

Conductors-Overhead

Cable Description: ACSR RABBIT OVERHEAD CONDUCTOR : WAPDA P-50:88 : : STRANDING

Design and Construction Data

Reference Manufacturing Standard		WAPDA P-50:88
Max. Permissible Continuous Conductor Temperature	°C	50
Max. Conductor Temperaturer	°C	80
Type of Conductor		ACSR RABBIT
Area of complete conductor	mm ²	61.69
Conductor Material & Shape		Steel & Aluminum - Stranded Class 2
No. of wires of Steel		1
Diameter of Steel wires	mm	3.35
Minimum Tensile strength of Steel wires Before stranding	Kg/mm ²	133.6
Minimum Tensile strength of Steel wires After stranding	Kg/mm ²	126.9
Min. Tensile strength of steel wires at 1 % Extension	Kg/mm ²	112.5
Minimum Elongation of Steel wire After stranding	%	3.5
Wrapping test of Steel wires		No Cracks
Minimum Mass of zinc coating	g/m ²	244
Adherence Test of zinc coating		Should be adherent
Lay Ratio of Steel core layer		N/R
Lay direction of Steel core layer		N/R
Steel cross section Area	mm ²	8.814
Approximate Steel core weight	Kg/Km	68.75
Max. Resistivity of Aluminum wire at 20 °C	Ωmm ² /m	0.028264
No. of wires of Aluminum	No	6
Diameter of Aluminum wires	mm	3.35
Minimum Tensile strength of Aluminum After stranding	Kg/mm ²	15.90
Wrapping test of Aluminum wires		No Cracks
Lay Ratio of Outer most Aluminum layer	Time	10~14
Lay direction of Outer most layer		Right Hand
Aluminum cross section Area	mm ²	52.88
Approximate Aluminum weight	Kg/Km	145.81
Density of Aluminum at 20 °C	g/cm ³	2.703
Constant mass Temperature coefficient	/ °C	0.00403
Conductor Diameter	mm	10.05
Ultimate Tensile Strength of Complete Conductor	Kg	1875
Total conductor weight	Kg/Km	214
Nominal Drum Length	MTR	3200
Nominal copper equivalent	mm ²	32.26

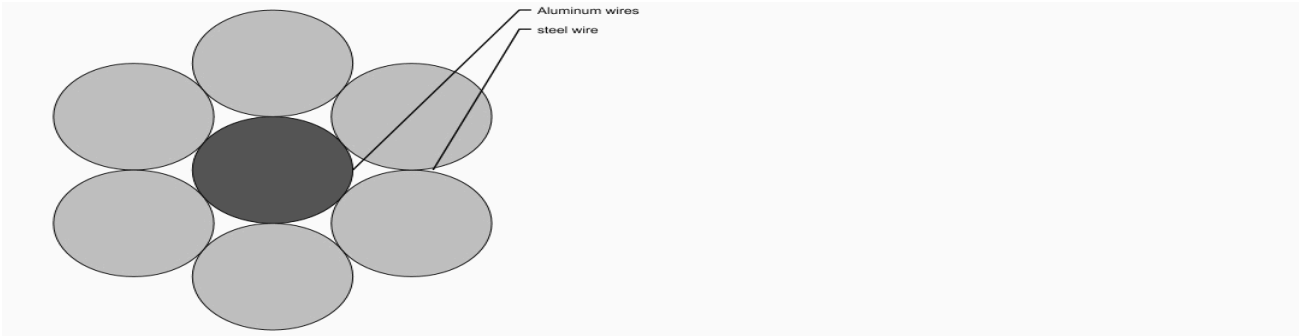
Electrical Data

Max Conductor DC resistance @ 20 °C	ohm/km	0.543
Current carrying Capacity @ 50 °C	Amp	179
Wind speed (v)	m/s	0.6
Solar radiation (Si)	W/m ²	1200
Emmisivity (Ke)		0.5
Solar radiation absorption coefficient (Y)		0.5
The Conductor shall meet all Test requirements		WAPDA P-50:88

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Cable Drawing



ACSR RABBIT OVERHEAD CONDUCTOR : WAPDA P-50:88 : : Stranding		Approx. Diameter
Layer 1: No. of Wires / Steel Size 1/3.35mm	mm	3.35
Layer 2: No. of Wires / Aluminum Size 6/3.35mm	mm	10.05