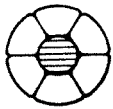
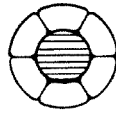


# TransPowr<sup>®</sup> Compact (Smooth Body) ACSR Bare Overhead Conductor

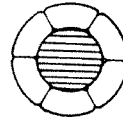
## Aluminum Conductor Steel-Reinforced Compact Stranded



Type 100



Type 150



Type 200

### Product Construction:

#### Complete Conductor:

Smooth Body ACSR is a composite compact-layer-stranded conductor. The conductors are manufactured in accordance with the requirements of the latest applicable issues of CSA C49.2.

The steel strands form the central core of the conductor, around which is stranded a layer of aluminum 1350-H19 wires. The sizes listed on the following pages are common examples used in overhead lines. Metric (mm<sup>2</sup>) sizes are also available.

The Canadian Smooth Body ACSR conductors are supplied in various tensile strength configurations, designated as Type 100, Type 150, and Type 200. For each conductor gauge size, the regular product is known as Type 100. Type 150 designates a conductor design with the same AWG size, but with 150% the rated strength of the Type 100. Type 200 follows accordingly, with twice the rated strength of the Type 100.

### Features and Benefits:

ACSR conductors are recognized for their record of economy, dependability and favorable strength/weight ratio. ACSR conductors combine the light weight and good conductivity of aluminum with the high tensile strength and ruggedness of steel. In line design, this can provide higher tensions, less sag, and longer span lengths than obtainable with most other types of overhead conductors. The steel strands are added as mechanical reinforcements. The cross-sections above illustrate some common strandings.

The steel core wires are protected from corrosion by galvanizing. The standard Class A zinc coating is usually adequate for ordinary environments. For greater protection, Class B and C galvanized coatings may be specified.

The product is available with conductor corrosion-resistant inhibitor treatment applied to the central steel component.

### Applications:

Compact Aluminum Conductors, Steel-Reinforced (ACSR) are used for overhead distribution and transmission lines.

The Type 100 compact ACSR conductor style is also used as the support conductor in the CSA Neutral Supported Service Entrance Cable as referenced in the CSA C22.2 No. 129 specification.

### Options:

- High-Conductivity aluminum (/HC) (62.2% IACS)
- CSA high-strength Class A galvanized steel core (S2A)
- CSA extra-high-strength Class A galvanized steel core (S3A)
- ASTM regular-strength Class A zinc-5% aluminum mischmetal alloy-coated steel core (/MA2 to ASTM B802)
- ASTM high-strength Class A zinc-5% aluminum mischmetal alloy-coated steel core (/MA3 to ASTM B803)
- Aluminum-clad steel core (20SA)
- Regular-strength Class C galvanized steel core (S1C)
- Non-Specular surface finish (/NS)
- CSA C68.8 for distribution utilities
- E3X<sup>®</sup> surface coating (/E3X)

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



# TransPowr<sup>®</sup> Compact (Smooth Body) ACSR Bare Overhead Conductor

## Aluminum Conductor Steel-Reinforced Compact Stranded

### ACSR, ALUMINUM CONDUCTOR, STEEL REINFORCED, COMPACT-LAY-STRANDED (MECHANICAL PROPERTIES)

CODE WORD (1)	CSA DESIGNATION	CONDUCTOR SIZE		STRANDING NO. X DIA. (mm)		CROSS-SECTION (mm <sup>2</sup> )		O.D. (mm)	NOMINAL MASS KG/KM (2)			RATED STRENGTH kN	CONDUCTOR TYPE (3)
		AWG	mm <sup>2</sup>	AL	STEEL	TOTAL	AL		TOTAL	AL	STEEL		
Bass	13-A1F/S1A-6/1-46	#6	13.3	6	1x1.68	15.50	13.3	4.62	53.67	36.43	17.25	5.19	100
Mullet	13-A1F/S1A-6/1-49	#6	13.3	6	1x2.38	17.70	13.3	4.90	71.12	36.51	34.61	7.67	150
Herring	13-A1F/S1A-6/1-53	#6	13.3	6	1x3.00	20.40	13.3	5.28	91.56	36.57	54.99	10.7	200
Pike	21-A1F/S1A-6/1-58	#4	21.2	6	1x2.12	24.70	21.2	5.82	85.47	58.01	27.46	8.15	100
Pollock	21-A1F/S1A-6/1-62	#4	21.2	6	1x3.00	28.20	21.2	6.17	113.1	58.14	54.99	12.1	150
Flounder	21-A1F/S1A-6/1-67	#4	21.2	6	1x3.78	32.40	21.2	6.71	145.5	58.23	87.31	16.4	200
Carp	34-A1F/S1A-6/1-74	#2	33.6	6	1x2.67	39.20	33.6	7.37	135.6	92.01	43.56	12.4	100
Haddock	34-A1F/S1A-6/1-78	#2	33.6	6	1x3.78	44.80	33.6	7.82	179.5	92.22	87.31	18.4	150
Pickrel	34-A1F/S1A-6/1-84	#2	33.6	6	1x4.77	51.50	33.6	8.41	231.4	92.37	139.0	25.7	200
Shad	42-A1F/S1A-6/1-83	#1	42.4	6	1x3.00	49.50	42.4	8.28	171.1	116.2	54.99	15.5	100
Lamprey	42-A1F/S1A-6/1-88	#1	42.4	6	1x4.25	56.60	42.4	8.79	226.8	116.4	110.4	23.0	150
Sole	54-A1F/S1A-6/1-93	1/0	53.5	6	1x3.37	62.40	53.5	9.27	216.0	146.6	69.40	18.9	100
Sculpin	54-A1F/S1A-6/1-99	1/0	53.5	6	1x4.77	71.40	53.5	9.86	285.9	146.9	139.0	28.8	150
Hake	67-A1F/S1A-6/1-104	2/0	67.4	6	1x3.78	78.60	67.4	10.4	271.7	184.4	87.31	23.5	100
Cusk	85-A1F/S1A-6/1-117	3/0	85.0	6	1x4.25	99.30	85.0	11.7	343.5	233.1	110.4	29.6	100
Scup	107-A1F/S1A-6/1-131	4/0	107.2	6	1x4.77	125.1	107.2	13.1	432.7	293.7	139.0	37.3	100

