



报告编号
Reference No



CT23-04615

中国认可
国际互认
检测
TESTING
CNAS L0207

检测报告

Test Report

样品名称 Name of sample	中压电力电缆 Medium Voltage Power Cable
样品型号 Type of sample	YJSV-N2XSY-CU/XLPE/CWS/PVC
委托方 Consigner	河南庆州电缆有限公司 HENAN QINGZHOU CABLE CO., LTD.
试验类型 Kind of test	型式试验 Type 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



地址：上海市宝山区真陈路888号 邮编：200444

电话：021-65493333 传真：021-65490171

电子邮箱：ewec@ticw.com.cn

报告查询网站：www.ticw.com.cn

上海国缆检测股份有限公司
国家电线电缆质量检验检测中心
检测报告

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

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试验类型 Kind of test	型式检验 Type Test	报告编号 Reference No.	CT23-04615		
样品名称 Name of sample	中压电力电缆 Medium Voltage Power Cable				
型号规格 Type and Size	YJSV-N2XSY-CU/XLPE/CWS/PVC 20.8/36kV 1x400/35mm ²	检测日期 Date of test	2023-11-03 ~ 2024-03-14		
委托方 Consigner	名称 Name	河南庆州电缆有限公司 HENAN QINGZHOU CABLE CO., LTD.			
	地址 Address	河南省巩义市竹林镇西工业园区 West Industrial Park, Zhulin Town, Gongyi City, Henan Province, China			
	电话号码 Tel.	0371-61176830	邮政编码 P.C.	450000	单位编号 Unit No.
生产单位 Manufacturer	名称 Name	河南庆州电缆有限公司 HENAN QINGZHOU CABLE CO., LTD.			
	地址 Address	河南省巩义市竹林镇西工业园区 West Industrial Park, Zhulin Town, Gongyi City, Henan Province, China			
	电话号码 Tel.	0371-61176830	邮政编码 P.C.	450000	单位编号 Unit No.
来样方式 Delivering mode	送样 Supplied by consigner	接收状态 Sample state at receiving	正常 Normal	收样日期 Receiving date	2023-10-08
检测依据 Test standard	IEC 60502-2 : 2014 挤包绝缘电力电缆及附件, 额定电压 20.8/36kV U _{max} 42kV Standard for Power cable with extruded insulation rated voltage 20.8/36kV U _{max} 42kV				
判定依据 Verdict standard	同检测依据 Same as the test standard				
检测结论 Conclusion	该样品外护套厚度项目仅提供检测结果, 其余所测项目符合IEC 60502-2 : 2014标准要求。 The item jacket thickness for the sample is provided with test result, and other items tested comply with the requirements of IEC 60502-2 : 2014.				
备注 Note	1. 样品名称和型号规格由委托方提供。 Name, type and size of the sample are provided by the consigner. 2. 交流耐压试验、局放试验、tanδ试验和介电常数项目在本中心试验基地-上海市杨浦区军工路1000号开展。A.C withstand test, partial discharge test, tanδ measurement and dielectric constant have been carried out at our test base - No.1000, Jungong Road, Yangpu District, Shanghai.				
主检 Tested by	李春刚 Li Chungang	审核 Checked by	李娜 Li Na	批准 Approved by	肖继东 Xiao Jidong
日期 Date	2024.6.3	日期 Date	2024.6.3	日期 Date	2024.6.4

