



# **PREFORMED** LINE PRODUCTS

## **General Information**

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# Types of Bare Conductors: AWG or MCM Sizes

Conductor Diameter (Inches)	ACSR	All-Aluminum	Alum. Alloy (5005-6201)	Compacted		AWAC®	Copper	Copperweld®
				ACSR	All-Alum.			
.162		#6, Solid					#6, Solid	
.169					#6, 7W			
.174								9½ D
.179								8C
.182		#5, Solid		#6, 6/1			#5, Solid	
.184		#6, 7W					#6, 7W	
.198	#6, 6/1		#6, 7W					
.199								8A
.201			#6, 3W					
.202							#6, 3W	
.204		#4, Solid					#4, Solid	
.206							#5, 7W	
.213					#4, 7W			
.219								8D
.223	#5, 6/1							7A
.225								6C
.226							#5, 3W	
.229		#3, Solid		#4, 6/1			#3, Solid	
.230								6A
.232		#4, 7W					#4, 7W	
.236				#4, 7/1				
.245						#4, 6/1		
.246								7D
.250	#4, 6/1		#4, 7W					
.257	#4, 7/1							
.258		#2, Solid		#3, 6/1			#2, Solid	5A
.260		#3, 7W					#3, 7W	
.261						#4, 5/2		
.268					#2, 7W			
.276								6D
.279			#3, 7W					
.281	#3, 6/1					#4, 4/3		
.286							#3, 3W	
.289		#1, Solid					#1, Solid	
.290				#2, 6/1				4A
.292		#2, 7W					#2, 7W	
.298				#2, 7/1				
.301					#1, 7W			
.307						#4, 3/4		
.308								2F
.309						#2, 6/1		
.310								5D
.316	#2, 6/1		#2, 7W					
.320							#2, 3W	
.325	#2, 7/1						1/0, Solid	
.326				#1, 6/1				5P
.327								2G
.328		#1, 7W					#1, 7W	4N
.330						#2, 5/2		
.332		#1, 19W					#1, 19W	
.338					1/0, 7W			
.340					1/0, 19W	#4, 2/5		
.346								1F
.348								4D

(Continued)

# Types of Bare Conductors: AWG or MCM Sizes

Conductor Diameter (Inches)	ACSR	All-Aluminum	Alum. Alloy (5005-6201)	Compacted		AWAC®	Copper	Copperweld®
				ACSR	All-Alum.			
.349								2J
.352			#1, 7W					
.355	#1,6/1					#2, 4/3		
.360							#1, 3W	
.365				1/0, 6/1			2/0, Solid	
.366								2A, 4P
.367	80, 8/1							1G
.368		1/0, 7W					1/0, 7W	3N
.372							1/0, 19W	
.373		1/0, 19W						
.377								2K
.381					2/0, 7W			
.382					2/0, 19W			
.386						#2, 3/4		
.388								1/0 F
.390						1/0, 6/1	1/0, 12W	
.392								1J
.393	1/0, 5/1							
.398	1/0, 6/1		1/0, 7W					
.410				2/0, 6/1				
.411								3P
.412								1/0 G
.413								2N
.414		2/0, 7W					2/0, 7W	
.416						1/0, 5/2		
.419		2/0, 19W					2/0, 19W	
.423								1K
.426					3/0, 7W			
.428					3/0, 19W			
.429						#2, 2/5		
.434						#1, 3/4		
.436								2/0 F
.438						2/0, 6/1	2/0, 12W	
.440								1/0 J
.447	2/0, 6/1		2/0, 7W			1/0, 4/3		
.460	2/0, 7/1							
.461	101.8, 12/7			3/0, 6/1				
.462								2P
.463								2/0 G
.464		3/0, 7W					3/0, 7W	1N
.467						2/0, 5/2		
.470		3/0, 19W					3/0, 19W	
.475								1/0 K
.480					4/0, 7W			
.481	110.8, 12/7				4/0, 19W			
.487						1/0, 3/4		
.492		3/0,12W					3/0, 12W	
.494								2/0 J
.502	3/0, 6/1		3/0, 7W			2/0, 4/3		
.517				4/0, 6/1				
.522		4/0, 7W					4/0, 7W	
.523					250, 19W			
.528		4/0, 19W					4/0, 19W	
.530	134.6, 12/7							
.534								2/0 K

(Continued)



