



中国认可  
国际互认  
检测  
TESTING  
CNAS L0207



报告编号  
Reference No

CT23-02177

# 检测报告

## Test Report

样品名称  
Name of sample Aerial Bundled Cable

样品型号  
Type of sample 0.6/1kV Aerial Bundled Cable 3×70+54.6+16 NFC

委托方  
Consigner Hangzhou Easy Electric Wire and Cable Co., Ltd.

试验类型  
Kind of test Commission Test



上海国缆检测股份有限公司

SHANGHAI NATIONAL CENTER OF TESTING AND INSPECTION  
FOR ELECTRIC CABLE AND WIRE CO., LTD

国家电线电缆质量检验检测中心

CHINA NATIONAL CENTRE OF TESTING AND INSPECTION  
FOR ELECTRIC CABLE AND WIRE



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Shanghai National Center of Testing and Inspection for Electric Cable and Wire Co., Ltd.  
China National Centre of Testing and Inspection for Electric Cable and Wire  
Test Report

Kind of test	Commission Test	Reference No.	CT23-02177		
Name of sample	Aerial Bundled Cable				
Type and Size	0.6/1kV Aerial Bundled Cable 3×70+54.6+16 NFC	Date of test	2023-05-25~2023-06-29		
Consigner	Name	Hangzhou Easy Electric Wire and Cable Co., Ltd.			
	Address	Room 305, Building 2, No. 380 Fengxin Road, Hangzhou, China			
	Tel.	19560490934	P.C.	311121	Unit No. 057129
Manufacturer	Name	Hangzhou Easy Electric Wire and Cable Co., Ltd.			
	Address	Room 305, Building 2, No. 380 Fengxin Road, Hangzhou, China			
	Tel.	19560490934	P.C.	311121	Unit No. 057129
Delivering mode	Supplied by consigner	Sample state at receiving	Normal	Receiving date	2023-05-23
Test standard	HD 626 S1:1996+A1:1997+A2:2002 Overhead distribution cables of rated voltage $U_0/U(U_m)$ : 0.6/1(1.2)kV				
Verdict standard	1. NF C 33-209 (July 1996) Insulated or protected cables for power systems Bundle assembled cores for overhead systems of rated voltage 0.6/1kV 2. Technical requirement supplied by the consigner				
Conclusion	The number of wires of phase conductor and the lay direction of neutral conductor complied with the technical requirement supplied by the consigner, other items tested complied with NF C 33-209 (July 1996).				
Note	1. Name, type and size of sample are provided by consigner. 2. NF C 33-209 (July 1996) duplicates parts 4E and 6E of HD 626, as well as the relevant provisions of parts 1 and 2.				
Tested by	李娜 Li Na	Checked by	杨立志 Yang Lizhi	Approved by	肖继东 Xiao Jidong
Date	2023.6.29	Date	2023.6.29	Date	2023.6.29

Type and size		0.6/1kV Aerial Bundled Cable 3×70+54.6+16 NFC		Reference.No	CT23-02177		
Cl.	Test Items	Unit	Requirements	Test Results			Verdict
	Inspected phase conductor identification(70mm <sup>2</sup> )		/	black1	black2	black3	N
	Inspected neutral conductor identification (54.6mm <sup>2</sup> )		/		black		N
	Inspected public lighting conductor identification (16mm <sup>2</sup> )		/		black		N
1	construction						
1.1	Phase cores						
1.1.1	Conductor						
	— Conductor material		Aluminum	Stranded compacted circular Aluminum			P
	— Number of wires		14	14	14	14	P
	— Diameter of conductor	mm	9.7~10.2	9.9	10.0	10.0	P
	— Lay direction of the outer layer		/		Left hand		N
1.1.2	Insulation						
	— Average thickness	mm	Min.1.8	1.9	2.0	1.9	P
	— Minimum thickness at any point	mm	Min.1.52	1.59	1.81	1.79	P
1.1.3	Overall diameter of the core	mm	13.3~14.2	13.7	13.8	13.7	P
1.2	Neutral conductor						
1.2.1	Conductor						
	— Conductor material		Aluminium alloy	Aluminium alloy			P
	— Number of wires		7		7		P
	— Diameter of conductor	mm	9.2~9.6		9.5		P
	— Lay direction		right hand		right hand		P
	— Lay length/conductor diameter	times	Max.20		14		P
1.2.2	Insulation						
	— Average thickness	mm	Min.1.6		1.8		P

Note: "P" means this item does meet the requirement, "F" means this item does not meet the requirement, "N" means this item does not require verdict. "/" means this item does not require testing.

Type and size		0.6/1kV Aerial Bundled Cable 3×70+54.6+16 NFC		Reference.No		CT23-02177	
Cl.	Test Items	Unit	Requirements	Test Results			Verdict
	— Minimum thickness at any point	mm	Min.1.34	1.66			P
1.2.3	Overall diameter of the core	mm	12.3~13.0	12.9			P
1.3	Public lighting core						
1.3.1	Conductor						
	— Conductor material		Aluminium	Aluminum			P
	— Number of wires		7	7			P
	— Diameter of conductor	mm	4.6~5.1	4.6			P
	— Lay direction		Left hand	left hand			P
1.3.2	Insulation						
	— Average thickness	mm	Min.1.2	1.4			P
	— Minimum thickness at any point	mm	Min.0.98	1.31			P
1.3.3	Overall diameter of the core	mm	7.0~7.8	7.4			P
1.4	Laying-up of the cores						
	— Lay pitch	cm	Max.100	78			P
	— Lay direction		Phase cores and public core are laid-up around the neutral messenger core with right hand	Phase cores and public core laid up around the neutral messenger core with right hand direction			P
2	Tensile strength of the conductors						
	— Phase cores	daN	/	1073	1047	1116	N
	— Neutral conductor	daN	Min.1660	1679			P
3	Electrical properties						
3.1	Conductor resistance at 20°C						
	— Phase cores	Ω/km	Max.0.443	0.421	0.418	0.419	P
	— Neutral core	Ω/km	Max.0.63	0.60			P

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Cl.	Test Items	Unit	Requirements	Test Results			Verdict
3.2	— Public lighting core	Ω/km	Max.1.91	1.84			P
	High voltage test on cores at 20°C (10kv AC, 30min)						
	— Phase cores		No breakdown	passed	passed	passed	P
	— Neutral core		No breakdown	Passed			P
	— Public lighting core		No breakdown	passed			P
3.2	Impulse withstand test on phase cores (voltage peak value 20kV, ±5 times)		No breakdown	passed	passed	passed	P
3.4	Insulation resistance constant $K_i$ at 80°C						
	— Phase cores	MΩ · km	Min.1000	58700	52300	46800	P
	— Neutral core	MΩ · km	Min.1000	25700			P
	— Public lighting core	MΩ · km	Min.1000	89200			P
4	Mechanical properties of the insulation before ageing						
4.1	Phase cores						
	— Tensile strength	MPa	Min.14.5	22.9	24.2	23.7	P
	— Elongation at break	%	Min.200	610	630	620	P
4.2	Neutral core						
	— Tensile strength	MPa	Min.14.5	22.7			P
	— Elongation at break	%	Min.200	600			P
4.3	Public lighting core						
	— Tensile strength	MPa	Min.14.5	24.0			P
	— Elongation at break	%	Min.200	630			P
	Following blank						

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