

# ABA Industry, Inc.

## Specification for Approval

### Product Part Number

- TUP2304S03XX

### Product Description

- U/UTP, 23AWG solid bare copper, CAT.6A, CMP
- With cross filler
- With rip cord

### Product Features

- High performance of single cable transmission.
- Zigzag jacket design provides excellent performance of six around one bundle transmission.
- Round and smooth jacket without twisted stripe.
- High quality of safety property.
- Sweep frequency up to 650 MHz.

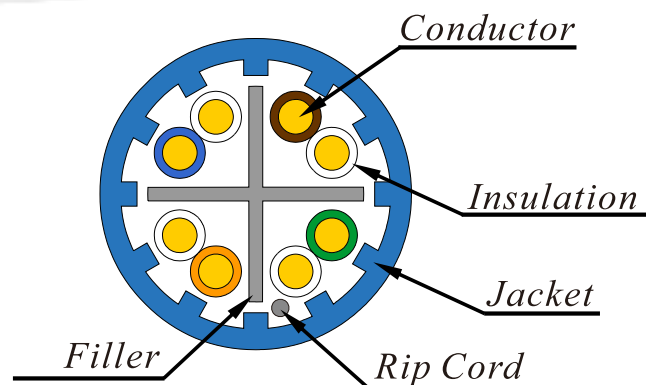
### Application

- Structure cabling for horizontal and building backbone cable.
- Transmission of digital and analogue for data, video and audio applications.
- IEEE 802.3an 10GBASE-T and legacy speeds.
- CDDI / ATM / Token Ring
- IEEE 802.3af (PoE) / IEEE 802.3at (PoE+)

### Applicable Standard

- Electrical Transmission
  - ANSI/TIA-568-C.2 (2009)
  - ISO/IEC 11801 (Edition 2.2)
  - IEC 61156-5 (Edition 2.0)
- Flame Test
  - NFPA 262 (CMP)
- Material and Construction
  - UL 444
  - CSA 22.2 NO.214
- EU Directive 2011/65/EC (RoHS2)
- EU Directive 2006/95/EC (LVD)
- CE compliance date: 2010.01.01

### Sectional Drawing



Establish Date	2014.03.01	Edition	1.0	Revised Date	
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**ABA Industry, Inc.**  
639 EAST WALNUT STREET  
CARSON, CA 90746  
NEW TELEPHONE # 310-327-7670  
NEW FAX # 310-808-0778  
TOLL FREE 888-534-7776

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### Material and Construction

Conductor	Material	23AWG solid bare copper	
Insulation	Material	Fluorinated Ethylene Propylene (FEP)	
	Color code & diameter	Blue & white/blue Stripe	1.12 ± 0.02 mm
		Orange & white/orange stripe	1.06 ± 0.02 mm
		Green & white/green stripe	1.10 ± 0.02 mm
Brown & white/brown stripe		1.06 ± 0.02 mm	
Twisted	Description	Left hand direction	
Filler	Material	Fluorinated Ethylene Propylene (FEP)	
Assembly	Description	Left hand direction	
Rip cord	Material	Polyester multi-yarn	
Jacket	Material	Low smoke flame retardant polyvinyl chloride (LSFRPVC)	
	Diameter	8.1 ± 0.2 mm	
	Thickness	1.00 ± 0.10 mm	
	Color	Per customer's request	
Marking	ELITE 10GS CAT 6A --- E142890 UTP 4PR 23AWG CMP(PCC-FT6) C(UL)US --- ETL VERIFIED TO TIA-568-C.2 CAT 6A mmyy <sup>1</sup> RoHS COMPLIANT XXXXFT Note 1: mmyy is date code.		

### Usage & Environmental Condition

Temperature range	Storage & shipping	-20°C to 75°C
	Installation	0°C to 60°C
	Operation	-20°C to 60°C
Minimum bending radius	≥ 4 times of overall diameter	
Maximum pulling tension	≤ 110 N	

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### Physical & Electrical Characteristics (at 20°C)

Temperature & voltage rating	75°C / 300V
Spark test	2.5 KV DC
AC leakage current through overall jacket	≤ 10mA (1.5KV AC)
Cable cold bend	-20°C for 4 hr
Conductor DC resistance	≤ 9.38 Ω/100m
Resistance unbalance	≤ 5%
Dielectric strength	1.5 KV ac for 2 s
Insulation resistance	≥ 5000 MΩ · m
Mutual capacitance	≤ 5.6 nF/100m
Capacitance unbalance pair-to-ground	≤ 330 pF/100m