# Types of Bare Conductors: AWG or MCM Sizes

Conductor Diameter (Inches)	ACSR	All-Aluminum	Alum. Alloy (5005-6201)	Compacted		AWAC®	Copper	Copperweld®
				ACSR	All-Alum.			
.537					266.8, 7W			
.540					266.8, 19W			
.541						1/0, 2/5		
.542	4/0, 18/1							
.550								4/0 F
.552		4/0, 12W				4/0, 6/1	4/0, 12W	
.556	4/0, 5/1							
.559				266.8, 18/1				
.563	4/0, 6/1		4/0, 7W					
.565								
.571								4/0 EK
.573					300, 19W			
.574		250, 19W					250, 19W	
.575		250, 37W				4/0, 15/4	250, 37W	
.576	159, 12/7							
.583								4/0 G
.584	203, 8/7							
.586		266.8, 7W						
.593		266.8, 19W		300, 18/1				
.594		266.8, 37W						
.600							250, 12W	
.603					336.4, 7W			
.607	176.9, 12/7				336.4, 19W			
.607	219.9, 8/7							
.609	266.8, 18/1							
.613								4/0 E
.618					350, 19W			
.621								250 EK
.628		300, 19W		336.4, 18/1			300, 19W	
.630		300, 37W					300, 37W	
.631	190.8, 12/7							
.633	266.8, 6/7							
.642	266.8, 26/7		266.8, 19W					
.646	300, 18/1							
.657							300, 12W	
.660					397.5, 19W			
.664	211.3, 12/7							
.666		336.4, 19W						250 E
.668		336.4, 37W						
.677	336.4, 36/1							
.678							350, 19W	
.679		350, 19W				336.4, 18/1		
.680	300, 26/7							300 EK
.681		350, 37W					350, 37W	
.682				397.5, 18/1				
.684	336.4, 18/1							
.700	300, 30/7							
.709						336.4, 16/3		
.710							350, 12W	
.714	203.2, 16/19							
.721	336.4, 26/7							
.722					477, 19W			
.724		397.5, 19W						
.725						336.4, 15/4		

(Continued)

# Types of Bare Conductors: AWG or MCM Sizes

Conductor Diameter (Inches)	ACSR	All-Aluminum	Alum. Alloy (5005-6201)	Compacted		AWAC®	Copper	Copperweld®
				ACSR	All-Alum.			
.726		400, 19W					400, 19W	
.728		400, 37W					400, 37W	
.729								300 E
.735								350 EK
.736	397.5, 36/1							
.739					500, 19W			
.741	336.4, 30/7							
.742				477, 18/1				
.743	397.5, 18/1							
.770		450, 19W					450, 19W	
.772	397.5, 24/7	450, 37W					450, 37W	
.780					556, 19W			
.782			397.5, 19W					
.783	397.5, 26/7							
.788								350 E
.793		477, 19W						
.795		477, 37W						
.801				556.5, 18/1				
.806	477, 36/1							
.806	397.5, 30/7							
.811		500, 19W					500, 19W	
.813		500, 37W					500, 37W	
.814	477, 18/1							
.834					636, 19W			
.846	477, 24/7							
.853		550, 37W					550, 37W	
.855		550, 61W					550, 61W	
.856		556.5, 19W						
.858	477, 26/7	556.5, 37W	477, 19W					
.860		556.5, 61W						
.862				636, 18/1				
.870	556.5, 36/1							
.879	556.5, 18/1							
.883	477, 30/7							
.891		600, 37W					600, 37W	
.893		600, 61W					600, 61W	
.904	500, 30/7							
.907	605, 36/1							
.914	556.5, 24/7							
.918		636, 37W						
.919		636, 61W						
.927	556.5, 26/7		556.5, 19W					
.928		650, 37W					650, 37W	
.929		650, 61W					650, 61W	
.930	636, 36/1							
.932				795, 36/1	795, 19W			
.940	636, 18/1							
.953	556.5, 30/7							
.953	605, 24/7							
.953	605, 54/7							
.953	666.6, 36/1							
.962		700, 37W					700, 37W	
.964		700, 61W					700, 61W	
.966	605, 26/7							

(Continued)



# Types of Bare Conductors: AWG or MCM Sizes

Conductor Diameter (Inches)	ACSR	All-Aluminum	Alum. Alloy (5005-6201)	Compacted		AWAC®	Copper	Copperweld®
				ACSR	All-Alum.			
.974		715.5, 37W						
.975		715.5, 61W						
.977	636, 24/7							
.977	636, 54/7							
.981					874.5, 37W			
.987	715.5, 36/1							
.990	636, 26/7		636, 37W					
.994	605, 30/19			874.5, 36/1				
.997		750, 37W					750, 37W	
.998		750, 61W					750, 61W	
1.000	666.6, 24/7							
1.000	666.6, 54/7							
1.019	636, 30/19							
1.024					954, 37W			
1.026		795, 37W						
1.028		795, 61W						
1.029		800, 37W					800, 37W	
1.031		800, 61W					800, 61W	
1.036	715.5, 24/7							
1.039				954, 36/1				
1.040	795, 36/1							
1.051	715.5, 26/7							
1.061							850, 37W	
1.062							850, 61W	
1.063	795, 45/7							
1.077		874.5, 37W						
1.078		874.5, 61W						
1.081	715.5, 30/19							
1.091	874.5, 36/1							
1.092	795, 24/7	900, 37W					900, 37W	
1.093	795, 54/7							
1.094		900, 61W					900, 61W	
1.108	795, 26/7		795, 37W					
1.111								
1.124		954, 37W						
1.126		954, 61W						
1.131	900, 45/7							
1.140	795, 30/19							
1.140	954, 36/1							
1.146	874.5, 24/7							
1.146	874.5, 54/7							
1.151		1000, 37W					1000, 37W	
1.152		1000, 61W					1000, 61W	
1.162	900, 54/7							
1.165	954, 45/7							
1.170		1033.5, 37W						
1.172		1033.5, 61W						
1.175	954, 48/7							
1.186	1033.5, 36/1							

