

CU/XLPE/LSOH

Cable refer to BS 8573
0.6/1kV



Certificate

BASEC
BRITISH APPROVALS SERVICE FOR CABLES

Application

Unarmoured power cables with low emissions of smoke and acid gas for modular power and distribution for office buildings, commercial complex, theatres, hotels, hospitals, airports, metro, tunnels and public facilities where to guarantee safety evacuation of people exposing to risk of fire hazards. Suitable for fixed installation both indoor and outdoor, on tray, in pipe, in free air or clipped direct.

Construction

No.	Classification	Code	Construction detail
①	Conductor	CU	Annealed copper conductor BS EN60228(IEC60228) Class 2
②	Insulation	XLPE	XLPE according to BS 7655-1.3 GP8
③	Outer sheath	LSOH	LSOH according to BS7655-6.1 LTS 4 Sheath color: Black

Cable marking

The outer sheath is marked in embossed or link printed as follows:

EG:

DRAKA(S) BASEC CAD049 BS8573 ELECTRIC CABLE 600/1000V SIZE YYYY XXXXm



Core Identification

No. of cores	Detail
1 core	Black
Other Harmonized colours available as customer requirement	

Applicable Standards

Design guidelines	BS 8573
Flame retardant properties	IEC60332-1, IEC60332-3-24
Halogen properties	IEC60754-1, IEC60754-2
Smoke density	IEC61034-2
Low levels of Halogen(Fluorine)	IEC60684-2
Voltage test in water	IEC 60502-1
Insulation resistance	IEC 60502-1

Bending radius

Minimum bending radius	Cable diameter D mm	
	D≤25	D>25
Normal	4D	6D
Notes: D =overall diameter of cable		

Technical Data

Rated voltage	0.6/1 kV
Test voltage	3.5kV/5min
Temperature range	-15℃-90℃

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No. of cores	×	C.S.A	Shape of Conductor	Diameter of Conductor	Nominal thickness of insulation	Nominal thickness of sheath	Approx. overall diameter	Approx. weight	DC resistance at max.20°C
n		mm²		mm	mm	mm	mm	Kg/km	Ω/km
1	×	6	Circular	3.1	0.7	1.4	8.2	117	3.08
1	×	10	Circular	4.0	0.7	1.4	9.2	165	1.83
1	×	16	Circular	5.1	0.7	1.4	10.3	230	1.15
1	×	25	Circular	6.4	0.9	1.4	11.6	325	0.727
1	×	35	Circular	7.5	0.9	1.4	12.7	425	0.524
1	×	50	Circular*	8.0	1.0	1.4	13.4	526	0.387
1	×	70	Circular*	9.7	1.1	1.4	15.3	724	0.268
1	×	95	Circular*	11.3	1.1	1.5	16.9	988	0.193
1	×	120	Circular*	12.7	1.2	1.5	18.4	1223	0.153
1	×	150	Circular*	14.1	1.4	1.6	20.3	1493	0.124
1	×	185	Circular*	15.9	1.6	1.6	22.4	1829	0.0991
1	×	240	Circular*	18.1	1.7	1.7	25.1	2385	0.0754
1	×	300	Circular*	20.3	1.8	1.8	27.7	2998	0.0601
1	×	400	Circular*	23.5	2.0	1.9	31.5	3841	0.0470
1	×	500	Circular*	26.4	2.2	2.0	35.0	4887	0.0366
1	×	630	Circular*	30.0	2.4	2.2	39.4	6224	0.0283
1	×	800	Circular*	34.0	2.6	2.3	44.1	7958	0.0221
1	×	1000	Circular*	39.0	2.8	2.4	49.7	10249	0.0176

Note *: compacted conductor

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No. of cores	×	C.S.A	Current rating-three phase AC			Voltage drop-three phase AC			Short circuit current (1s)
			Horizontal flat touching free air	Trefoil touching free air	Horizontal flat spaced* free air	Horizontal flat touching free air	Trefoil touching free air	Horizontal flat spaced* free air	
n		mm²	A	A	A	mV/A/m	mV/A/m	mV/A/m	kA(1s)
1	×	6	—	—	—	6.800	6.800	6.800	0.86
1	×	10	—	—	—	4.000	4.000	4.000	1.43
1	×	16	—	—	—	2.500	2.500	2.500	2.29
1	×	25	141	135	182	1.600	1.600	1.650	3.58
1	×	35	176	169	226	1.150	1.150	1.200	5.01
1	×	50	216	207	275	0.870	0.870	0.890	7.15
1	×	70	279	268	353	0.620	0.610	0.650	10.01
1	×	95	342	328	430	0.460	0.450	0.490	13.59
1	×	120	400	383	500	0.380	0.370	0.420	17.16
1	×	150	464	444	577	0.320	0.310	0.370	21.45
1	×	185	533	510	661	0.280	0.260	0.330	26.46
1	×	240	634	607	781	0.240	0.220	0.290	34.32
1	×	300	736	703	902	0.210	0.195	0.270	42.90
1	×	400	868	823	1085	0.195	0.175	0.260	57.20
1	×	500	998	946	1253	0.180	0.160	0.250	71.50
1	×	630	1151	1088	1454	0.170	0.150	0.240	90.09
1	×	800	1275	1214	1581	0.165	0.145	0.240	114.40
1	×	1000	1436	1349	1775	0.165	0.140	0.240	143.00

