

C3138

KOREAN INDUSTRIAL STANDARD

KS C 3138-1989

ACSR Outdoor Cross-linked Polyethylene Insulated Wires for 6.6kV

1. Scope

This Korean Industrial Standard specifies the ACSR outdoor cross-linked polyethylene insulated wires (hereinafter referred to as "wires") with single link used as overhead wires for 6.6kV.

Related Standard :

KS C 3004 Testing Methods of Rubber and Plastic
Insulated Wires and Cables

KS C 3111 Hard - drawn Aluminium Wires for Electric
Purposes

KS C 3113 Aluminium Stranded Conductors Steel
Reinforced

KS D 3559 High Carbon Steel Wire Rods

2. Classifications and Specifications

The classification and specifications of wires shall be as specified in table.

Table Classification and specification

Symbols and nominal cross-section mm ²	Conductor		External diameters mm	Thickness of insulator mm	External diameter of product mm	Maximum resistance of conductor 20°C Ω/km	Test voltage V	Tensile strength of conductor kg	Approx. weight kg/km	Min. insulation resistance MΩ · km	Standard length of a group m
	Component (Al)	St mm									
	Shape										
ACSR-OC 32	6/SB	1/2.6	7.2	2.0	11.2	0.928	12000	1090	185	1500	900
ACSR-OC 58	6/SB	1/3.5	9.7	2.5	14.7	0.512	12000	1900	325	1500	600
ACSR-OC 95	6/BS	1/3.5	12.0	2.5	17.0	0.313	12000	2360	455	1000	300

3. Construction and Material

The construction and material of wires shall be as specified in the Table and following items.

3.1 Conductor

3.1.1 Component-Wires

The component-wires shall be aluminium wires as specified in KS C 3111 (Hard-Drawn Aluminium Wires for Electric Purpose) and zinc-coated steel wire.

(1) Hard-drawn aluminium wires :

The hard-drawn aluminium wires shall be made of suitable material as specified in KS C 3111 and their performances shall comply with the requirement of 2.1.2 in KS C 3113.

(2) Zinc-coated steel wires

The zinc-coated steel wires shall be made of suitable material as specified in KS D 3559 (High Carbon Steel Wire Rods) and their performance shall comply with the requirement of 2.1.2 in KS C 3113.

3.1.2 Stranded Wires

The stranded wires shall be performed with the steel wires as specified in the requirement of 3.1.1 (2) in center, through combining the aluminium wires as specified in the

requirement of 3.1.1 (1) around the same center and the compressing these aluminium in cycles with same center (smooth Body (SB)), with the pitch not more than 16 times of external diameter, and along S type tangling direction.

The tolerance of external diameter is $\pm 2\%$ of the values given in table, and the cross-section of the aluminium part shall be not less than 96% of the nominal cross-section.

3.1.3 Connection of component-wires

The connection of component-wires shall comply with the requirement of 2.3 in KS C 3113.

3.2 Insulator

Conductors shall be coated by polyethylene with the thickness specified in table and there shall be no defect and pores harmful for usage. The average of insulator's thickness tested at same sites of the same cross-section shall be not less than 90% of the