

Marine Cello-Lite Fuse Type UC&UB

Non-renewable Cartridge Type Current-limiting Fuse-links in accordance with JIS C 8314-1983

Rated Voltage AC. 500 V/DC. 250 V

Rated Current 1 A-200 A

Rated Breaking Capacity
AC. 50 kA/DC. 20 kA



Marine Cello-Lite fuses Type UC and Type UB are cartridge type non-renewable, high breaking capacity, current-limiting fuses of most advanced construction.

The fuses of Type UC and UB comply with the specifications of JIS C 8314-1983 for Particular Requirements for Low-Voltage Cartridge Fuses and have been duly approved by Nippon Kaiji Kyokai (NK), The Lloyd's Register (LR), American Bureau of Shipping (ABS), Germanischer Lloyd (GL) and Bureau Veritas (BV). (K R) KOREA (C S) CHINA.

Despite their excellent performance, you can get them at rather low prices and you will find them truly cost-effective.

FEATURES

1. High breaking capacity

With current-limiting effect maximized, each fuse of these series has a high breaking capacity despite its compactness. Rated breaking capacities are 50 kA at 500 V AC (ACL50) and 20 kA at 250 V DC (DCL 20).

2. Large limiting effect for short-circuit current

Silver ribbons or wires used as fuse element are provided with notches for current-limiting, whereby cut-off current and operating Joule-integral (I^2t) are both made sufficiently small.

3. Safety

Totally-enclosed non-renewable construction insures safe operation, not allowing any flame or gas to burst out at the moment of interruption.

4. Compliance with JIS Specifications

The dimensions of these fuses thereof comply with the CF2 and CK2 specifications of JIS C 8314-1983, respectively, and they are more compact than Standard Type 6 fuses for 500 V AC. The Type UC and Type UB fuses are also practically exchangeable with the fuses complying with the American UL Standards.

Table 1 Standard Ratings

Type Number	Rated Voltage (V)	Rated Current (A)			Fusing Factor	Rated Breaking Capacity (kA)	NK Approved No.
UC1	AC 500 DC 250	1	3	5	1.35	AC 50 (ACL 50)	TEST NO. NKE-3112- 68T103
		10	15	30			
UC2	AC 500 DC 250	20	25	30	1.35	DC 20 (DCL 20)	NKE-3113-68T104 NKE-3114- NKE-3115
UB3		40	50	60			
UB4		75	100	125			
		175	200	250			

CONSTRUCTION AND DIMENSIONS

1. The insulating tube is made of special ceramics having high heat-resistance, and silica sand is used as arc-extinguishing filler. As compared with the fuses employing other insulating materials, this construction does not give rise to carbonization or deterioration and also insures good insulation after operation.
2. The fuse element is made of pure silver with special treatment applied. The element gives rise to little deterioration during continuous use, and maintains stable performance and excellent characteristics.
3. Connection of the fuse element and terminals is of steady structure.
4. The dimensions are shown in Fig. 1.

Table 2 Dimensions

Type Number	Rated Current (A)	Dimensions (mm)								Weight (g)	JIS Designation
		A	B	C	D	E	F	L	Diagram		
UC1	1	50	13	15	—	—	—	38	A	20	CF 2
	3	10	15	15	—	—	—	—	—	—	—
UC2	15	20	16	20	—	—	—	60	A	51	CF 2
	25	30	17.5	30	25	20	3.2	120	B	160	CK 2
UB3	40	60	75	42	35	30	4.5	145	B	395	CK 2
	50	100	95	42	35	30	4.5	145	B	395	CK 2
UB4	75	150	110	42	35	30	4.5	145	B	395	CK 2
	100	200	110	42	35	30	4.5	145	B	395	CK 2

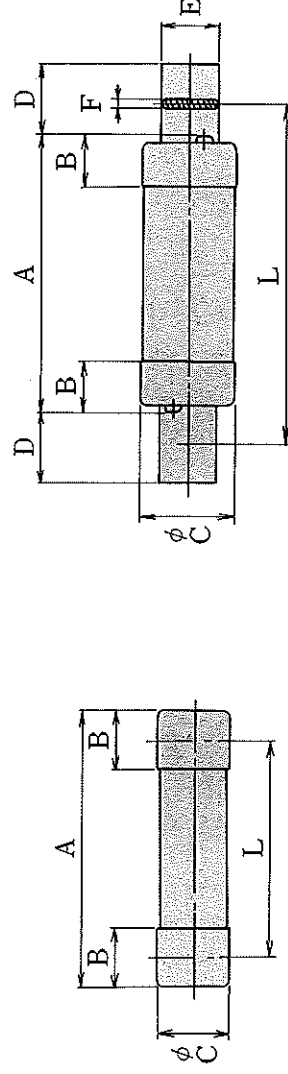


Diagram A

Diagram B

Fig. 1 Dimensions

PERFORMANCE

The fuses of these series adequately satisfy the specifications of JIS C 8352-1983 for General Wiring Fuses and Fuseholders. As to 'class', they satisfy under Class A of JIS.

