

TBF/2501 600V LF

Portable power cable

- Heat resistance ★★★★★
 - Oil resistance ★★★★★
 - Noise resistance ★
 - Flame resistance ★★★★★
 - Torsion resistance ★★★★★
 - Flexibility resistance ★★★★★ ※1
 - Drag chain ★★★★★
- ※1 More than 10 cores is 「3」
 ※The characteristic is an aim.

Certification	UL AWM	cUL AWM	CE marking	Meeting standard	
				Electrical Appliance and Material Safety Law (19-8AWG)	Electrical Appliance and Material Safety Law (6-4AWG)
Applicable standard	UL 758	CSA C22.2 No.210	EN50525-2-51	Law/Departmental order to determine a technical standard of the electrical equipment	Law/Departmental order to determine a technical standard of the electrical equipment
Official symbol	UL STYLE 2501	CSA AMW II A/B	Equivalent of H05VV5-F	ASEISMATIC HVCT	HVCT
Voltage rating	600V	600V	300/500V	600V	600V
Temperature rating	105°C	105°C	70°C	75°C	75°C
Conductor	UL 758	UL 22.2, No.210	EN60228	JIS C 3102	JIS C 3102
Flame rating	VW-1	FT1	EN50264-2-1	JIS C 3005 4.26.2 b)	JIS C 3005 4.26.2 b)

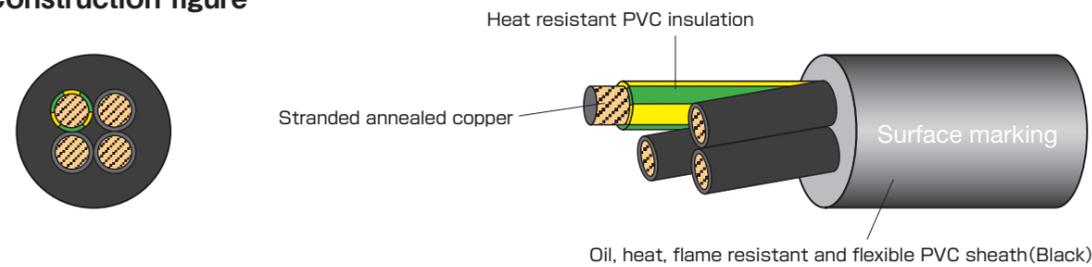
> Application

- It is possible to use it for wiring medium or low-speed operational components of machine tool.
- Drag chain test 5 million times or more. (or more ability 10 million times)
- Vibration resistant cable with UL and cUL at 600V, 105°C. (Category : AVLV2, AVLV8)
- CE marking.
- Fit to Electrical Appliance and Material Safety Law. (7 cores or less cable.)

> Feature

- Fine wire conductor use.
- Heat resistant PVC used for insulation.
- Oil and heat resistant PVC used for sheath.
- Flame resisting : UL VW-1, cUL FT1.

> Construction figure



※Cable with more than 10 cores : binder tape on cores.

> Surface marking

(1) 7 cores or less, 19~8AWG cables



(2) 7 cores or less, 6~4AWG cables

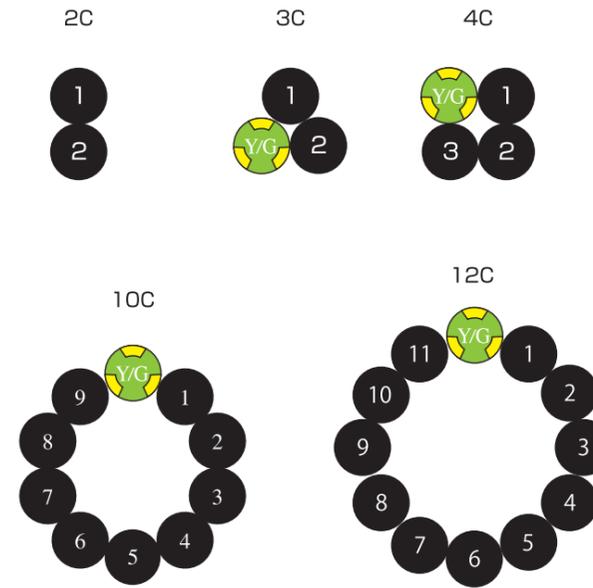


(3) 8 cores or less, 19~8AWG cables



※R15 indicates "Compliant with RoHS Directive 2011/65/EU and Directive (EU) 2015/863 (10 substances)".

> Identification



※Y/G indicates green core with yellow stripe (30~50%).

Figures in ○ indicate white numbering on black insulator.





