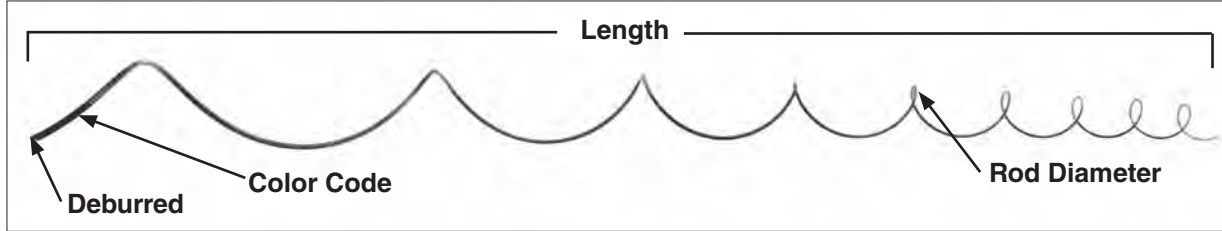




Lashing Rods

NOMENCLATURE



Color Code and Length: Assist in identification of size, corresponding to tabular information appearing on price pages.

Rod diameter: Identifies size of metal wire, corresponding to tabular information appearing on price pages. For covered rod, approximate thickness of plastic is indicated in addition to rod diameters.

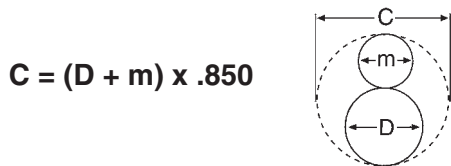
GENERAL RECOMMENDATIONS

INTENDED USE: PREFORMED Lashing Rods can be used on all types of messengers by overhead cables. They are particularly adaptable to spans obstructed by trees, short spans over traffic intersections and support of power cable into and out of substations.

MATERIAL SELECTION: Lashing Rods are made of the same basic material as the messenger to which they are applied. This pertains to Galvanized, Copperweld, Aluminum-clad Steel, Stainless Type 302, and Stainless Type 316. Any of these materials can be selected from the catalog page tables. The recommended types of strand are also indicated.

SIZE SELECTION: In selecting the proper size Lashing Rod it is necessary to determine the smallest circumscribing circle that will enclose the messengers and the cables.

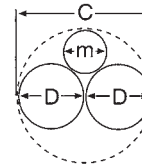
For grouping only **one** cable with a messenger, add the diameters and multiply by a factor of .850.



$$C = (D + m) \times .850$$

For grouping **two** equal diameter cables, multiply the diameter of one cable times 2.00. Then to find the diameter of the maximum messenger that will fit in the interstices of the cables, multiply the diameter of one cable times .666.

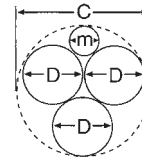
$$C = D \times 2.00$$



$$m = D \times .666$$

For grouping **three** equal diameter cables, multiply the diameter of one cable times 2.155. Then to find the diameter of the maximum messenger that will fit in the interstices of the cables, multiply the diameter of one cable times .483.

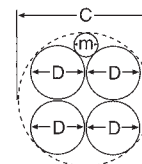
$$C = D \times 2.155$$



$$m = D \times .483$$

For grouping **four** equal diameter cables, multiply the diameter of one cable times 2.414. Then to find the diameter of the maximum messenger that will fit in the interstices of the cables, multiply the diameter of one cable times .414.

$$C = D \times 2.414$$



$$m = D \times .414$$

For grouping **unequal** diameter cables, or messengers too large to fit into the interstices above, the minimum diameter grouping can best be determined by a graphic layout to scale.

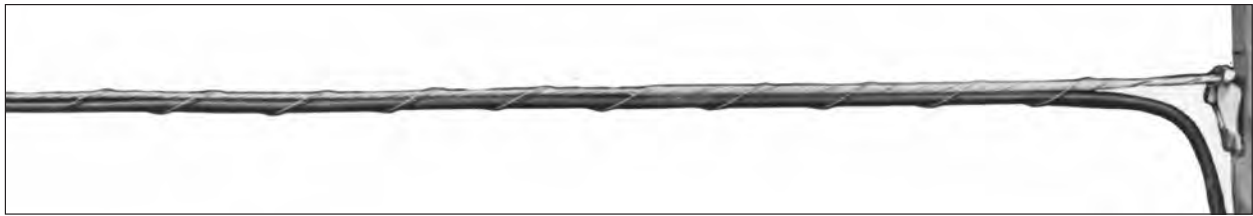
Lashing Rods

GENERAL RECOMMENDATIONS (continued)

Application – Inspection

The smaller inside diameter of the proper size Lashing Rod should exert a low radial pressure on the cables and messenger.