The pre-arcing time/current characteristic of the fuses is shown in Fig. 2 and the cut-off characteristic in Fig. 3. Fig. 4 indicates their Joule-integral (I^2t) characteristic.

The fuses of Type UC and UB have been tested, and their interrupting performance has been confirmed, at rated breaking current (I_1), maximum arc-energy generating approximate current (I_2) and 135% of the rated current of fuse-link (I_3). Table 3 indicates a part of the results of such tests, and Fig. 5 and Fig. 6 show examples of the oscillograms taken at the tests.

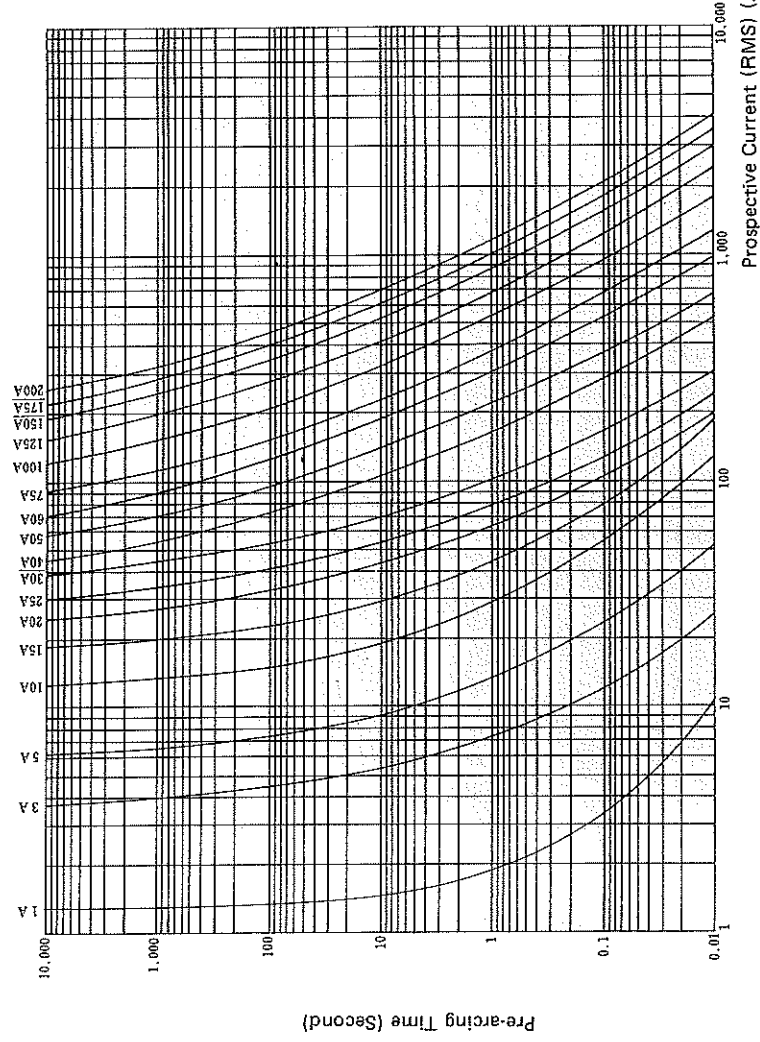


Fig. 2 Pre-arcing time/current characteristic

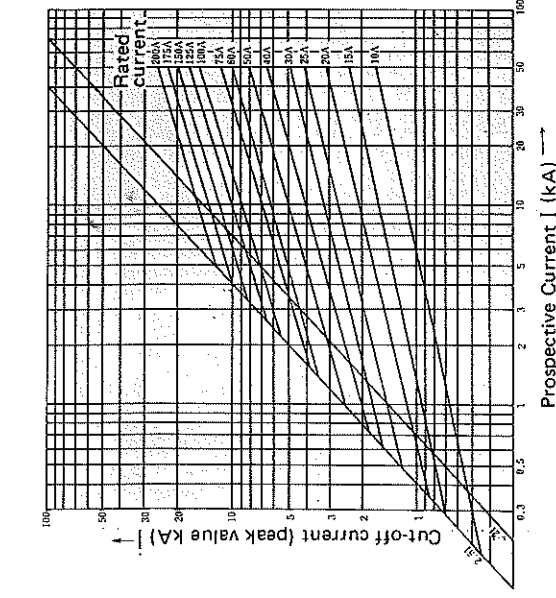


Fig. 3 Cut-off characteristics

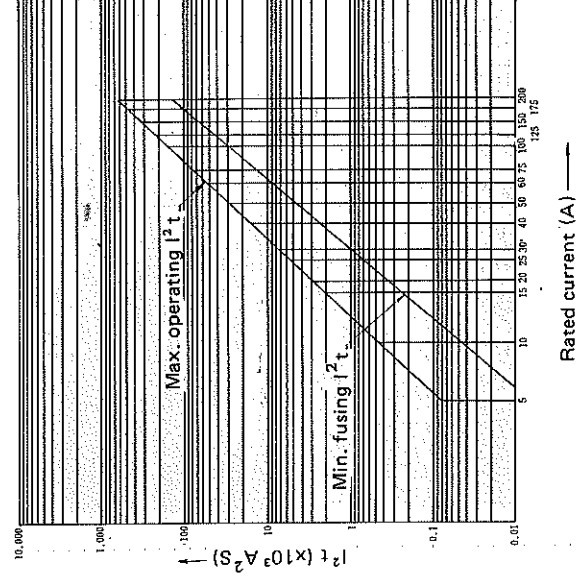


Fig. 4 I^2t value

Table 3 Breaking Test Results at AC.

Type Number	Rated Current (A)	Applied Voltage (V)	Prospective Current (kA)	Power Factor	Making Angle (deg.)	Arcing Angle (deg.)	