



BATTU TUBING

Dual Wall Heat Shrink Tubing

For Battery or Power Cable to Terminal Application

BATTU tubing from TE Connectivity (TE) is a flame-retardant, adhesive-lined tubing made from a polyolefin jacket with a thermoplastic adhesive inner wall. It is specifically designed for power cable to terminal applications in harsh environments, providing excellent electrical isolation, mechanical protection and moisture-resistance. This semi-rigid tubing also offers a degree of strain relief, and it withstands operating temperatures up to 130°C.

KEY BENEFITS:

- Flame-retardant per ISO6722
- Approximate 2:1 shrink ratio, sized for typical power cables (16-120 mm² [6 AWG to 4/0 AWG]) and terminals for fast, efficient assembly
- Moisture-resistant seal
- Withstands common automotive fluids
- Offers mechanical protection for increased product reliability
- Designed for operating temperatures up to 130°C

APPLICATIONS:

- Commercial vehicles
- Industrial vehicles
- Consumer marine
- Recreational vehicles
- Construction/agricultural equipment
- Generator sets
- Military vehicles
- Automobiles

MATERIALS:

- Irradiated polyolefin jacket
- Thermoplastic adhesive inner wall

BATTU tubing has been optimized in size for fast application to speed production. Additionally, it is provided in convenient cut lengths to help prevent splitting that might result from improper cutting on the plant floor.

ELECTRICAL

- Rated 600V with 19,700V/mm dielectric strength to provide excellent electrical insulation

MECHANICAL

- Semi-rigid jacket provides mechanical protection from abrasion and bending
- Adhesive liner bonds to a variety of substrate materials, providing protection from moisture ingress

TEMPERATURE RATING

- Minimum shrink temperature: 110°C [230°F]
- Full recovery temperature: 135°C [275°F]
- Operating temperature: -40°C to 130°C [-40°F to 266°F]

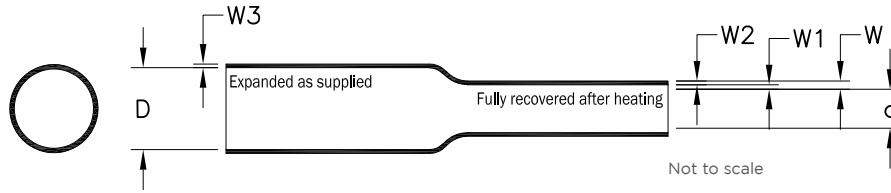
STANDARDS AND SPECIFICATIONS

- Customer drawing: BATTU_TUBING
- Product Specification: TEC-108-120006
- UL file E85381

ORDERING INFORMATION (SEE P. 2 FOR DETAILS)

- Colors: Black, red, orange, and yellow are standard
- Standard packaging: Cut pieces from 32 to 102mm long, as well as sticks that are 1.22m [4ft] long
- Printing: None on standard parts
- Ordering description: Specify product name, size, printing, color and packaging codes. For example, BATTU-12.7/6.1-A1-O-32MM

DIMENSIONS



Shrink Ratio	Size	Minimum Expanded I.D. (D)	Expanded Wall Thickness (W3)	Maximum Recovered I.D. (d)	Total Recovered Wall Thickness (W)	Recovered Inner Melttable Wall Thickness (W1)	Recovered Outer Jacket Wall Thickness (W2)
2.08:1	12.7/6.1	12.7 [0.500]	0.56 ± 0.18 [0.022 ± 0.007]	6.10 [0.240]	1.09 ± 0.28 [0.043 ± 0.011]	0.51 ± 0.15 [0.020 ± 0.006]	0.58 ± 0.13 [0.023 ± 0.006]
2.26:1	20.1/8.9	20.07 [0.790]	0.66 ± 0.18 [0.026 ± 0.007]	2.0 [0.079]	1.45 ± 0.30 [0.057 ± 0.012]	0.74 ± 0.15 [0.029 ± 0.006]	0.71 ± 0.15 [0.028 ± 0.006]
2:1	25.4/12.7	25.4 [1.000]	1.02 ± 0.25 [0.040 ± 0.010]	3.0 [0.118]	1.91 ± 0.30 [0.075 ± 0.012]	1.07 ± 0.15 [0.042 ± 0.006]	0.84 ± 0.15 [0.033 ± 0.006]

PRODUCT DESCRIPTION AND ORDERING INFORMATION

Size	Color	Description	Part Number
12.7/6.1	Black	BATTU-12.7/6.1-A1-0-32MM	NB07066001
		BATTU-12.7/6.1-A1-0-51MM	NB07186001
		BATTU-12.7/6.1-A1-0-STK	NB07072001
	Red	BATTU-12.7/6.1-A1-2-32MM	NB07086001
		BATTU-12.7/6.1-A1-2-51MM	NB07196001
		BATTU-12.7/6.1-A1-2-STK	NB07092001
	Orange	BATTU-12.7/6.1-A1-3-32MM	EM63316001
		BATTU-12.7/6.1-A1-3-51MM	EM63326001
		BATTU-12.7/6.1-A1-3-STK	EM63332001
	Yellow	BATTU-12.7/6.1-A1-4-32MM	EM63926001
		BATTU-12.7/6.1-A1-4-51MM	EM63936001
		BATTU-12.7/6.1-A1-4-STK	EM63952001
20.1/8.9	Black	BATTU-20.1/8.9-A1-0-39MM	NB07106001
		BATTU-20.1/8.9-A1-0-51MM	NB07216001
		BATTU-20.1/8.9-A1-0-77MM	NB07206001
		BATTU-20.1/8.9-A1-0-STK	NB07112001
	Red	BATTU-20.1/8.9-A1-2-39MM	NB07126001
		BATTU-20.1/8.9-A1-2-51MM	NB07226001
		BATTU-20.1/8.9-A1-2-64MM	NB07236001
		BATTU-20.1/8.9-A1-2-77MM	NB07246001
	Orange	BATTU-20.1/8.9-A1-2-STK	NB07132001
		BATTU-20.1/8.9-A1-3-39MM	EM63376001
		BATTU-20.1/8.9-A1-3-51MM	EM63386001
		BATTU-20.1/8.9-A1-3-64MM	EM63526001
Yellow	BATTU-20.1/8.9-A1-3-77MM	EM63536001	
	BATTU-20.1/8.9-A1-3-STK	EM63392001	
	BATTU-20.1/8.9-A1-4-102MM	EM64386001	
	BATTU-20.1/8.9-A1-4-STK	EM64392001	

