



中国认可
国际互认
检测
TESTING
CNAS L0207

报告编号
Reference No

CT23-04263

检测报告

Test Report

样品名称
Name of sample 钢芯铝绞线
Aluminum Conductor Steel Reinforced

样品型号
Type of sample ACSR

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



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扫描全能王 创建

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	型式试验 Type test	报告编号 Reference	CT23-04263		
样品名称 Name of sample	钢芯铝绞线 Aluminum Conductor Steel Reinforced				
型号规格 Type and Size	ACSR CONDOR AL 54/3.08+ST 7/3.08mm		检测日期 Date of test	2023-09-19 ~ 2023-11-29	
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, China			
	电话号码 Tel.	0371-6117 6830	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, China			
	电话号码 Tel.	0371-6117 6830	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	2023-09-11
检测依据 Test standard	ASTM B232/B232M-22 同心绞钢芯铝绞线标准规范(ACSR) ASTM B232/B232M-22 Standard Specification for Concentric-Lay-Stranded Aluminum Conductors, Coated Steel Reinforced (ACSR)				
判定依据 Verdict standard	同检测依据 Same as test standard				
检测结论 Conclusion	1. 样品进行了 ASTM B232/B232M-22 标准要求的全部项目检测, 经检测该样品符合 ASTM B232/B232M-22 标准要求; All items for the sample have been carried out according to ASTM B232/B232M-22, and the sample is qualified for the requirements of ASTM B232/B232M-22; 2. 该样品“绞线单位长度质量”和“绞线 20°C 直流电阻”项目提供检测结果。 Mass per unit length of the conductor and DC resistance at 20°C of the conductor are provided with test results.				
备注 Note	1. 样品名称及型号规格由委托方提供并负责, 委托方要求按照 ASTM B232/B232M-22 标准中 ACSR/GA2 的要求进行判定; The consigner supplied name, type and size of the sample and is responsible for them, and requested to verdict according to the requirements of ACSR/GA2 in ASTM B232/B232M-22; 2. “未检出”表示检测结果低于检出下限, 各杂质元素的检出下限为 0.0010%; “N.D.” means that the detection result is lower than the detection lower limit, the lower limit of detection for each impurity element is 0.0010%; 3. 本报告中带“*”项目在本中心试验基地—上海市军工路 1000 号开展。 The item with “*” in this report was carried out at the test base of the center-No. 1000, Jungong Road, Shanghai, China.				
主检 Tested by	王红梅 Wang HongMei	审核 Checked by	吴旻 Wu Min	批准 Approved by	王煦 Wang Xu
日期 Date	2023.11.29	日期 Date	2023.11.30	日期 Date	2023.11.30



扫描全能王 创建

型号和规格 Type and size		ACSR CONDOR AL 54/3.08+ST 7/3.08MM		报告编号 Reference No.	CT23-04263
序号 No.	检测项目 Test Items	单位 Unit	技术要求 Requirements	检测结果 Test Results	单项评定 Verdict
1	结构 Structure				
1.1	铝线根数 Number of Al wires	根 No.	54	54	P
1.2	钢线根数 Number of steel wires	根 No.	7	7	P
2	绞线外径 Diameter of conductor	mm	27.74±0.28	27.80	P
3	铝截面积 Cross-sectional area of Aluminum	mm ²	403±8	401	P
4	表面质量 Appearance		表面应光洁, 并不得有与良好商品不相称的任何缺陷。 The conductor shall be clean and free of imperfections not consistent with good commercial practice.	通过 Pass	P
5	绞制 Lay				
5.1	绞向 Direction of lay		相邻层绞向应相反, 最外层绞向应右向。 Adjacent wire layers shall be stranded with reverse lay directions, the direction of lay of the external layer shall be "right-hand".	相反, 右向 Reverse, "right-hand"	P
5.2	均匀紧密性 Inertness		每层单线应均匀、紧密地绞合在下层中心线芯或内绞层上。当切断时, 各线端应保持在原位或容易用手复位。 The wires in each layer shall be evenly and closely stranded around the underlying wire or wires; where the core is cut, the wires shall remain in position or be readily replaced by hand and then remain approximately in position.	均匀紧密, 未松散。 Evenly and Closely.	P
5.2	节径比 Lay ratio		任何层的节径比应不大于紧邻内层的节径比。 Lay ratio of every layer shall not greater than the lay ratio of the layer immediately beneath it.	通过 Pass	P
5.2.1	钢芯层 Steel core layer		16~26	20.0	P