Pre-arcing Time (ms)	Arcing Time (ms)	Operating Time (ms)	Cut-off Current (kA)	Operating I ² t (X10 ³ A ² S)	Switching Voltage (kV)	Insulation Resistance after operation (MΩ)
UC 1	30	500	50.2	0.10	31.8	41.6	0.54	5.89	6.43	1.68	2.305	0.66	20,000
		500	1.12	0.05	3.65	72.9	3.85	3.85	7.70	1.13	2.880	1.30	500
UC 2	60	500	50.2	0.10	40.2	55.9	0.87	5.38	6.25	5.05	21.38	0.83	5,000
		500	3.2	0.06	8.81	76.8	3.78	4.06	7.84	3.32	28.76	1.32	1,000
UB 3	100	500	50.2	0.10	21.3	47.2	1.44	5.54	6.98	7.26	49.90	0.84	10,000
		500	6.0	0.04	8.46	84.5	4.23	4.22	8.45	6.00	80.20	1.63	10,000
UB 4	200	500	50.2	0.10	20.6	61.8	2.30	5.55	7.85	16.2	403.7	1.17	100
		500	13.8	0.06	12.2	74.6	3.47	4.69	8.16	14.5	500.5	1.34	200

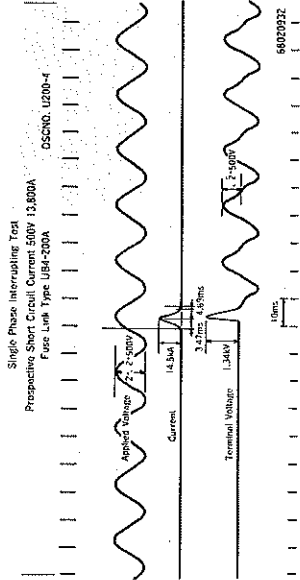


Fig. 5 Interrupting Oscillogram of Model UB4 200A at AC 500V 13.8 kA

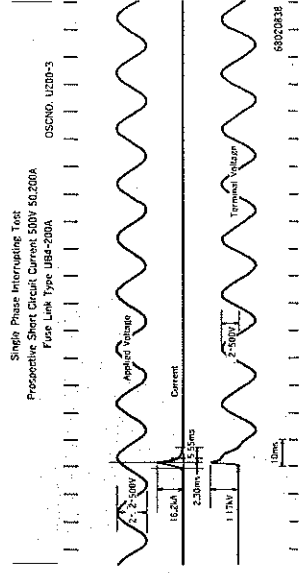


Fig. 6 Interrupting Oscillogram of Model UB4 200A at AC 500V 50 kA



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