



中国认可  
国际互认  
检测  
TESTING  
CNAS L1000



# Inspection and Detection Report

No. (2024)GJYDX-XS00011E

Name of Sample	ACSR (Aluminium Conductor Steel Reinforced) Moose	Conductor
Party being tested	_____	
Manufacturer	CALEDONIAN LIMITED	CABLES
Consigner	CALEDONIAN LIMITED	CABLES
Inspection and Detection Kind	Type Test	

**Jiangsu Product Quality Testing & Inspection Institute**  
**National Quality Inspection and Testing Center for Cables and Wires (Jiangsu)**

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6. This report shall be invalid without the signature of chief inspector, verifier and approver.



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Name of Sample	ACSR Conductor (Aluminium Conductor Steel Reinforced) Moose		Type and Specifications	ACSR Conductor (Aluminium Conductor Steel Reinforced) Moose	
Producing Date\Batch No.	——		Trademark	——	
Consigner\Add\Tel\PC		CALEDONIAN CABLES LIMITED\1/F, CMA Building, 64-66 Connaught Road Central, Hong Kong\ (852) 2116-1238\——			
Manufacturer\Add\Tel\PC		CALEDONIAN CABLES LIMITED\1/F, CMA Building, 64-66 Connaught Road Central, Hong Kong\ (852) 2116-1238\——			
Party being tested\Add\Tel\PC		——\——\——\——			
Inspection and Detection kind	Type Test	Task from/Task NO.	——	Sampling List	——
Quantity of Sample	See Note	Batch of Sample	——	Numbered of Sample	(2024)GJYDX-XS00011
Sampling Date	——	Sampling staff	——	Sampling Location	——
Grade	——	Quantity & Location of backup samples	——	Sealing State	——
Arrival Date of Sample	2024-4-11	Description of Sample	Meet requirements	Checking of Sealing Sample	——
Inspection and Detection Date	2024-04-23～2024-04-29		Inspection and Detection Add.	Jiangsu Product Quality Testing & Inspection Institute, Yixing Branch	
Inspection and Detection Standard(s)	BS EN 50182: 2001 <i>Conductors for overhead lines — Round wire concentric lay stranded conductors</i>				
Decision Criterion(s)	BS EN 50182: 2001 <i>Conductors for overhead lines — Round wire concentric lay stranded conductors</i>				
Inspection and Detection Conclusion	After inspection and detection, all the items tested on the sample are accorded with the requirements of BS EN 50182: 2001. <div></div>				
	Signature date		Y M D 2024-05-16		
Note	Quantity of Sample: 40m samples+6 sections of aluminum wire samples with joint. STRESS-STRAIN TEST-ELASTICITY MODULUS is out of "all the items" in inspection and detection conclusion.				

Approval: Zhou Yan 周艳

Proofreader:Lei Zhangping

Major tester:Ding Bin 丁斌

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No.	Inspection and Detection Item	Unit	Technical Requirements	Inspection and Detection Results	Monomial Evaluation
1	<b>Construction and Dimension</b>				
	Number of aluminium wires	——	equal to 54	54	Pass
	Number of zinc coated steel wires	——	equal to 7	7	Pass
	Diameter of aluminium wires	mm	max. 3.57 min. 3.49	3.55 3.55 3.54	Pass
	Diameter of zinc coated steel wires	mm	max. 3.59 min. 3.47	3.54	Pass
	The lay ratio for 6 wire layer of steel wires	——	max. 26 min. 16	19	Pass
	The lay ratio for inner layer of aluminium wires	——	max. 16 min. 10	14	Pass
	The lay ratio for adjacent inner layer of aluminium wires	——	max. 16 min. 10	13	Pass
	The lay ratio for outer layer of aluminium wires	——	max. 14 min. 10	12	Pass
	The lay ratios of a multi-layer conductor	——	The lay ratio of any layer shall be equal to or less than the lay ratio of the layer immediately beneath it	Complied	Pass
	Direction of lay	——	Adjacent wire layers shall be stranded with reverse lay directions. The direction of lay of the external layer shall be right hand	Complied	Pass
2	<b>Properties of stranding conductor</b>				
	Surface condition	——	The surface of the conductor shall be free from all imperfections visible to the unaided eye, such as nicks, indentations, etc., not consistent with good commercial practice.	Complied	Pass