Note Current ratings at ambient temperature 30°C

*: Flat spaced by one cable diameter

BASEC
BRITISH APPROVALS SERVICE FOR CABLES

Certificate No:
CAD049
Issue No: 2

Certificate of Assessed Design

Licensee:
Suzhou Draka Cable Co., Ltd.

No. 88 Kangyuan Road, Xiangcheng Economic Development District, Suzhou, 215131, China

Factory:
No. 88 Kangyuan Road, Xiangcheng Economic Development District, Suzhou, 215131, China

Standard:
CAD049

Description:
BS 8573: 2012 with additional testing

Details:
Single-core, 6qmm to 1000sqmm, Class 2, Circular, Sheath LTS4, Insulation GP8

With additional testing to: Voltage test - as per IEC 60502-1 Clause 15.3.2,a; Insulation Resistance test (outer sheath to be removed) - as per IEC 60502-1 Clauses 17.2.1; BS EN 60332-3-24; BS EN 61034-2; BS EN 60754-1; BS EN 60754-2; BS EN IEC 60684-2 for fluorine test.

Materials:
Insulation GP 8, Sheath LTS 4

Brand Name:
N/A

Origin Mark:
BASEC CAD049

Permissible Approval Marks:

BASEC

Signed for and on behalf of
BASEC Group Ltd

Date: 19/02/2024

Date of original issue: 26/05/2023

This certificate is associated with CAD049 Appendix

Check BASEC website to verify validity.

BASEC Group Ltd, Presley House, Presley Way, Milton Keynes, MK8 0ES, UK
Registered in England No. 13950143, Tel: +44(0)1908267300
Email: mail@basec.org.uk Web: www.basec.org.uk

Expiry date:
01/06/2027

Appendix to CAD049

1. CERTIFICATION

1.1 This certificate relates to BS 8573:2012 Table 2, Single-core, 6.0sqmm to 1000sqmm, Class 2, Circular, Sheath LTS4, Insulation GP8. With additional testing to:
Voltage test - as per IEC 60502-1 Clause 15.3.2,a
Insulation Resistance test (outer sheath to be removed) - as per IEC 60502-1 Clauses 17.2.1
BS EN 60332-3-24
BS EN 61034-2
BS EN 60754-1
BS EN 60754-2
BS EN IEC 60684-2 for fluorine test

2 GENERAL CONDITIONS

2.1 This certificate relates to the design of the product that was submitted to BASEC Group Limited (BASEC) for assessment, investigation and testing. If any aspect of the product design or materials or proposed place and method of manufacture is changed then this certificate is no longer valid.

3 PARTICULAR CONDITIONS

3.1 Description of the Product

The product is designed and proposed to be manufactured in accordance with BS 8573:2012. The cable uses BS EN 60228 class 2 copper conductors and existing material type Sheath LTS4, Insulation GP8.

3.2 Initial Verification Testing

Samples from across the range of approval 1 x 6sqmm, 1 x 400sqmm and 1 x 1000sqmm, supplied by the manufacturer, will be tested by BASEC in accordance with the tests listed in Table 1 of this Appendix.

3.3 Surveillance Sampling/ Testing

A minimum of four samples of cable from across the range shall be selected for surveillance testing on an annual basis, and the quantity of cables tested will be in accordance with annual production and BASEC PCR test frequency requirements. (e.g. Type tests (F5), Surveillance tests (F25), and Routine tests (F100).

3.5 Marking

Cables subject to this certificate shall be marked with the legend: **BASEC CAD049**

4 INTENDED APPLICATION / USE OF THE CABLE

These cables are intended for use in the wiring of fixed Installations, in industrial areas and buildings.

