

# Motion-Resistant Conductor

ACSR Motion-Resistant Conductor.  
Bare Aluminum Conductor, Steel Reinforced.



## APPLICATIONS

Southwire's Motion-Resistant Conductor is designed for overhead distribution and transmission lines. It is a galloping- and vibration-resistant, bare aluminum construction, designed for use in overhead applications subject to aeolian vibration and galloping due to wind and ice. Motion-Resistant conductors can be strung to the maximum allowable tension limits without the need for additional vibration protection.

## SPECIFICATIONS

Southwire's Motion-Resistant Conductor meets or exceeds the following ASTM specifications:

- B-230 Aluminum Wire, 1350-H19 for Electrical Purposes.
- B-231 Aluminum Conductors, Concentric-Lay-Stranded.
- B-232 Aluminum Conductors, Concentric-Lay-Stranded, Coated Steel Reinforced (ACSR).
- B-498 Zinc-Coated Steel Core Wire for Aluminum Conductors, Steel Reinforced (ACSR).
- B-500 Zinc-Coated (Galvanized), Zinc-5% Aluminum-Mischmetal Alloy-Coated, and Aluminum-Coated (Aluminin Stranded Steel Core for Aluminum Conductors, Steel Reinforced (ACSR).
- B-779 Shaped Wire Compact Concentric-Lay-Stranded Aluminum Conductors, Steel-Reinforced (ACSR/TW).

## CONSTRUCTION

Southwire's Motion-Resistant Conductor is composed of a combination of round and shaped wires of varying diameters and cross-sections. The wires are stranded in such a way to give the cable a spiraling elliptical shape. This spiraling elliptical shape disrupts the forces created by steady cross winds which cause cable vibration, by presenting a continuously changing projected cable diameter to the wind. The spiral shape, together with less torsional stiffness and varying bending stiffness also reduces or eliminates cable galloping due to combined ice and wind loads. High strength steel core and aluminum clad steel core is also available. AAC Motion-Resistant Conductor is available upon request.

# Motion-Resistant Conductor

Code Word	Size (AWG or kcmil)	Type	Area (sq. inches)		Steel Stranding (No. x OD) (inches)	Conductor-Ellipse Dimensions (inches)		Weight per 1000 ft. (lbs.)			Rated Strength (lbs.)	Resistance OHMS/1000 ft.		Allowable Ampacity+ (Amps)
			Aluminum	Total		Major	Minor	Aluminum	Steel	Total		DC @ 20°C	AC @ 75°C	
Linnet/MR	336.4	16	0.2640	0.3070	7 x 0.0884	0.926	0.528	316.5	145.5	462.0	14,100	0.0504	0.0617	535
Drake/MR	795	16	0.6247	0.7264	7 x 0.1360	1.302	0.879	749	344	1093	31,500	0.0213	0.0263	908
Rail/MR	954	7	0.7492	0.8010	7 x 0.0971	1.375	0.907	899	176	1075	25,900	0.0180	0.0223	997

+ Ampacity is based on 75°C conductor temperature, 20°C ambient temperature, with 2 ft/sec wind in sun.

Sizes 336.4 through 954 kcmil are available upon request. The above represent the general design and construction of Motion-Resistant Conductors. Southwire Motion-Resistant Conductors are patented by Southwire Company and are exclusively available from Southwire Company.