Portable power cable

> Construction table

No. of cores	Conductor			Heat-resistant PVC insulation		Oil, heat, flame resistant flexible PVC sheath		Approx. weight (lbs/1000ft) (kg/km)	Electrical Characteristics			Allowable ampacity (A)
	Size (AWG)	Construction (Line/mm)	Outside diameter (mm)	Outside diameter (inch)	Outside diameter (mm)	Overall diameter approx. (inch)	Overall diameter approx. (mm)		Conductor resistance (Ω/km20°C)	Insulation resistance (MΩkm20°C)	Electrical strength (V/1min.)	
2C						0.346	8.8	64(95)				12
3C						0.362	9.2	71(105)				12
4C						0.390	9.9	84(125)				11
6C						0.461	11.7	118(175)				9.6
8C	19	67/0.12	1.1	0.106	2.7	0.543	13.8	161(240)	less than 25.3	more than 50	3000	8.8
10C	(0.75mm)	(67/4.7mil)	(43mil)			0.622	15.8	188(280)				7.9
○12C						0.697	17.7	239(355)				7.5
16C						0.681	17.3	249(370)				6.4
20C						0.752	19.1	302(450)				6.0
30C						0.933	23.7	457(680)	5.2			
2C						0.378	9.6	81(120)				17
3C						0.398	10.1	91(135)				17
4C						0.437	11.1	111(165)				15
6C						0.516	13.1	158(235)				13
8C	17	112/0.12	1.5	0.122	3.1	0.598	15.2	208(310)	less than 15.2	more than 50	3000	11
10C	(1.25mm)	(112/4.7mil)	(59mil)			0.697	17.7	259(385)				11
12C						0.783	19.9	319(475)				10
16C						0.764	19.4	333(495)				8.7
○20C						0.843	21.4	410(610)				8.0
○30C						1.059	26.9	628(935)	7.0			
2C						0.409	10.4	97(145)				22
3C						0.429	10.9	114(170)				22
4C						0.465	11.8	141(210)				19
6C						0.559	14.2	202(300)				16
8C	15	80/0.18	1.8	0.134	3.4	0.650	16.5	269(400)	less than 9.83	more than 50	3000	15
○10C	(2mm)	(80/7.1mil)	(71mil)			0.756	19.2	333(495)				13
○12C						0.846	21.5	383(570)				12
○16C						0.827	21.0	447(665)				11
○20C						0.913	23.2	551(820)				10
○30C						1.154	29.3	820(1220)	9.0			
○2C						0.465	11.8	121(180)				31
○3C	12	65/0.26	2.4	0.157	4.0	0.496	12.6	155(230)	less than 5.60	more than 40	3000	31
4C	(3.5mm)	(65/10.2mil)	(94mil)			0.547	13.9	195(290)				27
○6C						0.646	16.4	276(410)				22
4C	10	104/0.26	3.1	0.201	5.10	0.657	16.7	289(430)	less than 3.63	more than 40	3000	36
○8C	(5.5mm)	(104/10.2mil)	(122mil)			0.929	23.6	561(835)				27
4C	8 (8mm)	7/24/0.254	4.2	0.261	6.64	0.827	21.0	464(690)	less than 2.40	more than 40	3000	47
4C	6 (13.5mm)	7/39/0.254	5.3	0.339	8.6	1.039	26.4	732(1090)	less than 1.40	more than 40	3000	66
4C	4 (21.4mm)	7/61/0.254	6.6	0.390	9.9	1.177	29.9	1025(1525)	less than 0.887	more than 30	3000	87

※Partial conductor construction is changed from production in August 2022.
 For details, please contact our sales representative or the place of purchase.
 ※3c or more has the [Y/G] earth cable of an equal size.
 ※The test of 2000V/5 minute besides the withstand voltage test on above mentioned UL standard and the CSA standard is applied.
 ※The size indicated within parenthesis in the above table, describes the appropriate size of Japanese domestic use.
 ○:Indicates Make-to-order products.

> Allowable ampacity

The allowable ampacity in this catalog is a recommended value at one in the air construction and the ambient temperature 30°C and in the case of use for Japanese equipment in the wiring.
 Allowable ampacity is calculated based on JCS0168.
 Please multiply the following adjustment factors by the ambient temperature.
 Please select the allowable ampacity value to much of usage.

●Adjustment factors(at ambient temperature)

Ambient temperature(°C)	30	40	50	60	70	80	90	100
Adjustment factors	1.00	0.93	0.86	0.77	0.68	0.58	0.45	0.26

> Movement characteristic

●2~8C

*) 1 Rotary bending	Bending	*) 2 U-shaped turn-back	90° bending	Twist		*) 3 Move bending
				Straight	Bending	
A	B	B	B	C	C	D

Examination's time:
 S= More than 20 million times
 A= More than 10 million times
 B= More than 5 million times
 C= More than 3 million times
 D= More than 1 million times
 E= More than 0.5 million times

*) 1 It is C when overall diameter of the cable is 20mm or more, and D when overall diameter of the cable is 30mm or more.
 *) 2 Our original test showed that no case of wire breakage could be detected for TBF even after 10 million cycles.
 *) 3 When overall diameter of the cable is 20mm or less.

●More than 10C

*) 1 Rotary bending	Bending	U-shaped turn-back	90° bending	Twist		*) 3 Move bending
				Straight	Bending	
B	B	B	C	C	C	E

※The longevity of the cable inside a drag chain is dependent on the travel distance.
 Please consult our Sales Department when wiring a travel distance of 5m or greater.

> Oil resistance

Insulating oil	Lubricating oil	Cutting oil I	Cutting oil II	Hydraulic oil	Grease
A	A	B	B	B	B

※A~C in the table indicate the characteristics below.

A:There is no problem on practical use at all.
 B:Deterioration slightly no problem almost on practical use.
 C:It is sometimes deteriorated to some degree, and not possible to use it.

> Standard sales length

Please contact us about production lot.