### Transmission Performance (at 20°C)

Frequency (MHz)	IL	NEXT	PS. NEXT	ACR	PS. ACR	ACRF	PS. ACRF	RL	Propagation Delay	Delay Skew	PS. ANEXT	PS. AACRF
	Max. dB/100m	Min. dB/100m	Min. dB/100m	Min. dB/100m	Min. dB/100m	Min. dB/100m	Min. dB/100m	Min. dB/100m	Max. ns/100m	Max. ns/100m	Min. dB/100m	Min. dB/100m
1	2.08	74.30	72.30	72.22	70.22	67.80	64.80	20.00	570.00	45.00	67.00	67.00
4	3.80	65.27	63.27	61.47	59.47	55.76	52.76	23.01	552.00		67.00	66.16
8	5.31	60.75	58.75	55.44	53.44	49.74	46.74	24.52	546.73		67.00	60.14
10	5.93	59.30	57.30	53.37	51.37	47.80	44.80	25.00	545.38		67.00	58.20
16	7.49	56.24	54.24	48.75	46.75	43.72	40.72	25.00	543.00		67.00	54.12
20	8.38	54.78	52.78	46.41	44.41	41.78	38.78	25.00	542.05		67.00	52.18
25	9.38	53.33	51.33	43.95	41.95	39.84	36.84	24.32	541.20		67.00	50.24
31.25	10.50	51.88	49.88	41.37	39.37	37.90	34.90	23.64	540.44		67.00	48.30
62.5	14.99	47.36	45.36	32.37	30.37	31.88	28.88	21.54	538.55		65.56	42.28
100	19.14	44.30	42.30	25.17	23.17	27.80	24.80	20.11	537.60		62.50	38.20
150	23.68	41.66	39.66	17.98	15.98	24.28	21.28	18.87	536.94		59.86	34.68
200	27.58	39.78	37.78	12.21	10.21	21.78	18.78	18.00	536.55		57.98	32.18
250	31.07	38.33	36.33	7.26	5.26	19.84	16.84	17.32	536.28		56.53	30.24
300	34.27	37.14	35.14	2.88	0.88	18.26	15.26	16.77	536.08		55.34	28.66
350	37.25	36.14	34.14	N.A.	N.A.	16.92	13.92	16.30	535.92		54.34	27.32
400	40.05	35.27	33.27	N.A.	N.A.	15.76	12.76	15.89	535.80		53.47	26.16
450	42.71	34.50	32.50	N.A.	N.A.	14.74	11.74	15.53	535.70		52.70	25.14
500	45.26	33.82	31.82	N.A.	N.A.	13.82	10.82	15.21	535.61		52.02	24.22
550	47.70	33.19	31.19	N.A.	N.A.	12.99	9.99	14.92	535.54		51.39	23.39
600	50.05	32.63	30.63	N.A.	N.A.	12.24	9.24	14.66	535.47	50.83	22.64	
650	52.33	32.11	30.11	N.A.	N.A.	11.54	8.54	14.42	535.41	50.31	21.94	

Values above 500MHz are for information only.

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### Shipping Information

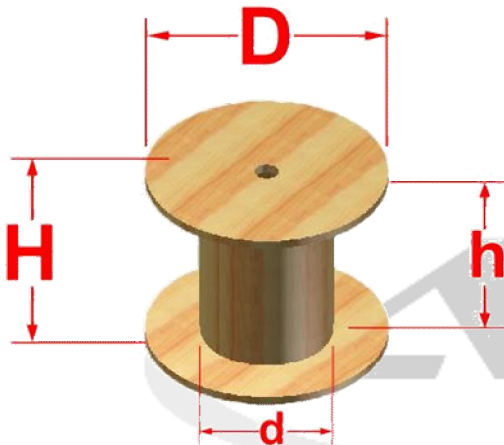
Item	Dimension	Nominal net weight
Cable	305 m	22.83 kg (50.66 lb)
Plywood reel	D440 x d270 x H320 x h290 mm	3.9 kg
Pallet	1150 x1100 x120 mm	14.1 kg

Container type	Capacity of pallet	Capacity of plywood reel
20 feet	20	300
40 feet	40	600

Shipping could use standard delivery form or per customer`s request.

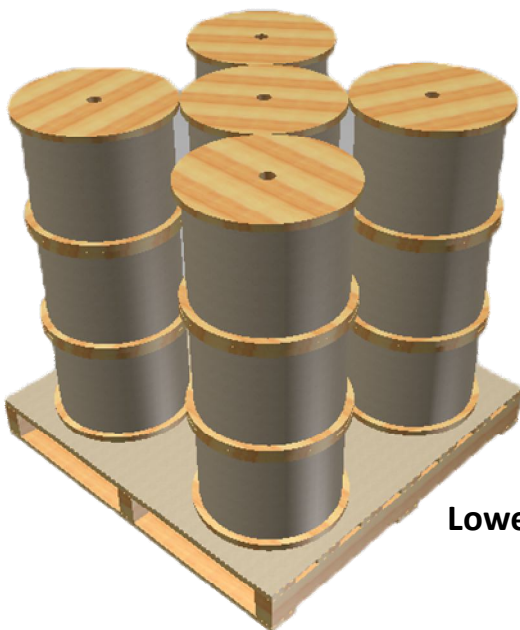
### Schematic Drawing of Plywood Reel

Fumigated plywood reel.

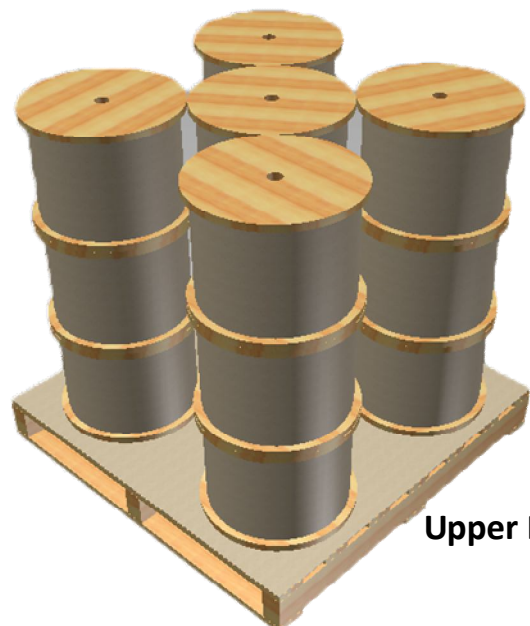


### Schematic Drawing of Package

Each package of pallet delivered with plastic wrap and packing strap.



**Lower Pallet**



**Upper Pallet**