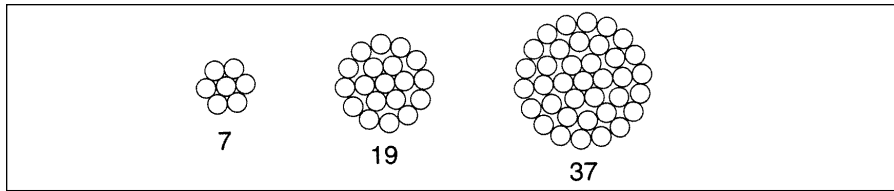


# TransPowr® A2 (AASC) Bare Overhead Conductor

## Aluminum Alloy Conductor Concentric-Lay-Stranded



### Product Construction:

#### Complete Conductor:

A2 conductors are high strength aluminum alloy, concentric-lay-stranded conductors. They are similar in construction and appearance to the A1 or AAC all-aluminum conductors. The conductors are manufactured in accordance with the requirements of the latest applicable issue of CAN/CSA C61089.

A2 or AASC (Aluminum Alloy Stranded Conductor) are CSA reference terms.

The A2/AASC conductors are manufactured from a heat-treated, magnesium-silicon high strength aluminum alloy.

The aluminum strands consist of a concentric stranded cable of 7, 19, 37, or more wires. The sizes and strandings listed on the following pages are common examples used in overhead lines.

### Features and Benefits:

Aluminum alloy conductors have a number of advantages over the use of the ACSR or all-aluminum conductors.

- Lower power losses than for equivalent single aluminum layer ACSR conductors. (The inductive effect of the steel core in the ACSR is eliminated.)
- Simpler fittings than those required for ACSR.
- Excellent corrosion resistance in environments conducive to galvanic corrosion in ACSR.
- Strength and sags approximately the same as for equivalent 6/1 and 26/7 ACSR conductors.
- Outside diameters are the same as for standard ACSR conductors, permitting interchangeability of fittings.
- Greater resistance to abrasion than that for 1350 wires in all-aluminum or ACSR conductors.

### Applications:

A2 aluminum alloy conductors are extensively used for overhead distribution and transmission lines adjacent to ocean coastlines where there can be a problem of corrosion in the steel of an ACSR construction.

The aluminum alloy conductors are used in place of single layer ACSR conductors (i.e., 6 AWG to 4/0 AWG) to reduce power losses in overhead distribution and transmission lines. The inductive effect of the ACSR's steel core is eliminated, hence increasing the operating efficiency of the line.

### Option:

- Non-Specular surface finish (/NS)
- E3X® surface coating (/E3X)

For more information, contact your General Cable sales representative or e-mail [info@generalcable.com](mailto:info@generalcable.com).



# TransPowr® A2 (AASC) Bare Overhead Conductor

## Aluminum Alloy Conductor Concentric-Lay-Stranded

### A2 (AASC), ALUMINUM ALLOY CONDUCTOR, CONCENTRIC-LAY-STRANDED (MECHANICAL PROPERTIES) - CONDUCTOR SIZED TO HAVE DIAMETER EQUAL TO ACSR

CODE WORD	CSA DESIGNATION	CONDUCTOR SIZE		EQUIVALENT ACSR SIZE (1)	EQUIVALENT ASC SIZE (2)	STRANDING NO. X DIA. (mm)	CLASS	O.D. (mm)	NOMINAL MASS KG/KM	RATED STRENGTH kN
		kcMil	mm <sup>2</sup>							
-none-	8-A2-7	18.9	9.6	18.9	18.9	7x1.32	AA	3.96	26.15	2.92
Fredericton	13-A2-7	30.2	15.3	#6	#6	7x1.67	AA	5.01	41.86	4.68
Whitehorse	21-A2-7	48.0	24.3	#4	#4	7x2.10	AA	6.30	66.19	7.39
Halifax	34-A2-7	76.4	38.7	#2	#2	7x2.65	AA	7.95	105.4	11.8
Regina	42-A2-7	96.3	48.8	#1	#1	7x2.98	AA	8.94	133.3	14.9
Montreal	54-A2-7	121.5	61.6	1/0	1/0	7x3.35	AA	10.1	168.4	18.8
Winnipeg	67-A2-7	153.2	77.6	2/0	2/0	7x3.76	AA	11.3	212.2	23.7
Toronto	85-A2-7	193.1	97.9	3/0	3/0	7x4.22	AA	12.7	267.3	29.9
Vancouver	107-A2-7	243.5	123.4	4/0	4/0	7x4.74	AA	14.2	337.2	37.7
Calgary	135-A2-19	307.1	155.6	266.8	266.8	19x3.23	AA	16.2	426.8	47.5
Edmonton	170-A2-19	387.2	196.2	336.4	336.4	19x3.63	AA	18.2	539.1	60.0
Brockville	201-A2-19	457.5	231.8	397.5	397.5	19x3.94	AA	19.7	635.1	70.7
Quebec	242-A2-19	549.0	278.2	477	477	19x4.32	AA	21.6	763.5	84.9