For most installations one Lashing Rod should be applied, overlapping one pitch length with each successive rod.



Two Lashing Rods, applied 180° apart, are recommended when the cable-messenger assembly weighs more than 8 pounds per foot, or at installations where the angle of sag exceeds 20° from the horizontal.



DESIGN MODIFICATIONS

Lashing Rod: Neoprene Covered



For use in highly corrosive environment, or on extra heavy cables, a neoprene coating can be applied to the Galvanized, Copperweld®, Aluminum-clad Steel or Stainless Steel Lashing Rods appearing on the price pages.

However, for normal outdoor power installations, the uncoated Lashing Rods are satisfactory.

In calculating circumscribing diameters for size selection, the thickness of the neoprene coating can be neglected.

Consult PLP for neoprene covered Lashing Rod. Include the minimum circumscribing diameter and the type of messenger material.

Copperweld and Aluminum-clad Steel are registered trademarks of the Copperweld Co.



Lashing Rods – Galvanized Steel



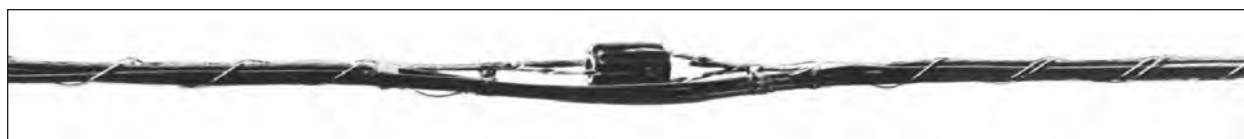
**For use on:
Galvanized Messengered Cable**

Catalog Number	C-Coat Diameter Range		Units	Wt/Lbs	Length (Feet)	Rod Diameter (Inches)	Color Code
	Min.	Max.					
LR-6100	.400	.439	100	13	5 ft	.086	Red
LR-6101	.440	.489	100	13	5 ft	.086	White
LR-6102	.490	.539	100	13	5 ft	.086	Orange
LR-6103	.540	.599	100	13	5 ft	.086	Green
LR-6104	.600	.669	100	17	5 ft	.100	Yellow
LR-6105	.670	.749	100	17	5 ft	.100	White
LR-6106	.750	.839	100	17	5 ft	.100	Red
LR-6107	.840	.939	100	17	5 ft	.100	White
LR-6108	.940	1.049	100	17	5 ft	.100	Orange
LR-6109	1.050	1.169	100	24	5 ft	.119	Green
LR-6110	1.170	1.309	100	24	5 ft	.119	Yellow
LR-6111	1.310	1.459	100	24	5 ft	.119	White
LR-6112	1.460	1.629	100	37	6 ft	.138	Red
LR-6113	1.630	1.819	100	37	6 ft	.138	White
LR-6114	1.820	2.039	100	37	6 ft	.138	Orange
LR-6115	2.040	2.279	100	52	6 ft	.159	Green
LR-6116	2.280	2.539	100	54	6 ft	.159	Yellow
LR-6117	2.540	2.839	100	56	6 ft	.159	White
LR-6118	2.840	3.179	100	58	6 ft	.159	Red
LR-6119	3.180	3.559	50	34	6 ft	.172	White
LR-6120	3.560	3.999	50	35	6 ft	.172	Orange
LR-6121	4.000	4.479	50	36	6 ft	.172	Green
LR-6122	4.480	4.999	50	37	6 ft	.172	Yellow
LR-6123	5.000	5.599	50	38	6 ft	.172	White
LR-6124	5.600	6.299	50	39	6 ft	.172	Red

EXPLANATORY NOTES:

- (1) Refer to General Recommendations of this section for proper circumscribing circle to apply to diameter range.
- (2) Refer to General Recommendations of this section for material selection.

