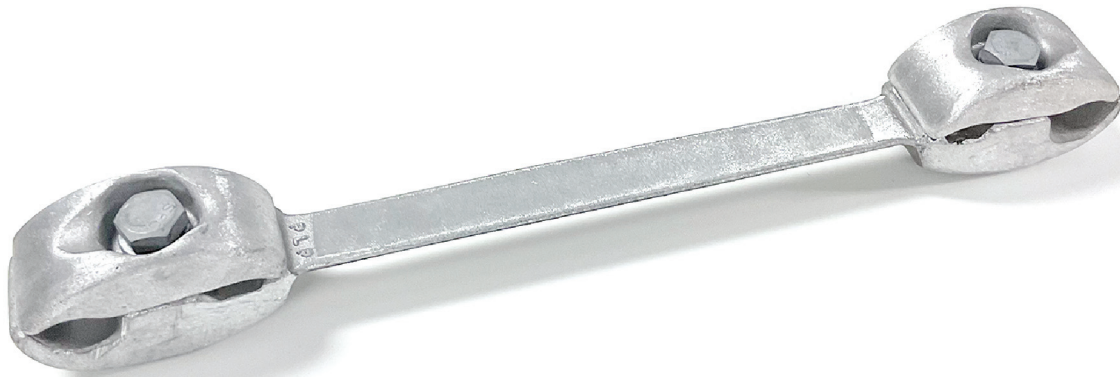


## SECTION 7 SPACERS

SUBSTATION CONNECTORS - 230KV AND BELOW



## SPACERS

PLP **Substation Connectors Spacers** for 230kV and below are designed to properly space stranded conductor in different bundle arrangements. For slack conductor connections, PLP recommends at least one spacer is placed between every piece of substation equipment (e.g., between circuit breaker and current transformer) and/or one spacer is placed every 10 feet (3 meters). For tensioned connections inside substation (strung bus), PLP recommends one spacer is placed every 33 feet (10 meters). Rigid spacers should not be used at OHL connections subjected to vibrations. A wide range of flexible spacers and spacer dampers for this purpose is available.

### FEATURES AND BENEFITS

- Complete range of sizes for connecting most standard stranded conductor and standard spacing
- Solutions for bolted applications
- Available in aluminum and bronze, with tin plating capabilities for both materials
- Custom design solutions available to secure your most challenging connections

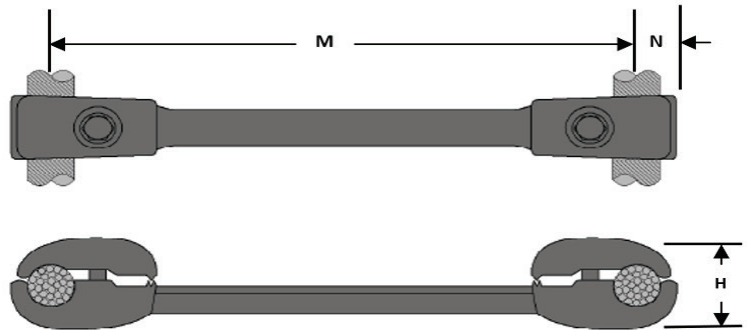
## ES-A Aluminum Bolted Spacer Two Cables 230kV and Below

Aluminum alloy spacer to connect two cables at a specific distance. Electrical joint compound is recommended for all cable contact surfaces.

**CASTINGS:** Aluminum Alloy

**HARDWARE:** Galvanized Steel

See page 172 for special order options such as tin plating, hardware materials and specific angles. Contact PLP for further details, unlisted option and/or special applications.



Use the table to the right to specify the spacer distance.

Example: ES21A with 200 mm spacing and stainless steel hardware is ES21A-200-SS.

Contact PLP for unlisted options or special applications.

Cable Distance Designation - (M)

Suffix	Distance
	in (mm)
100	3.94 (100)
200	7.87 (200)
300	11.81 (300)
330	13.00 (330)
400	15.75 (400)
450	17.72 (450)

Part Number	AWG/MCM	AWG/MCM Diameter	ACSR	ACSR Diameter	Dimensions	
		in (mm)		in (mm)	H	N
ES21A-(M)	500 - 600	.814 - .893 (20.7 - 22.7)	477 (18/1) - 477 (30/7)	.814 - .883 (20.7 - 22.4)	2.95 (75)	1.02 (26)
ES24A-(M)	636 - 750	.918 - .998 (23.3 - 25.3)	556 (18/1) - 666 (24/7)	.879 - 1.000 (22.3 - 25.4)	2.95 (75)	1.02 (26)
ES26A-(M)	795 - 874	1.028 - 1.078 (26.1 - 27.4)	715 (54/7) - 795 (54/7)	1.036 - 1.093 (26.3 - 27.8)	2.95 (75)	1.02 (26)
ES28A-(M)	900 - 1000	1.094 - 1.152 (27.8 - 29.3)	795 (54/7) - 954 (45/7)	1.093 - 1.165 (27.8 - 29.6)	2.95 (75)	1.02 (26)
ES285A-(M)	1033 - 1113	1.171 - 1.216 (29.7 - 30.9)	900 (54/7) - 1033 (45/7)	1.162 - 1.212 (29.5 - 30.8)	2.95 (75)	1.02 (26)
ES287A-(M)	1033 - 1192	1.171 - 1.259 (29.7 - 32.0)	900 (54/7) - 1113 (45/7)	1.162 - 1.259 (29.5 - 32.0)	2.95 (75)	1.02 (26)
ES29A-(M)	1192 - 1300	1.259 - 1.315 (32.0 - 33.4)	1033 (54/7) - 1192 (54/19)	1.246 - 1.338 (31.7 - 34.0)	2.95 (75)	1.02 (26)
ES30A-(M)	1431 - 1590	1.382 - 1.454 (35.1 - 36.9)	1272 (54/19) - 1431 (54/19)	1.382 - 1.465 (35.1 - 37.2)	3.11 (79)	1.22 (31)
ES32A-(M)	1750 - 2000	1.526 - 1.632 (38.8 - 41.5)	1590 (45/7) - 1780 (84/19)	1.504 - 1.602 (38.2 - 40.7)	3.11 (79)	1.22 (31)