(Continued)

# Types of Bare Conductors: AWG or MCM Sizes

Conductor Diameter (Inches)	ACSR	All-Aluminum	Alum. Alloy (5005-6201)	Compacted		AWAC®	Copper	Copperweld®
				ACSR	All-Alum.			
1.196	954, 54/7							
1.212	1033.5, 45/7							
1.216		1113, 61W						
1.218			954, 37W					
1.246	1033.5, 54/7							
1.258		1192.5, 61W						
1.259	1113, 45/7							
1.269			1033.5, 61W					
1.288				1468, 36/1				
1.293	1113, 54/19							
1.300		1272, 61W						
1.302	1192.5, 45/7							
1.333	1192.5, 54/19							
1.340		1351.5, 61W						
1.345	1272, 45/7							
1.379		1431, 61W						
1.382	1272, 54/19							
1.385	1351.5, 45/7							
1.417		1510.5, 61W						
1.424	1351.5, 54/19							
1.427	1431, 45/7							
1.443		1590, 61W						
1.454		1590, 91W						
1.465	1431, 54/19							
1.466	1510.5, 45/7							
1.504	1590, 45/7							
1.506	1510.5, 54/19							
1.545	1590, 54/19							
1.602	1780, 84/19							
1.630		2000, 91W						
1.737	2167, 72/7							
1.762	2156, 84/19							
1.823		2500, 91W						
1.996		3000, 127W						
2.158		3500, 127W						

AWAC and Copperweld are registered trademarks of the Copperweld Co.



# Plastic Jacketed Conductors

The jacketed conductor diameters listed have been taken directly from conductor manufacturers' catalogs and are meant to serve as guides. Jacketing thickness has been computed mathematically because of variables in types of insulation and allowable cable tolerances.

Before ordering Preformed hardware for use on jacketed conductors, it is suggested you contact manufacturer for confirmation of cable diameter.

Conductor Diameter (Inches)	ACSR	All-Aluminum	Aluminum Alloy	Compacted
.225		#6, Solid, 2/64s		
.246		#6, 7W, 2/64s		
.256		#6, Solid, 3/64s		
.261	#6, 6/1, 2/64s			
.267		#4, Solid, 2/64s		
.278		#6, 7W, 3/64s		
.292	#6, 6/1, 3/64s			
.294		#4, 7W, 2/64s		
.298		#4, Solid, 3/64s		
.309		#6, 7W, 4/64s		
.312			#4, 7W, 2/64s	
.313	#4, 6/1, 2/64s			
.320	#4, 7/1, 2/64s			
.324			#6, 7W, 4/64s	
.326		#4, 7W, 3/64s		
.343			#4, 7W, 3/64s	
.344	#4, 6/1, 3/64s			
.351	#4, 7/1, 3/64s			
.352		#2, Solid, 3/64s		
.357		#4, 7W, 4/64s		
.378			#4, 7W, 4/64s	
.386		#2, 7W, 3/64s		
.390		#4, 7W, 5/64s		
.401				#4, 7W, 6/64s
.410			#2, 7W, 3/64s	
.410	#2, 6/1, 3/64s			
.417		#2, 7W, 4/64s		
.419	#2, 7/1, 3/64s			
.422		#1, 7W, 3/64s		
.441			#2, 7W, 4/64s	
.449	#1, 6/1, 3/64s			
.450		#2, 7W, 5/64s		
.453		#1, 7W, 4/64s		
.456				#2, 7W, 6/64s
.463				#4, 7W, 8/64s
.474		#4, 7W, 8/64s		
.480	#1, 6/1, 4/64s			
.486		#1, 7W, 5/64s		
.488		#1, 19W, 5/64s		
.493		1/0, 7W, 4/64s		
.515			#1, 19W, 5/64s	
.518				#2, 7W, 8/64s
.523			1/0, 7W, 4/64s	
.523	1/0, 6/1, 4/64s			
.526				#4, 7W, 10/64s
.526		1/0, 7W, 5/64s		
.526				1/0, 7W, 6/64s
.528				1/0, 19W, 6/64s
.529		1/0, 19W, 5/64s		
.534		#2, 7W, 8/64s		
.539		2/0, 7W, 4/64s		
.547		#4, 7W, 10/64s		
.554	1/0, 6/1, 5/64s			
.559			1/0, 19W, 5/64s	
.569				2/0, 7W, 6/64s

# Plastic Jacketed Conductors

The jacketed conductor diameters listed have been taken directly from conductor manufacturers' catalogs and are meant to serve as guides. Jacketing thickness has been computed mathematically because of variables in types of insulation and allowable cable tolerances.

Before ordering Preformed hardware for use on jacketed conductors, it is suggested you contact manufacturer for confirmation of cable diameter.

