4	25	541.2
62.5	14.9	23.6	75	59.4	72.5	56.4	25	540.4
100	24.0	21.5	72.4	51.5	66.5	48.5	25	538.6
200	27.5	18.0	67.9	49.3	64.9	46.3	25	536.5
250	31.0	17.3	66.4	47.3	63.4	44.3	25	536.3
350	37.2	17.3	64.2	44.4	61.2	41.4	25	536.1
400	40.0	17.3	63.4	43.3	60.4	40.3	25	535.8
500	45.3	17.3	61.9	41.3	58.9	38.3	25	535.6
600	50.1	17.3	60.7	39.7	57.7	36.7	25	535.5

Note1: All tests include 401 points swept frequency measurements.

Note2: All electrical characteristics are given at 20°C