FAST CABLES LIMITED

Technical Data Sheet

Conductors-Overhead

Cable Description: ACSR LYNX 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 LYNX
Area of complete conductor	mm²	226.20
Conductor Material & Shape		Steel & Aluminum - Stranded Class 2
No. of wires of Steel		7
Diameter of Steel wires	mm	2.79
Minimum Tensile strength of Steel wires Before stranding	Kg/mm²	133.6
Minimum Tensile strength of Steel wires After stranding	Kg/mm²	126.9
Min. Tensile strength of steel wires at 1 % Extension	Kg/mm²	116
Minimum Elongation of Steel wire After stranding	%	3.5
Wrapping test of Steel wires		No Cracks
Minimum Mass of zinc coating	g/m²	244
Adherence Test of zinc coating		Should be adherent
Lay Ratio of Steel core layer	Time	13~28
Lay direction of Steel core layer		Right Hand
Steel cross section Area	mm²	42.80
Approximate Steel core weight	Kg/Km	337.14
Max. Resistivity of Aluminum wire at 20 °C	Ωmm²/m	0.028264
No. of wires of Aluminum	No	30
Diameter of Aluminum wires	mm	2.79
Minimum Tensile strength of Aluminum After stranding	Kg/mm²	16.30
Wrapping test of Aluminum wires		No Cracks
Lay Ratio of Outer most Aluminum layer	Time	10~14
Lay Ratio of Layer immediately beneath outside Aluminum layer	Time	10~16
Lay direction of Outer most layer		Right Hand
Aluminum cross section Area	mm²	183.41
Approximate Aluminum weight	Kg/Km	505.67
Density of Aluminum at 20 °C	g/cm3	2.703
Constant mass Temperature coefficient	/ °C	0.00403
Conductor Diameter	mm	19.53
Ultimate Tensile Strength of Complete Conductor	Kg	8192
Total conductor weight	Kg/Km	842
Nominal Drum Length	MTR	2300
Nominal copper equivalent	mm²	111.88

Electrical Data

Max Conductor DC resistance @ 20 °C	ohm/km	0.158
Current carrying Capacity @ 50 °C	Amp	391
Wind speed (v)	m/s	0.6
Solar radiation (Si)	W/m²	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 LYNX OVERHEAD CONDUCTOR : WAPDA P-50:88 : : Stranding		Approx. Diameter
Layer 1: No. of Wires / Steel Size 1/2.79mm	mm	2.79
Layer 2: No. of Wires / Steel Size 6/2.79mm	mm	8.37
Layer 3: No. of Wires / Aluminum Size 12/2.79mm	mm	13.95
Layer 4: No. of Wires / Aluminum Size 18/2.79mm	mm	19.53