STO(A)/TC LF

For tray cable, race way and electronic equipment power supply code

Heat resistance ★★★★★
Oil resistance ★★★★★
Noise resistance ★
Flame resistance ★★★★★
Flexibility ★★★
non-migratory ★★★★★
Transport property★★
※The characteristic is an aim.

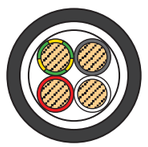
Application

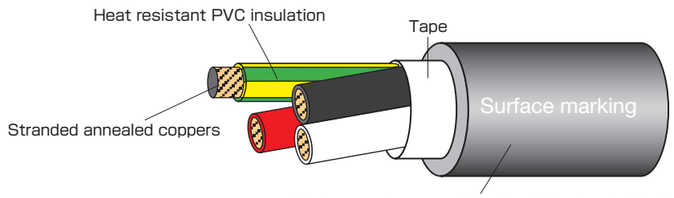
- Multi cable for North America.
- Electric equipment cable with UL and cUL at 600V, 105℃.
  (Category QPOR, ZJCZ, ZKHZ, ZJCZ7)
- Obtaining UL Listed STO, TC and MTW, this cable compliants to NFPA 70 and 79.

Feature

- Heat resistant PVC material is used to insulation.
- Oil, heat resistant and Flexible PVC sheath material is used.
- It passes Vertical-Tray Flame Test of UL.

Construction figure





Surface marking

(1)2 cores of 18AWG～10AWG cables

E209288(UL)TC 90℃ DRY 75℃ WET or MTW FLEXING VW-1 or STO 105℃ 600V VW-1 Line number×□□AWG
c(UL) STO 105℃ 600V Line number×□□AWG(○○mm²) FT1 TAIYO <PS>E TY LF R15

(2)3 cores or more of 18AWG～10AWG cables

E209288(UL)TC-ER 90℃ DRY 75℃ WET or MTW FLEXING VW-1 or STO 105℃ 600V VW-1 Line number×□□AWG
c(UL) STO 105℃ 600V Line number×□□AWG(○○mm²) FT1 TAIYO <PS>E TY LF R15

(3)2 cores of 8AWG～2AWG cables

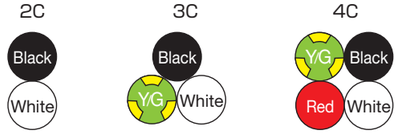
E209288(UL)TC 90℃ DRY 75℃ WET or MTW VW-1 or STO 105℃ 600V VW-1 Line number×□□AWG
c(UL) STO 105℃ 600V Line number×□□AWG(○○mm²) FT1 TAIYO <PS>E TY LF R15

(4)3 cores or more of 8AWG～2AWG cables

E209288(UL)TC-ER 90℃ DRY 75℃ WET or MTW VW-1 or STO 105℃ 600V VW-1 Line number×□□AWG
c(UL) STO 105℃ 600V Line number×□□AWG(○○mm²) FT1 TAIYO <PS>E TY LF R15

※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%).

Standard sales length

100m
(Sales by cutting short length is available for 10-2AWG products. Please contact us which sizes are available.)

Certification	UL STO	cUL STO	UL TC	UL MTW	Electrical Appliance and Material Safety Law (18～10AWG)	Electrical Appliance and Material Safety Law (8～2AWG)
Applicable standard	UL 62	CSA C22.2 No.49	UL 1277	UL 1063	Departmental order to determine a technical standard of the electrical equipment	Departmental order to determine a technical standard of the electrical equipment
Official symbol	STO	STO	TC	MTW	Vinyl cab tire cord	Vinyl cab tire cord
Voltage rating	600V	600V	600V	600V	300V	600V
Temperature rating	105℃	105℃	DRY90℃ WET75℃	DRY90℃ WET60℃	60℃	60℃
Conductor	UL 62	CSA C22.2 No.49	UL 1277	UL 1063	JIS C 3102	JIS C 3102
Flame rating	VW-1	FT1	Vertical-Tray Flame Test	VW-1	JIS C 3005 4.26.2 b)	JIS C 3005 4.26.2 b)