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No.	Inspection and Detection Item	Unit	Technical Requirements		Inspection and Detection Results			Monomial Evaluation
2	<b>Properties of stranding conductor</b>							
	Inertness	——	The wires in each layer shall be evenly and closely stranded around the underlying wire or wires. All wires shall be lie naturally in their position in the stranded core, and where the core is cut, the wire ends shall remian in position or be readily replacedby hand and then remian approximately in position.		Complied			Pass
	Mass per unit length	kg/km	max.	2037.2	1996.7			Pass
	Breaking strength of conductor Test condition: The load growth rate is uniform and the time required to reach 30% RTS is within (1~2) minutes	kN	min.	151.92	161.32			Pass
	Conductor resistance(20℃)	Ω/km	max.	0.0547	0.0538			Pass
3	<b>Properties of aluminium wires</b>							
	Tensile strength (after stranding)	MPa	min.	152	177	192	180	Pass
	Resistivity (20℃)	nΩ·m	max.	28.264	27.820	28.013	27.821	Pass
	Wrapping test Test condition: Eight turns shall be wrapped round a mandrel of diameter equal to the wire diameter at a speed not exceeding 60 r/min. Six turns shall then be unwrapped and again closely wrapped.	——	No fracture		No fracture	No fracture	No fracture	Pass



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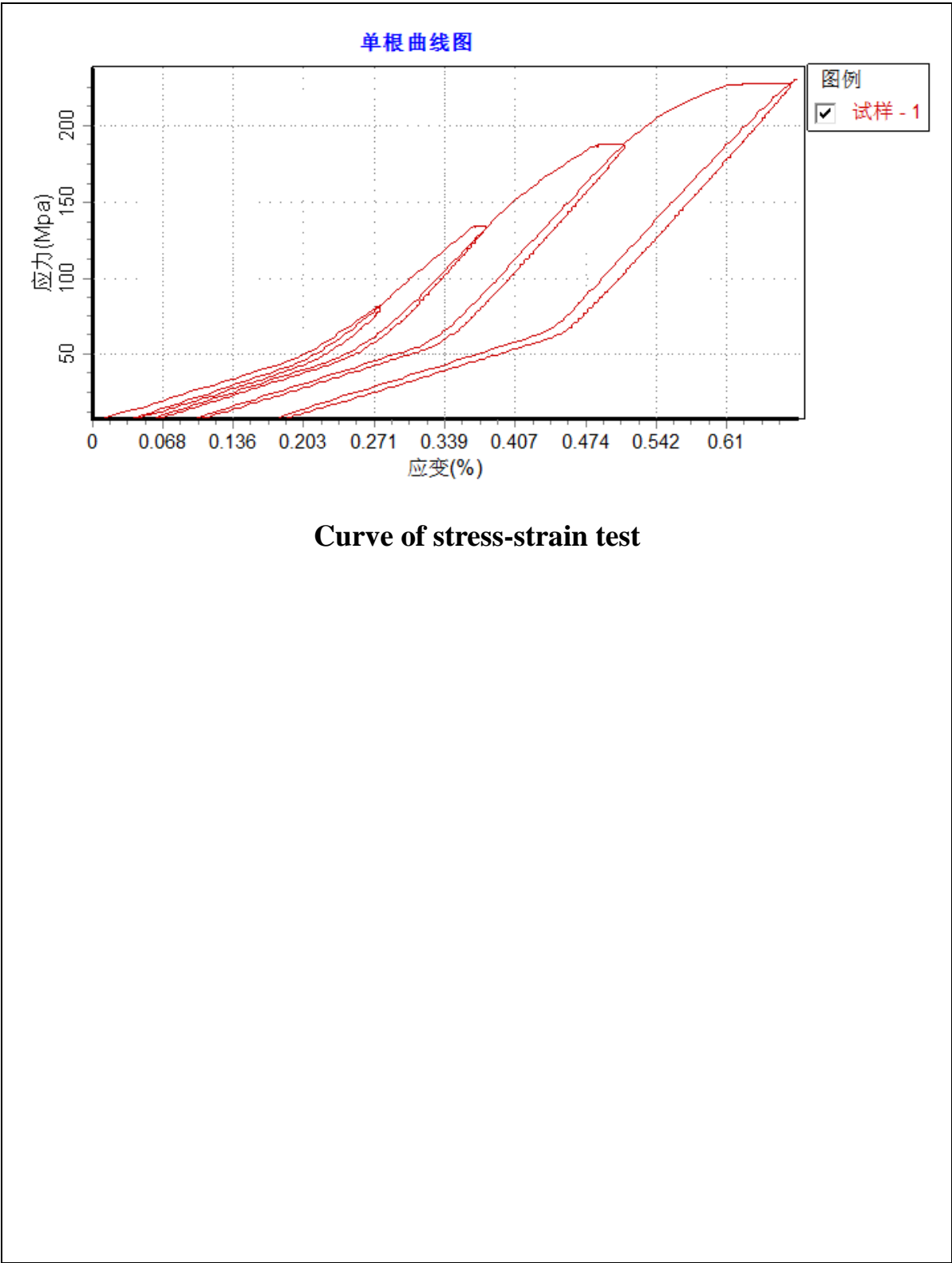
No.	Inspection and Detection Item	Unit	Technical Requirements	Inspection and Detection Results	Monomial Evaluation
3	<b>Properties of aluminium wires</b>				
	Joints inspection	——	The number of joints shall not exceeding 4 and the distance between any two joints shall not be less than 15 meters.	Absence of joints	Pass
	Tensile strength of joint (welding)	MPa	min. 130	161	Pass
4	<b>Properties of zinc coated steel wires</b>				
	Tensile strength (after stranding)	MPa	min. 1235	1525	Pass
	Stress at 1% extension	MPa	min. 1045	1289	Pass
	Elongation after break (%)	——	min. 3.5	5.2	Pass
	Torsion test--Number of twists	——	min. 10	30	Pass
	Wrapping test Test conditions: Eight turns shall be wrapped round a mandrel of diameter equal to the wire diameter at a speed not exceeding 15 r/min.	——	No fracture	No fracture	Pass
	Mass of zinc coating	g/m <sup>2</sup>	min. 260	288	Pass
	Adhesion of zinc coating Test conditions: Eight turns shall be wrapped round a mandrel of diameter equal to five times of the wire diameter at a speed not exceeding 15 r/min.	——	The zinc coating shall remain firmly adhered to the steel and shall not crack nor flake to such an extent that any zinc can be removed by rubbing with the bare fingers.	No cracks No flake	Pass
	Zinc coating dip test Test conditions: -dip 3 times -30s each time	——	There shall be no copper adhered to the sample.	No copper adhered to the sample	Pass
5	<b>Stress-strain test</b>				
	Stress-strain test -elasticity modulus	GPa	——	67.0	——
Note	The curve of stress-strain test is shown in "Inspection and Detection Report Attached Figure".				