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5.2.2	铝线层 Al wires layer					
5.2.2.1	内层 Inner layer		10~17		15.3	P
5.2.2.2	邻外层 Adjacent outer layer		10~16		13.2	P
5.2.2.3	外层 Outer layer		10~13		11.4	P
6	钢线性能 (绞后) Properties of steel wires (stranded)					
6.1	直径 Diameter	mm	$3.08^{+0.076}_{-0.051}$		3.092	P
6.2	抗拉强度 Tensile strength	MPa	≥ 1340 (1410×0.95)		1534	P
6.3	1%伸长时的应力 Stress at 1% extension	MPa	≥ 1240		1253	P
6.4	断后伸长率 ($L_0=250\text{mm}$) Elongation after fracture ($L_0=250\text{ mm}$)	%	≥ 4.0		5.5	P
6.5	卷绕 (2d, 8 圈) Wrapping (2d, 8turns)		不断裂 No fracture shall occur		未断裂 No fracture occurred	P
6.6	镀锌层 Zinc coating					
6.6.1	锌层重量 Mass of zinc coating	g/m^2	≥ 259		280	P
6.6.2	锌层附着性 (4d) Adherence of zinc coating (4d)		镀锌层应不开裂, 或用手指摩擦锌层不会产生脱落的起皮。 The wire shall be wrapped without cracking or flaking the zinc coating to such an extent that any zinc can be removed by rubbing with the bare fingers.		未开裂, 未起皮。 No cracking, no flaking.	P
7	铝线性能 (绞后) Properties of Al wires (stranded)					
7.1	直径 Diameter	mm	3.08 ± 0.031		3.075	P
7.2	抗拉强度 Tensile strength					
7.2.1	平均值 Average for a Lot	MPa	≥ 162 (170×0.95)		186	P

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7.2.2	最小值 Individual tests	MPa	≥ 152 (160×0.95)	173	P
7.3	20℃时直流电阻率 DC resistivity at 20℃				
7.3.1	平均值 Average for a Lot	$\Omega \cdot \text{mm}^2/\text{m}$	≤ 0.028172	0.027845	P
7.3.2	最大值 Individual tests	$\Omega \cdot \text{mm}^2/\text{m}$	≤ 0.028265	0.027951	P
7.4	伸长率 ($L_0=250\text{mm}$) Elongation ($L_0=250\text{mm}$)				
7.4.1	最小值 Individual	%	≥ 1.7	2.0	P
7.4.2	平均值 Average	%	≥ 1.8	2.0	P
7.5	卷绕 (1d) Wrapping (1d)		不断裂 No fracture shall occur.	未断裂 No fracture occurred.	P
7.6	接头强度 (冷压焊) Tensile strength of joints (cold-pressure welding)	MPa	≥ 75	173	P
7.7	化学成分 Chemical composition				
7.7.1	硅 (Si) 含量 Si content	%	≤ 0.10	0.05	P
7.7.2	铁 (Fe) 含量 Fe content	%	≤ 0.40	0.13	P
7.7.3	铜 (Cu) 含量 Cu content	%	≤ 0.05	0.008	P
7.7.4	锰 (Mn) 含量 Mn content	%	≤ 0.01	0.001	P
7.7.5	铬 (Cr) 含量 Cr content	%	≤ 0.01	未检出 N.D.	P
7.7.6	锌 (Zn) 含量 Zn content	%	≤ 0.05	0.008	P
7.7.7	硼 (B) 含量 B content	%	≤ 0.05	0.01	P
7.7.8	镓 (Ga) 含量 Ga content	%	≤ 0.03	0.02	P
7.7.9	钒+钛 (V+Ti) 含量 V+Ti content	%	≤ 0.02	未检出 N.D.	P
7.7.10	铝 (Al) 含量 Al content	%	≥ 99.50	99.76	P

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8	绞线单位长度质量 Mass per unit length of the conductor	kg/km	/	1508.3	N
9	绞线 20°C直流电阻 DC resistance at 20°C of the conductor	Ω/km	/	0.0844	N
10	绞线综合拉断力* Breaking load of the conductor*	kN	≥119.1 (125.4×0.95)	124.6	P
以下空白 End of report					

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