Spec No.: ZTT 20-107271

TECHNICAL SPECIFICATION

Concentric-Lay-Stranded Aluminum Conductors, Coated Steel Supported

Version	Date	Prepared	Reviewed	Approved
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1. SCOPE

This specification covers the general requirements and performance of conductor which ZTT offered including electrical characteristics, mechanical characteristics, packing information etc.

2. QUALITY CONTROL STANDARD

ISO 9001 Quality Management Systems

ISO 14001 Environmental Management Systems

OHSAS 18001 Occupational Health and Safety Management Systems

3. TEST AND INSPECTION

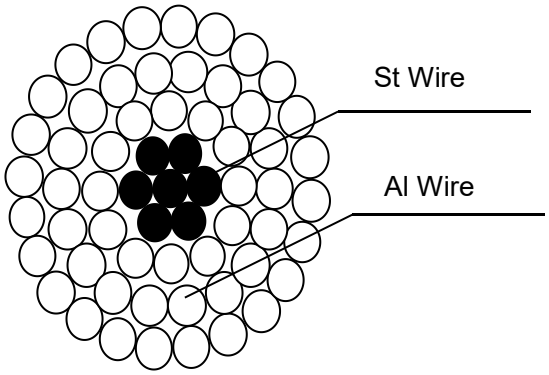
ACSS shall be accordance with applicable standard of ACSS and requirements of customer. The following test items shall be carried out according to corresponding reference.

No	Item	Reference
Tests for Steel Wire		
1	Dimensions	ASTM B957
2	Tensile strength	ASTM B957
3	Elongation	ASTM B957
4	Torsion	ASTM B957
5	Mass of zinc	ASTM B957
Tests for Aluminum Wire		
1	Dimensions	ASTM B609
2	Tensile strength	ASTM B609
3	Elongation	ASTM B609
4	Resistivity test	ASTM B609
Tests for Conductor		
1	Dimensions	ASTM B856
2	Lay ratio and direction of lay	ASTM B856
3	Number and type of wires	ASTM B856
4	Mass per unit length	ASTM B856

4. CONSTRUCTION AND SPECIFICATION FOR ACSR

4.1. Conductor Structure

ACSS-Curlew



4.1.1. Conductor Technical Structure

Parameter		Unit	Value
Structure	Center: Steel Wire	Nos./mm	1/3.513
	Layer 1: Steel Wire		6/3.513
	Layer 2: Aluminum wire		12/3.513
	Layer 3: Aluminum wire		18/3.513
	Layer 4: Aluminum wire		24/3.513
Standard		/	ASTM B856 / B609 / B957
Stranding direction of outer layer		Direction	Right-hand
Conductor diameter		mm	31.62
Cross section		mm^2	591.26
Conductor weight		kg/km	1981.2
Rated tensile strength		kN	148.5
Modulus of Elasticity		GPa	70.5
Coefficient of linear expansion		10^{-6}/℃	19.4
Max. DC Resistance at 20℃		Ω/km	0.05464
Lay ratio	Aluminum layer	times	24-wire layer 10-13 18-wire layer 10-16 12-wire layer 10-17
	Steel layer		6-wire layer 18-30

4.1.2. Properties of Aluminum Wire (Before Stranding)

Parameter	Unit	Value
Type of Al wire	/	Al 1350-O Round (annealed)
Diameter and tolerance	mm	3.513±0.035
Min. tensile strength	MPa	60~95
Min. elongation at 250mm	%	20
Minimum conductivity	% IACS	61.8
Max. resistivity at 20℃	Ω·mm^2/m	0.027899

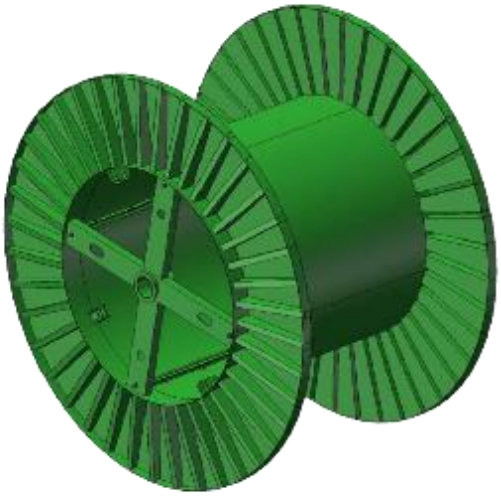
4.1.3. Properties of Steel wire (Before stranding)

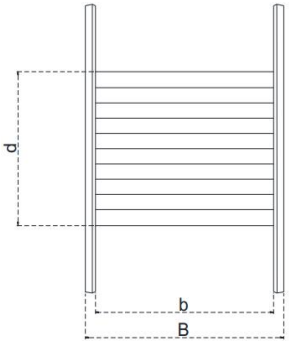
Parameter	Unit	Value
Type of steel wire	/	G5A
Diameter and tolerance	mm	3.513,+0.076/-0.051
Min. tensile strength	MPa	1860
Min. stress at 1% elongation	MPa	1515
Min elongation at 250 mm	%	3.5
Class of zinc coating	/	Class A
Min. mass of zinc Coating	g/m^2	259

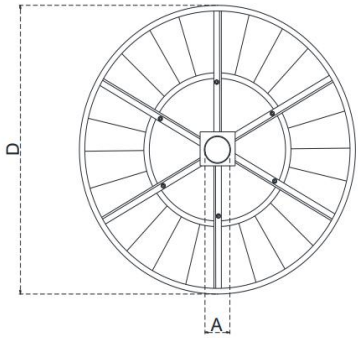
Note: All Sizes and Values are Nominal Value

5. PACKING AND DRUM FOR CONDUCTOR

The required marking shall be printed with a weather-proof material on the outsides of drum according to customer's requirement.







Cable Type	Drum Length (m)	Drum Dimensions					Gross Weight (Approx.) kg	Drum Type
		D mm	d mm	B mm	b mm	A mm		
ACSS-Curlew	1700	2100	1200	1070	900	105	3700	Steel

Note: 1) Wood lagging is sealed inside. 2) The strap is made of plastic tape.