Conductor Diameter (Inches)	ACSR	All-Aluminum	Aluminum Alloy	Compacted
.570		#1, 7W, 8/64s		
.570				2/0, 19W, 6/64s
.572		2/0, 7W, 5/64s		
.572			2/0, 7W, 4/64s	
.572	2/0, 6/1, 4/64s			
.575		2/0, 19W, 5/64s		
.581				#2, 7W, 10/64s
.588				1/0, 7W, 8/64s
.589		3/0, 7W, 4/64s		
.590				1/0, 19W, 8/64s
.595		3/0, 19W, 4/64s		
.603	2/0, 6/1, 5/64s			
.607		#2, 7W, 10/64s		
.609			2/0, 19W, 5/64s	
.610		1/0, 7W, 8/64s		
.614				3/0, 7W, 6/64s
.616				3/0, 19W, 6/64s
.620		3/0, 7W, 5/64s		
.626		3/0, 19W, 5/64s		
.626		#4, 7W, 12/64s		
.627			3/0, 7W, 4/64s	
.627	3/0, 6/1, 4/64s			
.631				2/0, 7W, 8/64s
.632				2/0, 19W, 8/64s
.643		#1, 7W, 10/64s		
.647		4/0, 7W, 4/64s		
.651				1/0, 7W, 10/64s
.653				1/0, 19W, 10/64s
.653		4/0, 19W, 4/64s		
.656		2/0, 7W, 8/64s		
.658	3/0, 6/1, 5/64s			
.668				4/0, 7W, 6/64s
.669				4/0, 19W, 6/64s
.676				3/0, 7W, 8/64s
.678		4/0, 7W, 5/64s		
.731				4/0, 19W, 8/64s
.683		1/0, 7W, 10/64s		
.686		#2, 7W, 12/64s		
.688	4/0, 6/1, 4/64s			
.688			4/0, 7W, 4/64s	
.690	3/0, 6/1, 6/64s			
.694				2/0, 7W, 10/64s
.695				2/0, 19W, 10/64s
.699		250, 19W, 4/64s		
.705				250, 7W, 6/64s
.706		3/0, 7W, 8/64s		
.711				250, 19W, 6/64s
.718		266.8, 19W, 4/64s		
.719	4/0, 6/1, 5/64s			
.722				266.8, 7W, 6/64s
.722		#1, 7W, 12/64s		
.729		2/0, 7W, 10/64s		
.729				266.8, 19W, 6/64s
.730				4/0, 7W, 8/64s

(Continued)



# Plastic Jacketed Conductors

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Conductor Diameter (Inches)	ACSR	All-Aluminum	Aluminum Alloy	Compacted
.731				4/0, 19W, 8/64s
.732		250, 19W, 5/64s		
.734	266.8, 18/1, 4/64s			
.739				3/0, 7W, 10/64s
.741				3/0, 19W, 10/64s
.751		266.8, 19W, 5/64s		
.751	4/0, 6/1, 6/64s			
.754		300, 19W, 4/64s		
.754				300, 7W, 6/64s
.761				300, 19W, 6/64s
.762		1/0, 7W, 12/64s		
.763		250, 37W, 6/64s		
.764		4/0, 7W, 8/64s		
.765	266.8, 18/1, 5/64s			
.767				250, 7W, 8/64s
.773				250, 19W, 8/64s
.779		3/0, 7W, 10/64s		
.784				266.8, 7W, 8/64s
.787		300, 19W, 5/64s		
.787				336.4, 7W, 6/64s
.791				266.8, 19W, 8/64s
.791		336.4, 19W, 4/64s		
.793				4/0, 7W, 10/64s
.794				4/0, 19W, 10/64s
.795				336.4, 19W, 6/64s
.804		350, 19W, 4/64s		
.808		2/0, 7W, 12/64s		
.816		250, 19W, 8/64s		
.816				300, 7W, 8/64s
.818		300, 37W, 6/64s		
.823				300, 19W, 8/64s
.824		336.4, 19W, 5/64s		
.830				250, 7W, 10/64s
.835		266.8, 19W, 8/64s		
.835		350, 19W, 5/64s		
.836		4/0, 7W, 10/64s		
.837				250, 19W, 10/64s
.847				266.8, 7W, 10/64s
.848				397.5, 19W, 6/64s
.849				336.4, 7W, 8/64s
.854				266.8, 19W, 10/64s
.855		336.4, 37W, 6/64s		
.857				336.4, 19W, 8/64s
.858		3/0, 7W, 12/64s		
.869		350, 37W, 6/64s		
.871		300, 19W, 8/64s		
.879				300, 7W, 10/64s
.880		397.5, 19W, 5/64s		
.885		400, 19W, 5/64s		
.886				300, 19W, 10/64s
.889		250, 19W, 10/64s		
.906		266.8, 19W, 10/64s		
.908		336.4, 19W, 8/64s		

(Continued)

# Plastic Jacketed Conductors

The jacketed conductor diameters listed have been taken directly from conductor manufacturers' catalogs and are meant to serve as guides. Jacketing thickness has been computed mathematically because of variables in types of insulation and allowable cable tolerances.

Before ordering Preformed hardware for use on jacketed conductors, it is suggested you contact manufacturer for confirmation of cable diameter.

