

# Allied Export

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### **3x70 + 1x54.6 + 16mm<sup>2</sup> Aerial Bundled Conductors**

#### General

<b>1</b>	<b>Manufacturers name &amp; address</b>	→	Allied Cables Ltd	
<b>2</b>	<b>Standards Applicable</b>	→	NFC 33-209, IEC 502, IEC 1089, IEC 228	
<b>3</b>	<b>Number of Strands in</b>			
	i. Phase Conductors	→	12	
	ii. Neutral Messenger	→	7	
	iii. Street Lighting Conductor	→	7	
<b>4</b>	<b>Nominal Cross Sectional Area of</b>			
	i. Phase Conductors	→	70.00	mm
	ii. Neutral Messenger	→	54.60	mm
	iii. Street Lighting Conductor	→	16.00	mm
<b>5</b>	<b>Max Linear Resistance of Conductor at 20°C</b>			
	i. Phase Conductors	→	0.443	Ω/km
	ii. Neutral Messenger	→	0.63	Ω/km
	iii. Street Lighting Conductor	→	1.91	Ω/km
<b>6</b>	<b>Minimum Breaking Strength</b>			
	i. Phase Conductors	→	840	daN
	ii. Neutral Messenger	→	1660	daN
	iii. Street Lighting Conductor	→	190	daN
<b>7</b>	<b>Nominal Diameter of Strands</b>			
	i. Phase Conductors	→	2.74	mm
	ii. Neutral Messenger	→	3.15	mm
	iii. Street Lighting Conductor	→	1.70	mm
<b>8</b>	<b>Diameter of Bare Conductors</b>			
	i. Phase Conductors			
		max	→	10.2 mm
		min	→	9.70 mm
	ii. Neutral Messenger			
		max	→	9.60 mm
		min	→	9.20 mm
	iii. Street Lighting Conductor			
		max	→	5.10 mm
<b>9</b>	<b>Thickness of Insulating Sheath</b>			
	i. Phase Conductors			
		max	→	1.8 mm
		min	→	1.52 mm at 1 point
	ii. Neutral Messenger			
		max	→	1.6 mm
		min	→	1.34 mm at 1 point
	iii. Street Lighting Conductor			
		max	→	1.2 mm
		min	→	0.98 mm at 1 point
<b>10</b>	<b>Insulated Cable Outside Diameter</b>			
	i. Phase Conductors			
		max	→	14.2 mm
		min	→	13.3 mm
	ii. Neutral Messenger			
		max	→	13.0 mm
		min	→	12.3 mm
	iii. Street Lighting Conductor			
		max	→	7.8 mm
		min	→	7.0 mm

Continued.....