Meeting standard

Construction table

No. of cores	Conductor Size (AWG)	Conductor Construction (Line/mm)	Conductor Outside diameter (mm)	Heat resistant PVC insulation Outside diameter (inch)	Heat resistant PVC insulation Outside diameter (mm)	Oil, heat - resistant flexible - PVC sheath Overall diameter approx.(inch)	Oil, heat - resistant flexible - PVC sheath Overall diameter approx.(mm)	Approx. weight (lbs/1000ft) (kg/km)
2C	18 (0.824mm²)	33/0.18 (33/7.1mil)	1.2 (47mil)	0.114	2.9	0.366	9.3	64(95)
3C						0.382	9.7	77(115)
4C						0.413	10.5	91(135)
2C	16 (1.31mm²)	53/0.18 (53/7.1mil)	1.5 (59mil)	0.126	3.2	0.390	9.9	77(115)
3C						0.413	10.5	91(135)
4C						0.445	11.3	111(165)
2C	14 (2.08mm²)	84/0.254 (84/10mil)	1.9 (75mil)	0.173	4.4	0.531	13.5	138(205)
3C						0.559	14.2	161(240)
4C						0.602	15.3	195(290)
2C	12 (3.31mm²)	65/0.254 (65/10mil)	2.4 (94mil)	0.193	4.9	0.602	15.3	185(275)
3C						0.634	16.1	222(330)
4C						0.681	17.3	269(400)
2C	10 (5.26mm²)	104/0.254 (104/10mil)	3.1 (122mil)	0.220	5.6	0.657	16.7	232(345)
3C						0.693	17.6	286(425)
4C						0.748	19.0	353(525)
3C	8 (8.37mm²)	7/24/0.254 (7/24/10mil)	4.2 (165mil)	0.299	7.6	0.898	22.8	467(695)
4C						1.004	25.5	605(900)
2C	6 (13.3mm²)	7/39/0.254 (7/39/10mil)	5.3 (209mil)	0.343	8.7	0.969	24.6	521(775)
3C						1.020	25.9	652(970)
4C						1.142	29.0	840(1250)
3C	4 (21.2mm²)	7/61/0.254 (7/61/10mil)	6.6 (260mil)	0.394	10.0	1.165	29.6	899(1340)
4C						1.295	32.9	1163(1730)
3C	2 (33.6mm²)	19/35/0.254 (19/35/10mil)	8.4 (331mil)	0.473	12.0	1.354	34.7	1277(1900)
4C						1.508	38.6	1640(2440)

※Partial conductor construction is changed from production in August 2022.
For datails,please contact our sales representative or the place of purchase.
※3, 4 core has the [Y/G] earth cable of an equal size.

Allowable ampacity

·Allowable current of this catalog NFPA70 Table 400.5(A)(1) STO ambient temperature 30℃.

·For the current correction factor, please refer to the Technical document page.

·For please confirm the NFPA70(National Electrical cord) and NFPA79(Electrical Standard for Industrial Machinery) more use.

Electrical property

Size (AWG)	Conductor resistance (Ω/km20℃)	Insulation resistance (MΩkm20℃)	Electrical strength (V/1min.)	Allowable ampacity (A) a	Allowable ampacity (A) b
18	less than 22.1	more than 60	2000	7	10
16	less than 13.7	more than 60	2000	10	13
14	less than 8.64	more than 60	3000	15	18
12	less than 5.42	more than 50	3000	20	25
10	less than 3.42	more than 50	3000	25	30
8	less than 2.14	more than 50	4000	35	40
6	less than 1.34	more than 50	4000	45	55
4	less than 0.848	more than 50	4000	60	70
2	less than 0.533	more than 40	4000	80	95

※Allowable ampacity By National Electrical Code(NEC)
a:Apply to 3-conductor cords and other multiconductor cords connected to utilization equipment so that only 3 conductors are current-carrying.
b:Apply to 2-conductor cords and other multiconductor cords connected to utilization equipment so that only 2 conductors are current-carrying.

STO(A) /TC LF