型号和规格 Type and size		YJSV-N2XSY-CU/XLPE/CWS/PVC 20.8/36kV 1x400/35mm ²		报告编号 Reference No.	CT23-04615
序号 No.	检测项目 Test Items	单位 Unit	技术要求 Requirements	检测结果 Test Results	判定 Verdict
	受检绝缘线芯标志 Inspected cores identification		/	黑 Black	N
1	结构尺寸 CONSTRUCTION				
1.1	导体 Conductor				
	— 材料 material		铜 copper	铜 copper	P
	— 单线根数 number of wires		/	60	N
	— 导体外径 diameter of the conductor	mm	/	23.41	P
1.2	导体屏蔽 Conductor shield				
	— 最薄处厚度 minimum point thickness	mm	≥0.5	0.73	P
1.3	绝缘 Insulation				
	— 厚度 thickness	mm	/	9.1	P
	— 最薄处厚度 minimum point thickness	mm	7.1	8.1	P
1.4	绝缘屏蔽 Insulation shield				
	— 厚度 thickness	mm	/	0.72	P
	— 最薄处厚度 minimum point thickness	mm	0.5	0.71	P
	— 同心中性导体最大压痕深度 maximum concentric neutral indent	mm	≤0.38	0.16	P
1.5	同心中性导体 Concentric neutral conductor				
	— 材料 material		铜 copper	铜丝 + 铜带屏蔽 Copper wires and a copper tape	P
	— 单线直径 diameter of wires	mm	/	0.92	P
	— 单线根数 number of wires		/	40	P
	— 铜带厚度 Copper tape thickness	mm	0.1	0.12	P
1.6	外护套 Jacket				
	— 厚度 thickness	mm	/	2.5	N

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型号和规格 Type and size		YJSV-N2XSY-CU/XLPE/CWS/PVC 20.8/36kV 1x400/35mm ²		报告编号 Reference No.	CT23-04615
序号 No.	检测项目 Test Items	单位 Unit	技术要求 Requirements	检测结果 Test Results	判定 Verdict
1.7	成品电缆平均外径 Average overall diameter of completed cable	mm	/	50.7	N
2	电性能 ELECTRICAL TEST REQUIREMENTS				
2.1	导体直流电阻 Conductor dc resistance (25°C)	mΩ/m	≤0.105	0.0996	P
2.2	绝缘电阻 Insulation resistance test(15.6°C)	MΩ·km	≥6100	13800	P
2.3	交流耐压试验 ac withstand test (44kV,5min)		不击穿 no breakdown	未击穿 no breakdown	P
2.4	局放试验 Partial discharge test — 放电量 discharge magnitude (44kV)	pC	≤5	无超过声明灵敏度的 可测放电 (灵敏度为 2.4pC) No detectable discharge exceeding the declared sensitivity(Sensitivity is 2.4pC)	P
2.5	tanδ 试验(室温, 15kV) tanδ measurement (room temperature, 15kV)	%	≤0.5	0.04	P
2.6	介电常数(室温, 15kV) Dielectric constant (room temperature, 15kV)		≤3.5	2.7	P
2.7	半导体屏蔽电阻率 Resistivity of semi-conducting screens				
2.7.1	导体屏蔽 Conductor shield				
	— 105°C	Ω·m	≤1000	10.19	P
	— 140°C	Ω·m	≤1000	15.13	P
2.7.2	绝缘屏蔽 Insulation shield				
	— 105°C	Ω·m	≤500	1.85	P
	— 125°C	Ω·m	≤500	1.28	P

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序号 No.	检测项目 Test Items	单位 Unit	技术要求 Requirements	检测结果 Test Results		判定 Verdict
3	绝缘性能 INSULATION TEST REQUIREMENTS					
3.1	原始机械性能 Unaged requirements					
	— 抗张强度 tensile strength	MPa	≥12.5	19.2		P
	— 断裂伸长率 elongation at rupture	%	≥250	490		P
3.2	空气箱老化试验 Mechanical properties after ageing in an air oven(136℃,168h)					
	— 抗张强度保留率 percentage of unaged value of tensile strength	%	≥75	126		P
	— 断裂伸长率保留率 percentage of unaged value of elongation at rupture	%	≥75	110		P
3.3	热延伸试验 Hot creep test (150℃,15min,0.2MPa)					
	— 载荷下伸长率 elongation	%	≤175	28		P
	— 冷却后永久变形 hot set	%	≤10	0		P
4	屏蔽性能 SHIELD TEST REQUIREMENTS					
4.1	绝缘屏蔽剥离试验 Adhesion tension for insulation shield					
	— 剥离力 stripping force	N	13.4~107	41.2~53.6		P
4.2	导体屏蔽和绝缘屏蔽的圆片煮沸试验(试样浸入煮沸的十氢化萘中保持 5h) Wafer boil test for conductor and insulation shields (The sample is immersed in boiling decahydronaphthalene for 5 hours)					