Size	Color	Description	Part Number
20.1/8.9 (Cont.)	Yellow	BATTU-20.1/8.9-A1-4-39MM	EM64286001
		BATTU-20.1/8.9-A1-4-51MM	EM64296001
		BATTU-20.1/8.9-A1-4-64MM	EM64306001
		BATTU-20.1/8.9-A1-4-77MM	EM64316001
		BATTU-20.1/8.9-A1-4-STK	EM64322001
		25.4/12.7	Black
BATTU-25.4/12.7-A1-0-51MM	NB07146001		
BATTU-25.4/12.7-A1-0-STK	NB07152001		
Red	BATTU-25.4/12.7-A1-2-51MM		NB07166001
	BATTU-25.4/12.7-A1-2-77MM		NB07256001
	BATTU-25.4/12.7-A1-2-102MM		NB07266001
	BATTU-25.4/12.7-A1-2-STK		NB07172001
Orange	BATTU-25.4/12.7-A1-3-51MM		EM63576001
	BATTU-25.4/12.7-A1-3-77MM		EM63586001
	BATTU-25.4/12.7-A1-3-102MM		EM63596001
	BATTU-25.4/12.7-A1-3-STK		EM63602001
Yellow	BATTU-25.4/12.7-A1-4-51MM		EM64366001
	BATTU-25.4/12.7-A1-4-77MM	EM64376001	
	BATTU-25.4/12.7-A1-4-102MM	EM64386001	
	BATTU-25.4/12.7-A1-4-STK	EM64392001	

BATTU-12.7/6.1-A1-0-STK

- Length: as indicated (STK is 1.22m [4ft])
- Color: 0 = Black, 2 = Red, 3 = Orange, 4 = Yellow
- Printing: A1 = None
- Size: as indicated
- BATTU: Tubing for Power Cable Terminations

PROPERTY REQUIREMENTS

Property	Unit	Requirement	Test Method*
Physical			
Dimensions	mm [in]	As shown in DIMENSIONS table	ASTM D 2671
Longitudinal Change	Percent	0, -10%	ASTM D 2671
Tensile Strength	MPa (psi)	10.3 (1,500) minimum	ASTM D 2671
Ultimate Elongation	Percent	250 minimum	ASTM D 2671
Secant Modulus (Expanded)	MPa (psi)	137 (2.0 x 10 ⁴) minimum	ASTM D 2671
Split Resistance	-	Pass	TEC-108-120006, 4.3.4
Heat Shock 4 hours at 225 ± 3°C (437 ± 5°F)	-	No dripping, flowing or cracking	ASTM D 2671
Short Term Heat Resistance 168 hours at 158 ± 1°C (316.4 ± 1.8°F) followed by test for Ultimate Elongation Tensile strength	Percent MPa (psi)	200 minimum 6.9 (1,000) minimum	ASTM D 2671
Long Term Heat Resistance 3,000 hours at 125 ± 3°C (257 ± 5°F) followed by test for Ultimate Elongation Tensile strength	Percent MPa (psi)	200 minimum 6.9 (1,000) minimum	ASTM D 2671
Color	-	Pass	MIL-STD-104
Peel Strength To Copper To Crosslinked Poly (TAT-125)	N/25mm (Lbf/in)	60 (13.76) minimum 60 (13.76) minimum	TEC-108-120006, 4.3.9
Sleeve Creep	-	Pass	TEC-108-120006, 4.3.7
Flammability	-	Self-extinguishing within 30 s	TEC-108-120006, 4.3.3; ISO 6722-1
Electrical			
Dielectric Strength	Volts/mm (V/mil)	500 (19,700) minimum	ASTM D 2671
Volume Resistivity	ohm-cm	10 ¹² minimum	ASTM D 2671
Fluid Resistance			
Ultimate Elongation	Percent	200 minimum	ASTM D 2671; TEC-108-120006, 4.3.8
Tensile Strength	MPa (psi)	6.9 (100) minimum	ASTM D 2671; TEC-108-120006, 4.3.8
Dielectric Strength	Volts/mm (V/mil)	500 (19,700) minimum	ASTM D 2671; TEC-108-120006, 4.3.8
Swell	Percent	50 maximum	ASTM D 2671; TEC-108-120006, 4.3.8

* Refer to product specification TEC-108-120006 for more complete details concerning test methods and conditions.

BATTU Tubing

Dual Wall, Heat Shrink Tubing

FOR MORE INFORMATION

Visit www.te.com/battutubing

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