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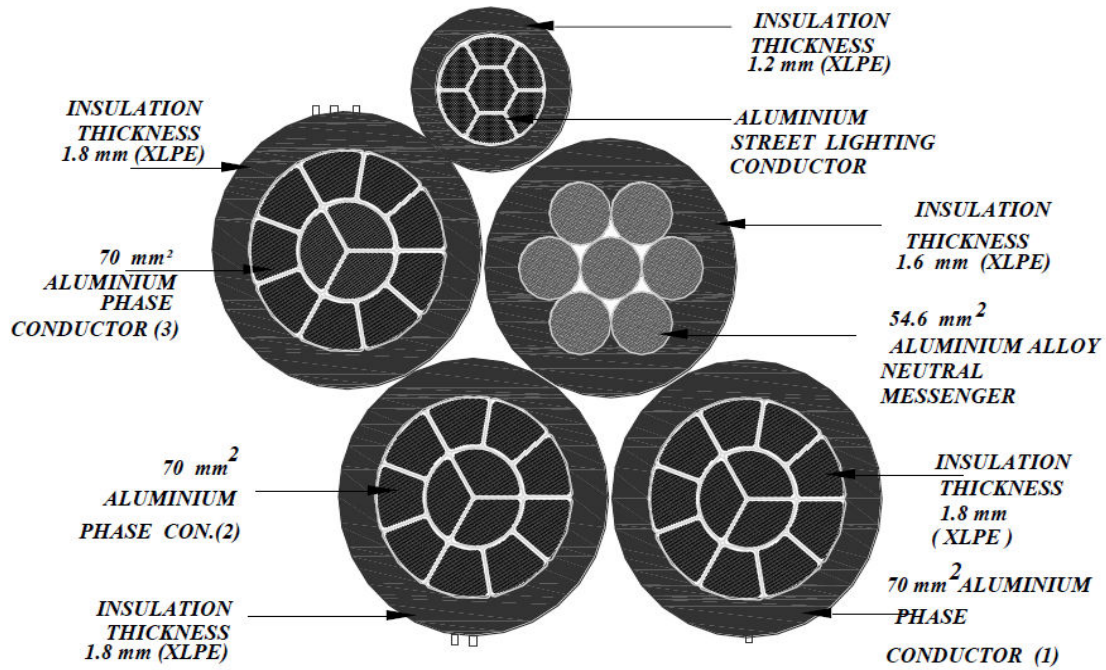
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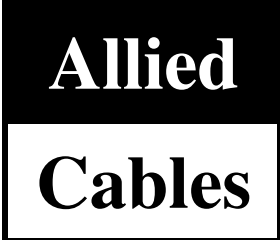
### **3x70 + 1x54.6 + 16mm<sup>2</sup> Aerial Bundled Conductors**

- |           |   |   |   |     |
|-----------|---|---|---|-----|
| <b>11</b> | <b>Co-Efficient of Linear Expansion</b>   |   |   |     |
| i.        | AL Conductors   | → | 23 x 10 <sup>-6</sup>   | °C  |
| ii.       | AL Alloy Conductors   | → | 23 x 10 <sup>-6</sup>   | °C  |
| <b>12</b> | <b>Modules of Elasticity</b>  |   |   |     |
| i.        | AL Conductors   | → | 56000   | Mpa |
| ii.       | AL Alloy Conductors   | → | 62000   | Mpa |
| <b>13</b> | <b>Chemical Composition</b>   |   |   |     |
| i.        | Aluminium Conductor   | → | AL = 99.50% min<br>SI = 0.10% max, FE = 0.40% max<br>CU = 0.05% max, MN = 0.01% max<br>CR = 0.01% max, B = 0.05% max<br>GE = 0.03% max, ZN = 0.05% max<br>V + Ti = 0.02% max<br>Other elements each = 0.03% max<br>Other elements total = 0.10% max |     |
| ii.       | Aluminium Alloy Conductor   | → | CU = 0.10% max, FE = 0.50% max<br>SI = 0.5-0.9%, MN = 0.03% max<br>MG = 0.6-.9%, ZN = 0.10% max<br>CR = 0.03% max, B = 0.06% max<br>Other elements each = 0.03% max<br>Other elements total 0.10% max<br>AL = Remainder                             |     |
| <b>14</b> | <b>Weight in metric tons of high grade Aluminium required for the manufacture of ONE Kilometer of Aerial Bundled Conductors</b> |   |   |     |
|           | Item II (3x70+54.6+16mm)  | → | 0.599   | MT  |
| <b>15</b> | <b>Weight in metric tons of Aluminium Alloy required for the manufacture of ONE kilometer of Aerial Bundled Conductors</b>      |   |   |     |
|           | Item II (3x70+54.6+16mm)  | → | 0.151   | MT  |

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<b>3 x 70mm<sup>2</sup> AL/XLPE+N54.6mm<sup>2</sup> AL Alloy/XLPE+16mm<sup>2</sup> AL/XLPE Aerial Bundled Cable</b>			
<b>Item Code: T - 24sub</b>			
Checked: Eng EX		Approved: EE(TSD)	
Date:	04-Feb-18	Scale:	not to scale