Conductor Diameter (Inches)	ACSR	All-Aluminum	Aluminum Alloy	Compacted
.910				477, 19W, 6/64s
.910				397.5, 19W, 8/64s
.912				336.4, 7W, 10/64s
.912		397.5, 19W, 6/64s		
.914		400, 19W, 6/64s		
.916		400, 37W, 6/64s		
.916		4/0, 7W, 12/64s		
.920				336.4, 19W, 10/64s
.921		350, 19W, 8/64s		
.931		450, 37W, 5/64s		
.944		300, 19W, 10/64s		
.951		477, 37W, 5/64s		
.960		450, 37W, 6/64s		
.968				556.5, 19W, 6/64s
.970		250, 19W, 12/64s		
.972		500, 37W, 5/64s		
.972				477, 19W, 8/64s
.973				397.5, 19W, 10/64s
.981		336.4, 19W, 10/64s		
.982		477, 37W, 6/64s		
.989		400, 19W, 8/64s		
.989		266.8, 19W, 12/64s		
.994		350, 19W, 10/64s		
1.001		500, 37W, 6/64s		
1.014		556.5, 37W, 5/64s		
1.015		450, 37W, 8/64s		
1.025				636, 37W, 6/64s
1.025		300, 19W, 12/64s		
1.030				556.6, 19W, 8/64s
1.035				477, 19W, 10/64s
1.038		477, 37W, 8/64s		
1.039		397.5, 19W, 10/64s		
1.042		400, 19W, 10/64s		
1.056		500, 37W, 8/64s		
1.062		336.4, 19W, 12/64s		
1.075		350, 19W, 12/64s		
1.081				636, 37W, 8/64s
1.088		450, 37W, 10/64s		
1.093				556.5, 19W, 10/64s
1.106		636, 61W, 6/64s		
1.111		477, 37W, 10/64s		
1.120		397.5, 19W, 12/64s		
1.122		400, 19W, 12/64s		
1.123				795, 37W, 6/64s
1.129		500, 37W, 10/64s		
1.150				636, 37W, 10/64s
1.168		450, 37W, 12/64s		
1.185				795, 37W, 8/64s
1.191		477, 37W, 12/64s		
1.209		500, 37W, 12/64s		
1.215		795, 61W, 6/64s		
1.248				795, 37W, 10/64s
1.360		1033.5, 61W, 6/64s		



# Types of Strands

Strand Diameter (Inches)	Galvanized				Copperweld*	Alumoweld*	Alumnized	Stainless
	Siemens Martin	High Strength	Extra high Strength	Utilities Grade				
.123	1/8", 7W	1/8", 7W	1/8", 7W					
.156	5/32", 7W	5/32", 7W	5/32", 7W					
.164					2.2M			
.174					3#12	3#12		
.186	3/16", 7W (.062")	3/16", 7W (.062")	3/16", 7W (.062")				3/16", 7W (.062")	
.195				3/16", 7W (.065")			3/16", 7W (.065")	
.209					4M			
.216	7/32", 7W	7/32", 7W	7/32", 7W				7/32", 7W	7/32", 7W
.220					3#10	3#10, 4M		
.224								7/32", 3W
.237					6M			
.240	1/4", 7W	1/4", 7W	1/4", 7W				1/4" 7W	
.242						6M		
.247					3#9	3#9		
.249								1/4" 7W
.258					6M3			
.259				1/4", 3W			1/4", 3W	1/4", 3W
.272						8M		
.276					8M			
.277					3#8	3#8		
.279	9/32", 7W	9/32", 7W	9/32", 7W	9/32", 7W			9/32", 7W	9/32", 7W
.303					10M			
.306					7#10	10M, 7#10		
.311					3#7	3#7		
.312				5/16", 3W			5/16", 3W	5/16", 3W
.312	5/16", 7W (.104")	5/16", 7W (.104")	5/16", 7W (.104")				5/16", 7W (.104")	5/16", 7W
.327				5/16", 7W (.109")			5/16", 7W (.109")	
.343					11/32", 7#9	7#9		
.343						12.5M		
.345					12.5M			
.349					3#6	3#6		
.356				3/8", 3W (.355")			3/8", 3W	3/8", 3W
.360	3/8", 7W	3/8", 7W	3/8", 7W	3/8", 7W	14M		3/8", 7W	3/8", 7W
.363						14M		
.375								3/8", 19W
.385					3/8", 7#8	7#8		
.386					16M	16M		
.392					3#5	3#5		

(Continued)

