

FURUKAWA ELECTRIC INDUSTRIAL CABLE CO., LTD
 CABLE ENGINEERING SECTION
 ENGINEERING DEPARTMENT
 ENGINEERING DEVELOPMENT DIVISION

Short circuit current ratings

The short circuit currents quoted here are for cables operating normally at maximum conductor temperature of 90°C.

XLPE insulation is actually capable of withstanding short-term temperature up to 250°C.

According to ICEA P-32-382 Curves based on formula

$$I = A \sqrt{\frac{0.115 \log \left(\frac{T_2 + 234}{T_1 + 234} \right)}{t}}$$

I: Short circuit current (kA)

A: Conductor area (mm²)

T₁: Operating temperature (90°C)

T₂: Short circuit temperature (250°C)

t: Short circuit duration (sec)

T₁: 90°C / T₂: 250°C

Nominal area mm ²	Short circuit currents (kV)													
	Duration of short circuit in second													
	0.03	0.05	0.07	0.1	0.14	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
1.5	1.3	1.0	0.8	0.7	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2
2.5	2.0	1.6	1.3	1.1	0.9	0.8	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.3
4	3.2	2.5	2.1	1.8	1.5	1.3	1.0	0.9	0.8	0.7	0.7	0.6	0.6	0.6
6	4.9	3.8	3.2	2.7	2.3	1.9	1.5	1.3	1.2	1.1	1.0	0.9	0.9	0.8
10	8.2	6.3	5.4	4.5	3.8	3.2	2.6	2.2	2.0	1.8	1.7	1.6	1.5	1.4
16	13.0	10.1	8.5	7.1	6.0	5.0	4.1	3.6	3.2	2.9	2.7	2.5	2.4	2.2
25	20.6	15.9	13.5	11.3	9.5	8.0	6.5	5.6	5.0	4.6	4.3	4.0	3.8	3.6
35	28.5	22.1	18.7	15.6	13.2	11.1	9.0	7.8	7.0	6.4	5.9	5.5	5.2	4.9
50	38.6	29.9	25.3	21.2	17.9	15.0	12.2	10.6	9.5	8.6	8.0	7.5	7.1	6.7
70	55.9	43.3	36.6	30.6	25.9	21.6	17.7	15.3	13.7	12.5	11.6	10.8	10.2	9.7
95	77.5	60.0	50.7	42.4	35.9	30.0	24.5	21.2	19.0	17.3	16.0	15.0	14.1	13.4
120	97.9	75.8	64.1	53.6	45.3	37.9	31.0	26.8	24.0	21.9	20.3	19.0	17.9	17.0
150	120.3	93.1	78.7	65.9	55.7	46.6	38.0	32.9	29.5	26.9	24.9	23.3	22.0	20.8
185	150.8	116.8	98.8	82.6	69.8	58.4	47.7	41.3	36.9	33.7	31.2	29.2	27.5	26.1
240	198.3	153.6	129.8	108.6	91.8	76.8	62.7	54.3	48.6	44.3	41.0	38.4	36.2	34.3
300	248.7	192.6	162.8	136.2	115.1	96.3	78.6	68.1	60.9	55.6	51.5	48.2	45.4	43.1
400	329.3	255.1	215.6	180.4	152.5	127.6	104.1	90.2	80.7	73.6	68.2	63.8	60.1	57.0
500	401.0	310.6	262.5	219.6	185.6	155.3	126.8	109.8	98.2	89.7	83.0	77.7	73.2	69.5