- Intended for use at alternating voltages not exceeding 600V to earth
- The cables are rated at 600/1000V
- The rated temperature of the cables is 90oC

Contact BASEC to verify validity.

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Appendix to CAD049

Table 1: Schedule of Tests for single core cable, 6sqmm to 1000sqmm inclusive.

	Test[1]	Reference standard	Category of test
Conductor	Conductor construction	BS 8573, Clause 5 BS EN 60228	F100
	Conductor resistance	BS 8573, Clause 14.2 BS EN 60228	F100
Insulation material	Min tensile strength before ageing	BS 8573, Clause 6.1 BS 7655-1.3	F25
	Min elongation at break before ageing	BS 8573, Clause 6.1 BS 7655-1.3	F25
	Max. variation for tensile strength after aging in air oven	BS 8573, Clause 6.1 BS 7655-1.3	F25
	Max. variation for elongation at break after ageing in air oven	BS 8573, Clause 6.1 BS 7655-1.3	F25
	Water absorption	BS 8573, Clause 6.1 BS 7655-1.3	F5
	Hot set test	BS 8573, Clause 6.1 BS 7655-1.3	F5
	Insulation resistance constant	BS 8573, Clause 6.1 BS 7655-1.3	F5
	Insulation application	BS 8573, Clause 6.2	F100
	Insulation thickness	BS 8573, Clause 6.3 BS EN 50396, Clause 4.1	F100
	Core identification – colours	BS 8573, Clause 7.1, 7.2	F100
	Core identification - clarity and durability	BS 8573, Clause 7.3 BS EN 50396, Clause 5.1	F100
	Shrinkage test on insulation	BS 8573, Clause 16.3 BS EN 60811-502	F25
	Insulation Resistance test (outer sheath to be removed)	IEC 60502-1 Clauses 17.2.1	F5
Sheath material	Min tensile strength before ageing	BS 8573, Clause 10.1 BS 7655-6.1	F25
	Min elongation at break before ageing	BS 8573, Clause 10.1 BS 7655-6.1	F25
	Min tensile strength after ageing	BS 8573, Clause 10.1 BS 7655-6.1	F25
	Max. variation for tensile strength after aging in air oven	BS 8573, Clause 10.1 BS 7655-6.1	F25
	Bending test at low temperature	BS 8573, Clause 10.1 BS 7655-6.1	F5
	Elongation test at low temperature	BS 8573, Clause 10.1 BS 7655-6.1	F5
	Impact test at low temperature	BS 8573, Clause 10.1 BS 7655-6.1	F5
	Pressure test at high temperature	BS 8573, Clause 10.1 BS 7655-6.1	F5
	Water immersion test	BS 8573, Clause 10.1 BS 7655-6.1	F5

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BSF126-A (Issue 002 21-04-2023)

Appendix to CAD049

Table 1: Schedule of Tests for single core cable, 6sqmm to 1000sqmm inclusive (continued)

	Test[1]	Reference standard	Category of test
Sheath material (continued)	Sheath application	BS 8573, Clause 10.2	F100
	Sheath thickness	BS 8573, Clause 10.3 BS EN 50396, Clause 4.2	F100
	Shrinkage on sheath	BS 8573, Clause 16.6BS 8573, Annex B	F5
Cable	Cable marking	BS 8573, Clause 11	F100
	Durability of printed information	BS 8573, Clause 11.4	F100
	Ovality	BS 8573, Clause 15.3 BS EN 50396	F100
	Compatibility	BS 8573, Clause 16.2 BS 8573, Annex C	F25
	Abrasion	BS 8573, Clause 16.4 BS 8573, Annex D	F25
	Voltage test	IEC 60502-1 Clause 15.3.2	F100
Fire & Chemical	Flame propagation on single cable	BS 8573, Clause 15.2 BS EN 60332-1-2	F25
	Flame propagation on multiple cable	BS 8573, Clause 16.5 BS EN 60332-3-24	1/yr
	Smoke emission	BS 8573, Clause 15.4 BS EN 61034-2	1/yr
	Corrosive and acid gas (Insulation GP 8)	BS 8573, Clause 6.4 BS EN 60754-1	1/yr
	Corrosive and acid gas (Sheath LTS 4)	BS 8573, Clause 10.4 BS 7655-6.1 BS EN 60754-1	1/yr
	Acidity and conductivity (Insulation GP 8 & Sheath LTS 4)	BS EN 60754-2	1/yr
	Fluorine test (Insulation GP 8 & Sheath LTS 4)	BS EN IEC 60684-2	1/yr

[1] The order given does not imply a sequence of testing

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