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序号 No.	检测项目 Test Items	单位 Unit	技术要求 Requirements	检测结果 Test Results	判定 Verdict
	— 屏蔽/绝缘界面连续性 shield/insulation interface continuity		半导体屏蔽层 应不溶解或开 裂 Semiconducting shield shall not dissolve or crack	通过 passed	P
5	外护套性能 JACKET TEST REQUIREMENTS				
5.1	原始机械性能 Unaged requirements				
	— 抗张强度 tensile strength	MPa	≥10.3	16.8	P
	— 断裂伸长率 elongation at rupture	%	≥100	303	P
5.2	空气箱老化试验 Mechanical properties after ageing in an air oven(100℃,120h)				
	— 抗张强度保留率 percentage of unaged value of tensile strength	%	≥85	98	P
	— 断裂伸长率保留率 percentage of unaged value of elongation at rupture	%	≥60	77	P
5.3	浸油试验 Oil immersion test (70℃,4h)				
	— 抗张强度保留率 percentage of unaged value of tensile strength	%	≥80	91	P
	— 断裂伸长率保留率 percentage of unaged value of elongation at rupture	%	≥60	73	P
5.4	热变形 Heat distortion test (121℃,1h,2000g)	%	≤50	13	P
5.5	热冲击试验 Heat shock test (121℃,1h)		无裂纹 no cracks	无裂纹 no cracks	P

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序号 No.	检测项目 Test Items	单位 Unit	技术要求 Requirements	检测结果 Test Results	判定 Verdict
5.6	低温弯曲试验 Cold bend test (-35℃,10D)		无裂纹 no cracks	无裂纹 no cracks	P
6	微孔,突起,半透明棕色(琥珀状) 物质和杂质的测量 MEASUREMENT OF VOIDS, PROTRUSIONS, AMBER AND CONTAMINANTS				
6.1	在导体屏蔽和绝缘的接触面上 On the surface between conductor screen and insulation				
	— 大于 76μm 进入绝缘的突起 protrusion more than 76μm into insulation		无 none	无 none	P
	— 大于 180μm 进入导体屏蔽 的突起 protrusion more than 180μm into conductor shield		无 none	无 none	P
	— 大于 76μm 的微孔 void more than 76μm		无 none	无 none	P
6.2	在绝缘和绝缘屏蔽的接触面上 On the surface between insulation and insulation screen				
	— 大于 127μm 进入绝缘的突 起 protrusion more than 127μm into insulation		无 none	无 none	P
	— 大于 180μm 进入绝缘屏蔽 的突起 protrusion more than 180μm into insulation shield		无 none	无 none	P
	— 大于 127μm 的微孔 void more than 127μm		无 none	无 none	P
6.3	绝缘内微孔, 半透明棕色(琥珀 状)物质和杂质的测量 Measurement of voids, amber and contaminants in insulation				
	— 大于 76μm 的微孔 void more than 76μm		无 none	无 none	P

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序号 No.	检测项目 Test Items	单位 Unit	技术要求 Requirements	检测结果 Test Results	判定 Verdict
	— 每 cm³ 大于 51μm 小于 76μm 的微孔个数 number of void more than 51μm and less than 76μm, per cm³		≤1.8	0	P
	— 大于 127μm 的杂质 contaminant more than 127μm		无 none	无 none	P
	— 每 cm³ 大于 51μm 小于 127μm 的杂质个数 number of contaminant more than 51μm and less than 127μm, per cm³		≤0.9	0	P
	— 大于 254μm 的半透明棕色 (琥珀状) 物质 amber more than 254μm		无 none	无 none	P
以下空白 following blank					

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