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# Inspection and Detection Report Attached Figure

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## Profile

Jiangsu Product Quality Testing & Inspection Institute(JPQTH) is specialized in product testing, quality certification, technical development and technical consultation, under the authorization from Jiangsu Administration for Market Regulation. JPQTH now is consisted of 8 country-level product quality testing centers :

●**National Quality Inspection and Testing Center for Cosmetics**

Add: No.5 Guanghua East Road, Nanjing; Business Tel: 025-84470308

●**National Quality Inspection and Testing Center for Pesticide Products ( Nanjing )**

Add: No.5 Guanghua East Road, Nanjing; Business Tel: 025-84470312、84470252、84470324

●**National Quality Inspection and Testing Center for Engineering Composite Material Products**

Add: No.5 Guanghua East Road, Nanjing; Business Tel: 025-84470294、84470289

●**National Quality Inspection and Testing Center for Food Packaging Products ( Jiangsu )**

Add: No.5 Guanghua East Road, Nanjing; Business Tel: 025-84470318

●**National Quality Inspection and Testing Center for Household Electrical Appliance Products ( JiangSu )**

Add : No.5 Guanghua East Road, Nanjing; Business Tel : 025-84470274

●**National Quality Inspection and Testing Center for Fire Products ( JiangSu )**

Add : No.36 , Tiancheng Road , Binjiang Economic Development Zone , Nanjing; Business Tel :025-84470346、84470347

●**National Quality Inspection and Testing Center for Cables and Wires ( Jiangsu )**

Add : No.500 Luyuan Road,Yixing Business Tel : 0510-80713730、80713755

●**National Quality Inspection and Testing Center for Information Network Products ( Jiangsu )**

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