Lashing Rods – Aluminum-Clad Steel



For use on:
Aluminum-clad Steel or Aluminum-Clad Steel Messengered Cable

Catalog Number	Diameter Range		Units Per Carton	Wt/Lbs	Length (Feet)	Rod Diameter (Inches)	Color Code
	Min.	Max.					
LR-2100	.400	.439	100	14	5 ft	.102	Red
LR-2101	.440	.489	100	14	5 ft	.102	White
LR-2102	.490	.539	100	14	5 ft	.102	Orange
LR-2103	.540	.599	100	14	5 ft	.102	Green
LR-2104	.600	.669	100	18	5 ft	.114	Yellow
LR-2105	.670	.749	100	18	5 ft	.114	White
LR-2106	.750	.839	100	18	5 ft	.114	Red
LR-2107	.840	.939	100	18	5 ft	.114	White
LR-2108	.940	1.049	100	18	5 ft	.114	Orange
LR-2109	1.050	1.169	100	24	5 ft	.128	Green
LR-2110	1.170	1.309	100	24	5 ft	.128	Yellow
LR-2111	1.310	1.459	100	24	5 ft	.128	White
LR-2112	1.460	1.629	100	36	6 ft	.144	Red
LR-2113	1.630	1.819	100	36	6 ft	.144	White
LR-2114	1.820	2.039	100	36	6 ft	.144	Orange
LR-2115	2.040	2.279	100	46	6 ft	.162	Green
LR-2116	2.280	2.539	100	47	6 ft	.162	Yellow
LR-2117	2.540	2.839	100	48	6 ft	.162	White
LR-2118	2.840	3.179	100	49	6 ft	.162	Red
LR-2119	3.180	3.559	50	32	6 ft	.182	White
LR-2120	3.560	3.999	50	33	6 ft	.182	Orange
LR-2121	4.000	4.479	50	34	6 ft	.182	Green
LR-2122	4.480	4.999	50	35	6 ft	.182	Yellow
LR-2123	5.000	5.599	50	36	6 ft.	.182	White
LR-2124	5.600	6.299	50	37	6 ft	.182	Red

EXPLANATORY NOTES:

- (1) Refer to General Recommendations of this section for proper circumscribing circle to apply to diameter range.
- (2) Refer to General Recommendations of this section for material selection.



Lashing Rods – Copperweld®



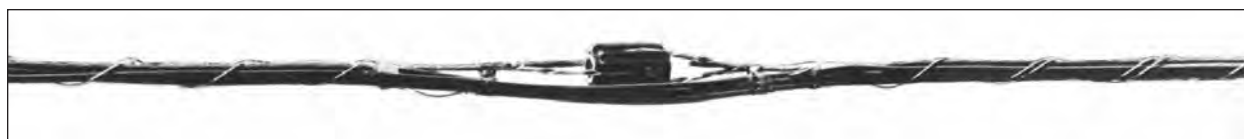
**For use on:
Copperweld Messengered Cable**

Catalog Number	Diameter Range		Units	Wt/Lbs	Length (Feet)	Rod Diameter (Inches)	Color Code
	Min.	Max.	Per Carton				
LR-3100	.400	.439	100	18	5 ft	.102	Red
LR-3101	.440	.489	100	18	5 ft	.102	White
LR-3102	.490	.539	100	18	5 ft	.102	Orange
LR-3103	.540	.599	100	18	5 ft	.102	Green
LR-3104	.600	.669	100	23	5 ft	.114	Yellow
LR-3105	.670	.749	100	23	5 ft	.114	White
LR-3106	.750	.839	100	23	5 ft	.114	Red
LR-3107	.840	.939	100	23	5 ft	.114	White
LR-3108	.940	1.049	100	23	5 ft	.114	Orange
LR-3109	1.050	1.169	100	29	5 ft	.128	Green
LR-3110	1.170	1.309	100	29	5 ft	.128	Yellow
LR-3111	1.310	1.459	100	29	5 ft	.128	White
LR-3112	1.460	1.629	100	45	6 ft	.144	Red
LR-3113	1.630	1.819	100	45	6 ft	.144	White
LR-3114	1.820	2.039	100	45	6 ft	.144	Orange
LR-3115	2.040	2.279	100	56	6 ft	.162	Green
LR-3116	2.280	2.539	100	58	6 ft	.162	Yellow
LR-3117	2.540	2.839	100	58	6 ft	.162	White
LR-3118	2.840	3.179	100	60	6 ft	.162	Red
LR-3119	3.180	3.559	50	40	6 ft	.182	White
LR-3120	3.560	3.999	50	41	6 ft	.182	Orange
LR-3121	4.000	4.479	50	42	6 ft	.182	Green
LR-3122	4.480	4.999	50	43	6 ft	.182	Yellow
LR-3123	5.000	5.599	50	44	6 ft	.182	White
LR-3124	5.600	6.299	50	45	6 ft	.182	Red

EXPLANATORY NOTES:

- (1) Refer to General Recommendations of this section for proper circumscribing circle to apply to diameter range.
- (2) Refer to General Recommendations of this section for material selection.
- (3) Copperweld® is a registered trademark of the Copperweld Co.