(1) Code words shown denote ACSR with regular-strength Class A galvanized steel core (S1A). See the Options section to find the appropriate code word modifier designation for alternative design options.

(2) Due to rounding, total values may be slightly greater or slightly less than the sum of the component values.

(3) A Type 150 construction has 150% of the rated strength of a Type 100 construction, and a Type 200 has 200% of the rated strength of a Type 100 construction.

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

# TransPowr<sup>®</sup> Compact (Smooth Body) ACSR Bare Overhead Conductor

## Aluminum Conductor Steel-Reinforced Compact Stranded

### ACSR, ALUMINUM CONDUCTOR, STEEL REINFORCED, COMPACT-LAY-STRANDED (ELECTRICAL PROPERTIES)

CODE WORD (1)	CONDUCTOR SIZE		PERCENT BY MASS		RESISTANCE (4)OHMS/KM			AMPACITY @75°C (5)		GEOMETRIC MEAN RADIUS CM	INDUCTIVE REACTANCE OHM/KM (6)	CAPACITIVE REACTANCE MEGAOHM/KM (6)
	AWG	mm <sup>2</sup>	AL	STEEL	DC @20°C	AC @25°C	AC @75°C	STANDARD	E3X <sup>®</sup>			
Bass	#6	13.3	67.88%	32.14%	2.154	2.198	2.77	93	99	0.052	0.476	0.2331
Mullet	#6	13.3	51.34%	48.66%	2.159	2.203	2.82	93	100	0.051	0.482	0.1857
Herring	#6	13.3	39.94%	60.06%	2.163	2.207	2.84	95	101	0.054	0.478	0.2267
Pike	#4	21.2	67.87%	32.13%	1.350	1.377	1.77	123	132	0.079	0.449	0.2221
Pollock	#4	21.2	51.41%	48.62%	1.353	1.381	1.82	123	132	0.082	0.446	0.2193
Flounder	#4	21.2	40.02%	60.01%	1.355	1.383	1.84	125	135	0.087	0.442	0.2153
Carp	#2	33.6	67.85%	32.12%	0.8522	0.8695	1.14	162	176	0.122	0.416	0.2108
Haddock	#2	33.6	51.38%	48.64%	0.8541	0.8714	1.18	162	176	0.128	0.412	0.2080
Pickarel	#2	33.6	39.92%	60.07%	0.8555	0.8729	1.20	163	178	0.125	0.414	0.2045
Shad	#1	42.4	67.91%	32.14%	0.6749	0.6886	0.916	186	204	0.151	0.400	0.2052
Lamprey	#1	42.4	51.32%	48.68%	0.6764	0.6902	0.951	186	203	0.156	0.398	0.2024
Sole	1/0	53.5	67.87%	32.13%	0.5346	0.5455	0.738	213	235	0.183	0.386	0.1999
Sculpin	1/0	53.5	51.38%	48.62%	0.5358	0.5467	0.770	212	234	0.189	0.383	0.1969
Hake	2/0	67.4	67.87%	32.13%	0.4251	0.4339	0.595	245	270	0.216	0.373	0.1943
Cusk	3/0	85.0	67.86%	32.14%	0.3363	0.3433	0.482	280	311	0.256	0.360	0.1887
Scup	4/0	107.2	67.88%	32.12%	0.2669	0.2725	0.391	320	358	0.303	0.348	0.1832

(4) Based on a conductivity of 61.0% IACS at 20°C for aluminum. Per CSA C61089, the conductivity of the steel is not to be factored in. For the AWG sizes of these ACSR, the approximated hysteresis losses in the steel are included.

(5) 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.

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