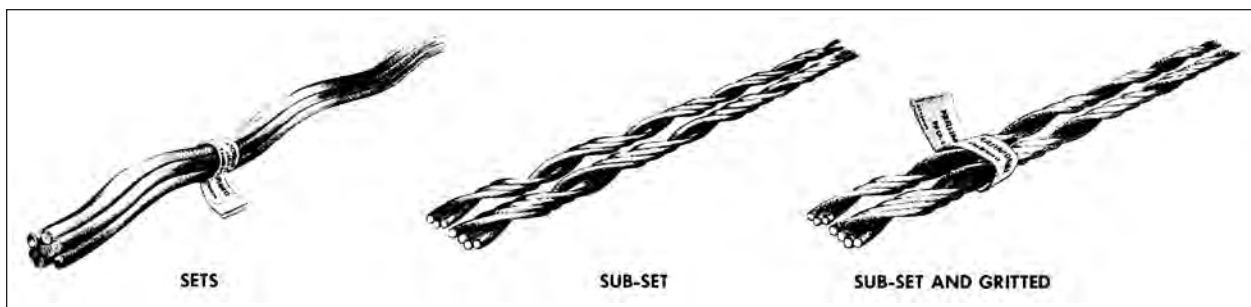
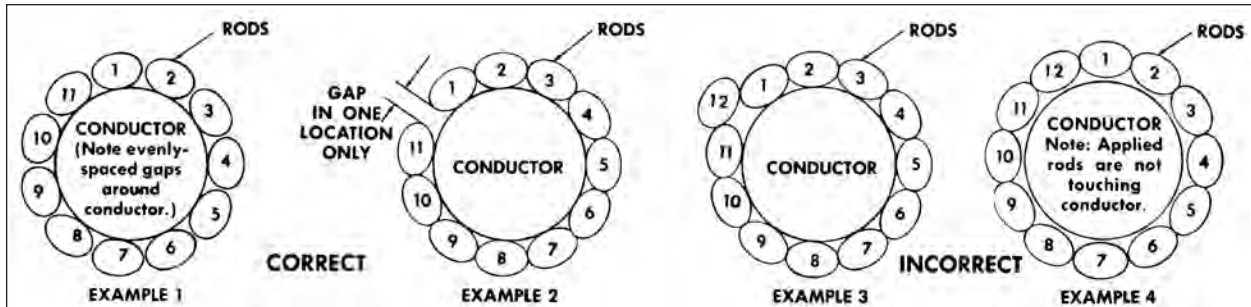
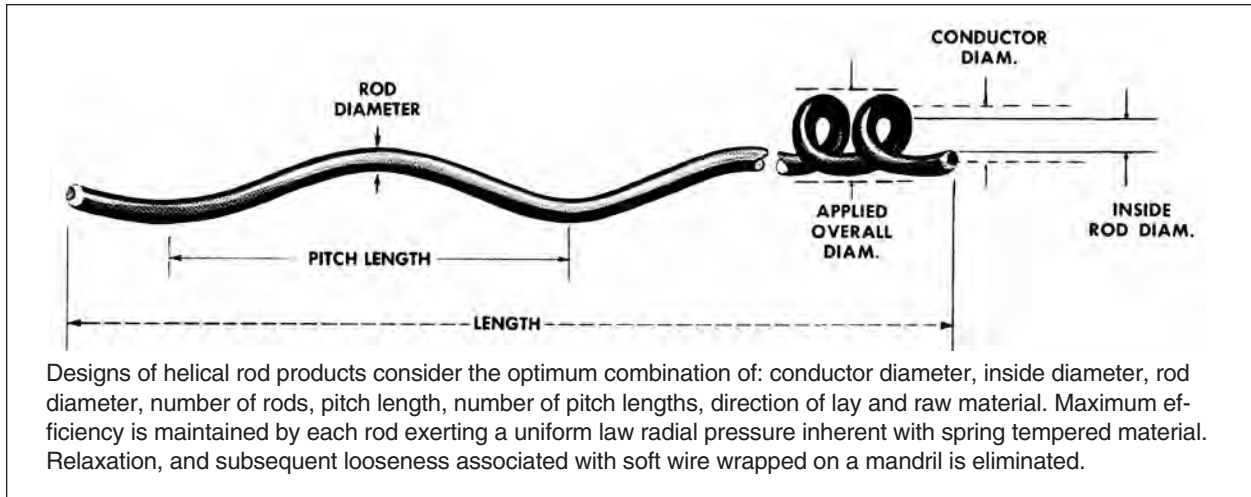
# Types of Strands

Strand Diameter (Inches)	Galvanized				Copperweld*	Alumoweld*	Alumnized	Stainless
	Siemens Martin	High Strength	Extra high Strength	Utilities Grade				
.414					18M			
.417						18M		
.433					7/16", 7#7	7#7		
.435	7/16", 7W	7/16", 7W	7/16", 7W	7/16", 7W			7/16", 7W	7/16", 7W
.438					20M			
.444						20M		
.486					1/2", 7#6	7#6		
.495	1/2", 7W	1/2", 7W	1/2", 7W	1/2", 7W			1/2", 7W	1/2", 7W
.500	1/2", 19W	1/2", 19W	1/2", 19W				1/2", 19W	1/2", 19W
.509						19#10		
.519						25M		
.525					25M			
.546					9/16", 7#5	7#5		
.564	9/16", 7W	9/16", 7W	9/16", 7W					
.565	9/16", 19W	9/16", 19W	9/16", 19W					
.572					9/16", 19#9	19#9		
.613					5/8", 7#4	7#4		
.621	5/8", 7W	5/8", 7W	5/8", 7W					
.625	5/8", 19W	5/8", 19W	5/8", 19W					
.642					21/32", 19#8	19#8		
.713					37#10	37#10		
.721					23/32", 19#7	19#7		
.750	3/4", 19W	3/4", 19W	3/4", 19W					
.801					37#9	37#9		
.810					13/16", 19#6	19#6		
.885	7/8", 19W	7/8", 19W	7/8", 19W					
.899					37#8	37#8		
.910					7/8", 19#5	19#5		
1.000	1", 19W	1", 19W	1", 19W					
1.001	1", 37W	1", 37W	1", 37W					
1.010					37#7	37#7		
1.134					37#6	37#6, (1.13")		
1.273					37#5	37#5, (1.27")		

Copperweld and Alumoweld are registered trademarks of the Copperweld Co.

