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Round wire concentric lay overhead electrical

stranded conductors

圆线同心绞架空导线

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Round wire concentric lay overhead electrical stranded conductors

1 Scope

1.1 This Standard specifies the electrical and mechanical characteristics of round wire, concentric lay, overhead, electrical and stranded conductors made of combinations of any of the following metal wires:

a) Aluminium wires

- hard drawn aluminium (LY9) as per GB/T 17048-1997;
- aluminium alloy type B (LHA2) as per JB/T 8134-1997;
- aluminium alloy type A (LHA1) as per JB/T 8134-1997.

b) Zinc coated steel wires as per GB/T 3428-2002

- regular strength steel (G1A or G1B);
- high strength steel (G2A or G2B);
- extra high strength steel, G3A.

c) Aluminium-clad steel wires as per GB/T 17937-1999

Aluminium-clad steel wires designated LB1A or LB1B;

Aluminium-clad steel wires designated LB2.

Note 1: The resistivity of single wire metal as following:

LY9:	$28.264 \text{ n } \Omega \cdot \text{m}$ (corresponding to 61% IACS)
LHA2:	$32.530 \text{ n } \Omega \cdot \text{m}$ (corresponding to 53% IACS)
LHA1:	$32.840 \text{ n } \Omega \cdot \text{m}$ (corresponding to 52.5% IACS)
LB2:	$63.86 \text{ n } \Omega \cdot \text{m}$ (corresponding to 27% IACS)
LB1A, LB1B:	$84.80 \text{ n } \Omega \cdot \text{m}$ (corresponding to 20.3% IACS)
G1A, G1B:	$191.57 \text{ n } \Omega \cdot \text{m}$ (corresponding to 9% IACS)
G2A, G2B:	$191.57 \text{ n } \Omega \cdot \text{m}$ (corresponding to 9% IACS)
G3A:	$191.57 \text{ n } \Omega \cdot \text{m}$ (corresponding to 9% IACS)

Note 2: agreed by supplier and buyer:

- a) add minor mischmetal into hard-drawn aluminium wire, where, the mechanical and electrical properties shall also conform to GB/T 17048-1997;
- b) metal for zinc coated steel wires can also use special zinc coated, e.g. coated better than regular such as zinc-5% aluminium-rare earth alloy, 55% aluminium-zinc alloy coated, etc, however, the mechanical and electrical properties shall also conform to GB/T 3428-2002.

Stranded conductors made of combinations shall be indicated in order contract.

1.2 Designation and names of round wire concentric lay overhead electrical stranded conductors specified in this Standard refer to Table 1.

Table 1 –Designation and name

Designation	Name
JL	Aluminium stranded wire
JLHA2, JLHA1	Aluminium alloy stranded wire
JL/G1A, JL/G1B, JL/G2A, JL/G2B, JL/G3A	Aluminium cable steel reinforced (ACSR)
JL/G1AF, JL/G2AF, JL/G3AF	Anticorrosive ACSR ^a
JLHA2/G1A, JLHA2/G1B, JLHA2/G3A	Aluminium-alloy conductor steel-reinforced
JLHA1/G1A, JLHA1/G1B, JLHA1/G3A	Aluminium-alloy conductor steel-reinforced
JL/LHA2, JL/LHA1	Aluminum cored aluminum stranded wire ^b
JL/LB1A	Steel cored aluminium steel stranded wire
JLHA2/LB1A, JLHA1/LB1A	Steel cored aluminium alloy steel stranded wire
JG1A, JG1B, JG2A, JG3A	Stranded steel wire
JLB1A, JLB1B, JLB2	Al-cladding stranded wire
a The coating way of anticorrosive ACSR should be in accordance with Annex D and indicated in contract.	
b Separate with small size is mixed stranded wire.	

2 Normative References

The articles contained in the following documents have become this standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB/T 3048.2-2007 *Test methods for electrical properties of electric cables and wires—Part 2: Test of electrical resistivity of metallic materials* (IEC 60468: 1974, MOD)

GB/T 4909.2-1985 *Test methods for bare wires; Measurement of dimensions* (neq IEC 60251: 1978)

GB/T 3428-2002 *Zinc-coated steel wires for stranded conductors* (idt IEC 60888: 1987)

GB/T 17048-1997 *Hard-drawn aluminium wire for overhead line conductors* (idt IEC 60889: 1987)

GB/T 17937-1999 *Aluminium-clad steel wires for electrical purposes* (idt IEC 61232: 1983)

JB/T 8134-1997 *Aluminium-magnesium-silicon alloy wire for overhead line conductors* (idt IEC 60104: 1987)

JB/T 8137-1999 *Delivery wire and cable tray*



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