Lashing Rods – Stainless Steel, Type 302



For use on:
Type 302 Stainless Steel Messengered Cable

Catalog Number	Diameter Range		Units Per Carton	Wt/Lbs	Length (Feet)	Rod Diameter (Inches)	Color Code
	Min.	Max.					
LR-4100	.400	.439	100	13	5 ft	.085	Red
LR-4101	.440	.489	100	13	5 ft	.085	White
LR-4102	.490	.539	100	13	5 ft	.085	Orange
LR-4103	.540	.599	100	13	5 ft	.085	Green
LR-4104	.600	.669	100	18	5 ft	.101	Yellow
LR-4105	.670	.749	100	18	5 ft	.101	White
LR-4106	.750	.839	100	18	5 ft	.101	Red
LR-4107	.840	.939	100	18	5 ft	.101	White
LR-4108	.940	1.049	100	18	5 ft	.101	Orange
LR-4109	1.050	1.169	100	25	5 ft	.120	Green
LR-4110	1.170	1.309	100	25	5 ft	.120	Yellow
LR-4111	1.310	1.459	100	25	5 ft	.120	White
LR-4112	1.460	1.629	100	40	6 ft	.139	Red
LR-4113	1.630	1.819	100	40	6 ft	.139	White
LR-4114	1.820	2.039	100	40	6 ft	.139	Orange
LR-4115	2.040	2.279	100	54	6 ft	.161	Green
LR-4116	2.280	2.539	100	56	6 ft	.161	Yellow
LR-4117	2.540	2.839	100	56	6 ft	.161	White
LR-4118	2.840	3.179	100	58	6 ft	.161	Red
LR-4119	3.180	3.559	50	36	6 ft	.175	White
LR-4120	3.560	3.999	50	37	6 ft	.175	Orange
LR-4121	4.000	4.479	50	38	6 ft	.175	Green
LR-4122	4.480	4.999	50	39	6 ft	.175	Yellow
LR-4123	5.000	5.599	50	40	6 ft	.175	White
LR-4124	5.600	6.299	50	41	6 ft	.175	Red

EXPLANATORY NOTES:

- (1) Refer to General Recommendations of this section for proper circumscribing circle to apply to diameter range.
- (2) Refer to General Recommendations of this section for material selection.



Lashing Rods – Stainless Steel, Type 316



For use on:
Type 316 Stainless Steel Messengered Cable

Catalog Number	Diameter Range		Units	Wt/Lbs	Length (Feet)	Rod Diameter (Inches)	Color Code
	Min.	Max.	Per Carton				
LR-5100	.400	.439	100	13	5 ft	.085	Red
LR-5101	.440	.489	100	13	5 ft	.085	White
LR-5102	.490	.539	100	13	5 ft	.085	Orange
LR-5103	.540	.599	100	13	5 ft	.085	Green
LR-5104	.600	.669	100	18	5 ft	.101	Yellow
LR-5105	.670	.749	100	18	5 ft	.101	White
LR-5106	.750	.839	100	18	5 ft	.101	Red
LR-5107	.840	.939	100	18	5 ft	.101	White
LR-5108	.940	1.049	100	18	5 ft	.101	Orange
LR-5109	1.050	1.169	100	25	5 ft	.120	Green
LR-5110	1.170	1.309	100	25	5 ft	.120	Yellow
LR-5111	1.310	1.459	100	25	5 ft	.120	White
LR-5112	1.460	1.629	100	40	6 ft	.139	Red
LR-5113	1.630	1.819	100	40	6 ft	.139	White
LR-5114	1.820	2.039	100	40	6 ft	.139	Orange
LR-5115	2.040	2.279	100	54	6 ft	.161	Green
LR-5116	2.280	2.539	100	56	6 ft	.161	Yellow
LR-5117	2.540	2.839	100	56	6 ft	.161	White
LR-5118	2.840	3.179	100	58	6 ft	.161	Red
LR-5119	3.180	3.559	50	36	6 ft	.175	White
LR-5120	3.560	3.999	50	37	6 ft	.175	Orange
LR-5121	4.000	4.479	50	38	6 ft	.175	Green
LR-5122	4.480	4.999	50	39	6 ft	.175	Yellow
LR-5123	5.000	5.599	50	40	6 ft	.175	White
LR-5124	5.600	6.299	50	41	6 ft	.175	Red

EXPLANATORY NOTES:

- (1) Refer to General Recommendations of this section for proper circumscribing circle to apply to diameter range.
- (2) Refer to General Recommendations of this section for material selection.