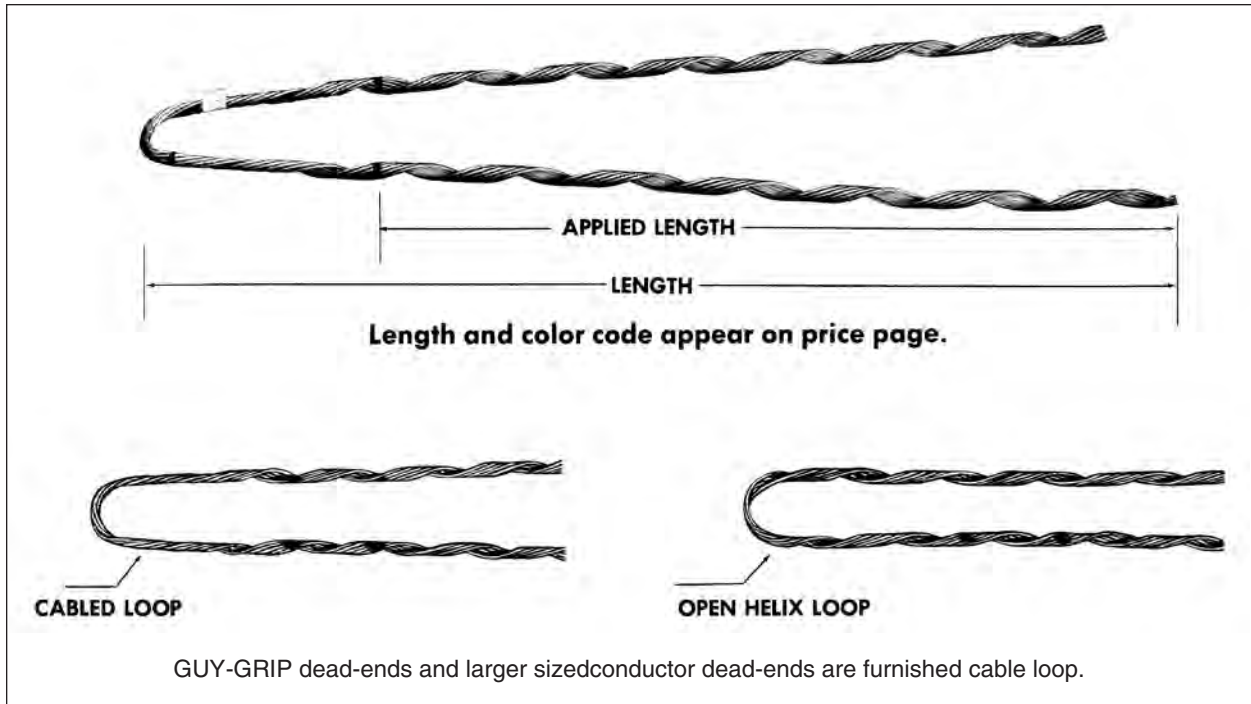


# Helical Rods: Terminology and Basic Design Principals



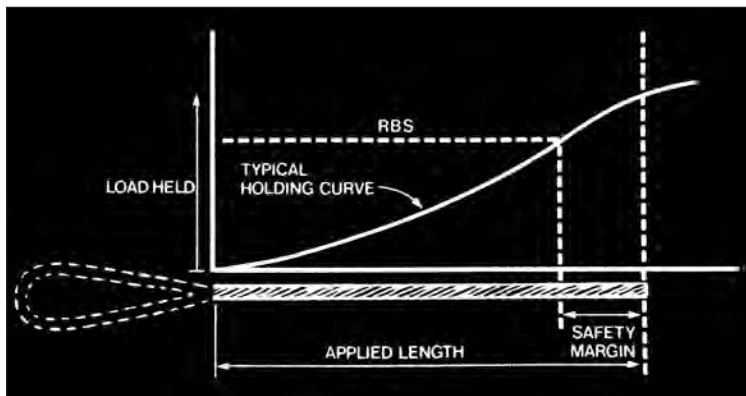
Depending on the intended use, helical rod products are furnished in sets, or sub-setted and gritted.  
 Sets: The specified number of rods per set are taped together as a unit.  
 Sub-Set: Assembled in two or more groups of matched lay.  
 Gritted: Inside surface of each sub-set is coated with grit to enhance holding strength and/or conductivity.