(1) Equivalent ACSR Size refers to an ACSR conductor size of equal diameter.

(2) Equivalent ASC Size refers to an ASC (i.e., CSA C61089 A1) conductor of approximate equivalent electrical resistance.

Dimensions and weights not designated minimum or maximum are nominal values and subject to manufacturing tolerances. In this context, weight means mass.

# TransPowr® A2 (AASC) Bare Overhead Conductor

## Aluminum Alloy Conductor Concentric-Lay-Stranded

### A2 (AASC), ALUMINUM ALLOY CONDUCTOR, CONCENTRIC-LAY-STRANDED (ELECTRICAL PROPERTIES) - CONDUCTOR SIZED TO HAVE DIAMETER EQUAL TO ACSR

CODE WORD	CONDUCTOR SIZE		RESISTANCE (3)OHMS/KM			AMPACITY @75°C (4)		GEOMETRIC MEAN RADIUS CM	INDUCTIVE REACTANCE OHM/KM (5)	CAPACITIVE REACTANCE MEGAOHM-KM (5)
	kcmil	mm <sup>2</sup>	DC @20°C	AC @25°C	AC @75°C	STANDARD	E3X®			
-none-	18.9	9.6	3.433	3.493	4.093	73	78	0.143	0.4042	0.2404
Fredericton	30.2	15.3	2.154	2.192	2.568	98	105	0.183	0.3858	0.2293
Whitehorse	48.0	24.3	1.354	1.378	1.615	131	141	0.229	0.3688	0.2182
Halifax	76.4	38.7	0.8515	0.8665	1.015	175	191	0.290	0.3511	0.2071
Regina	96.3	48.8	0.6751	0.6871	0.8052	202	222	0.323	0.3429	0.2016
Montreal	121.5	61.6	0.5350	0.5445	0.6382	234	258	0.366	0.3333	0.1960
Winnipeg	153.2	77.6	0.4245	0.4321	0.5064	270	299	0.408	0.3251	0.1905
Toronto	193.1	97.9	0.3367	0.3428	0.4017	313	348	0.460	0.3163	0.1850
Vancouver	243.5	123.4	0.2670	0.2720	0.3187	362	404	0.515	0.3078	0.1795
Calgary	307.1	155.6	0.2127	0.2168	0.2540	418	471	0.613	0.2946	0.1734
Edmonton	387.2	196.2	0.1687	0.1722	0.2016	484	548	0.686	0.2861	0.1678
Brockville	457.5	231.8	0.1428	0.1459	0.1708	537	611	0.747	0.2795	0.1638
Quebec	549.0	278.2	0.1190	0.1218	0.1425	602	688	0.817	0.2730	0.1595

(3) Based on a conductivity of 53.0% IACS at 20°C for aluminum.

(4) Based on a conductor temperature of 75°C at 60 Hz and the following conditions, 32°C ambient temperature, 1.98 ft/sec (0.6 m/sec) crosswind (90° to conductor), 0.5 coefficient of emissivity for a standard conductor and 0.9 for a E3X coated conductor, 0.5 coefficient of absorptivity for a standard conductor and 0.2 for a E3X coated conductor, 42° northern latitude, sea level elevation, 90° azimuth of line (East-West), clear atmosphere, and a date and time of noon on July 1 (resulting in 95.0 W/ft<sup>2</sup> of solar and sky radiated heat). Actual ampacity will differ based on local conditions. For specific ampacities, please contact your General Cable sales representative.

(5) Values for inductive reactance and capacitive reactance are expressed in terms of a 1 ft radius (30.48 cm).