# Dead-ends: Terminology and Basic Design Principals



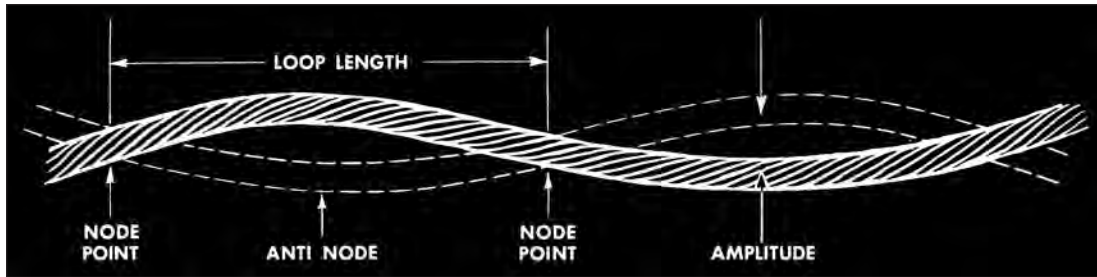
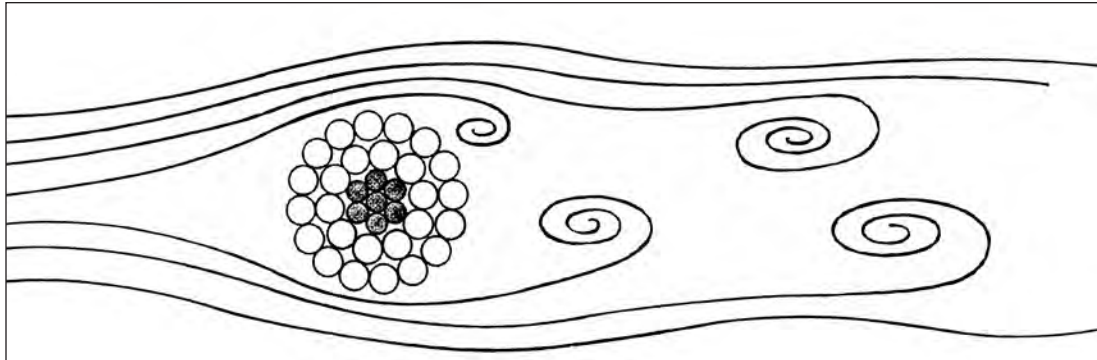
## Holding Strength

Typical holding strength curve illustrates that the Holding Strength and the Applied Length are not proportional. A safety factor of approximately one pitch length is designed into PREFORMED dead-ends.





# Aeolian Vibration: Terminology and Basic Design Principals



## Aeolian Vibration

A natural response **Forced Vibration** at **Alternate** wind vortices passing over the conductor.

### Mathematical Formula

$$f = \frac{3.26 V}{d} \quad f = \frac{1}{2L} \sqrt{\frac{Tg}{W}}$$

- W – Conductor Weight/Ft.
- g – Gravity Constant
- V – Wind Velocity..... Typically 8 to 12 m.p.h. in unobstructed flow.
- d – Conductor Diameter
- a – Amplitude ..... Typically ½ to 1 conductor diameter/
- f – Frequency ..... Typically increases as conductor diameter decreases.
- T – Tension..... Increased tension typically increases aeolian probability.

# Aeolian Vibration: Terminology and Basic Design Principals

## Abrasion



Abrasive wear on armor rods under loose tie wire.

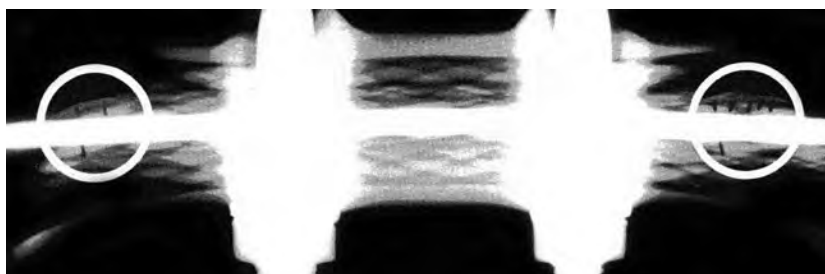
In this catalog, Abrasion is referred to as chafing or wearing away of the conductor surfaces.

When on outside surfaces, abrasion damage is progressive and visible to the naked eye. Other visible indications of abrasion damage, perhaps on inside surfaces are: black oxide powder, loose tie wire, loose hardware, and severe wear on porcelain surfaces.

Abrasion not only weakens the conductor by wearing away the original surface; it is, further, a well-established fact that Fatigue life of a conductor is substantially reduced by the stress risers resulting in notch effects caused by the abrasion.

Oscillations of any kind can result in abrasion damage. This includes conductor sway due to wind motion, as well as standing waves of vibration.

## Fatigue



In this catalog, Fatigue is referred to as damage in the form of hairline breaks in one or more wires of the conductor.

Fatigue damage is not as readily visible as abrasion damage. Even on outside conductor surfaces, inspection must be made at close range, often requiring the disassembly of support hardware. In the case of multilayer conductors, fatigue damage may occur in the inner layers, and thus not be visible to the naked eye. For these reasons, radiographic inspection often discloses fatigue damage not otherwise evident.

Fatigue damage occurs when the flexural endurance of the material is exceeded. While the effect of the bending cycles is cumulative, the degree of progress toward fatigue fracture is not evident until after the incipient failure occurs.



The flexural endurance of a given material is substantially affected by the combined dynamic and static stresses imposed, as well as by Abrasion.

While conductor oscillation of any kind can have its effect, fatigue damage is more closely associated with Aeolian vibration. This is because flexural bending, which produces stress levels sufficient to cause fatigue, can accumulate rapidly at Aeolian frequencies.

Very rapid fatigue can also occur under galloping conditions in a short period of time, if the tensile strength of the conductor elements is approached during the low-frequency oscillations.