

# Steel Strands for Electrical and Telecommunications Uses

Galvanized Steel Wire Strands | Aluminum Clad Steel Products

# Galvanized Steel Wire Strands

## 1 GALVANIZED STEEL WIRE STRANDS

EMCOCABLES® manufactures galvanized strands for transmission, energy distribution and telecommunication services.

We manufacture strands of EHS galvanized steel wire defined as Super GX. This product meets and surpasses the requirements established in the ASTM A 475 and ASTM A 363 standards.

The manufacturing process takes place over two main stages:

The steel wire rod is drawn to the final diameter in order to obtain the required mechanical characteristics, in this stage, quality control are made for tensile strength, ductility of steel and diameter.

Once the wire has passed quality control, it proceeds to the galvanization stage, a process which only takes place after a complete cleaning of the surface of the wire in order to guarantee excellent zinc adherence during the warm immersion application.

### 1.1 Zinc-coated steel overhead ground wire strand (ASTM A 363)

This specification covers strands specifically destined for use as overhead ground wires or static wires for electric power transmission lines.

**PHYSICAL AND MECHANICAL CHARACTERISTICS OF ZINC COATED STEEL OVERHEAD GROUND STEEL STRAND**

**TABLE 1**

Nominal Diameter		Number of wires per strand	Nominal wire diameter		Minimum strand break load						Approx. Weight	
in	mm		in	mm	Utilities		HS		EHS		lb/1000ft	kg/km
					lbf	kgf	lbf	kgf	lbf	kgf		
5/16	7.94	3	0.145	3.68	6,500	2,925					171	255
5/16	7.94	7	0.104	2.64			8,000	3,600	11,200	5,040	205	305
3/8	9.53	7	0.120	3.05	11,500	5,175	10,800	4,860	15,400	6,930	273	407
7/16	11.11	7	0.145	3.68			14,500	6,525	20,800	9,360	399	595
1/2	12.70	7	0.165	4.19			18,800	8,460	26,900	12,105	517	770

**ZINC COATING**

**TABLE 2**

Nominal Wire Diameter		Minimum Zinc Coating Weight			
		Class A		Class B	
in	mm	Oz/ft <sup>2</sup>	g/m <sup>2</sup>	Oz/ft <sup>2</sup>	kg/m <sup>2</sup>
0.104	2.64	0.80	244	1.60	488
0.120	3.05	0.85	259	1.70	519
0.145	3.68	0.90	275	1.80	549
0.165	4.19	0.90	275	1.80	549

**STANDARDS**

**TABLE 3**

Normal	Test	Method
ASTM A 363	Stranding	ASTM A 363
	Breaking Strength	ASTM A 370
	Strand Weight	ASTM A 363
	Elongation	ASTM A 363
	Ductility of Steel	ASTM A 363
	Coating Weight	ASTM A 90
	Adherence of Coating	ASTM A 363
	Diameter	ASTM A 363

# Galvanized Steel Wire Strands

## 1.2 Zinc Coated Steel Wire Strand (ASTM A 475)

This specification covers five grades of zinc-coated steel wire strands, for use as guy, messengers and span wires.

**PHYSICAL PROPERTIES OF ZINC COATED STRANDS**

**TABLE 4**

Minimum strand break load														
Nominal Strand Diameter		No.	Utilities Grade		Common Grade		SM		HS		EHS		Approx. Weight	
in	mm		lbg	kgf	lbf	kgf	lbf	kgf	lbf	kgf	lbf	kgf		kg/km
1/8	3.18	7			540	245	910	413	1,330	604	1,830	831	32	48
1/4	6.35	7			1,900	863	3,150	1,430	4,750	2,157	6,650	3,019	121	180
5/16	7.94	7			3,200	1,453	5,350	2,429	8,000	3,632	11,200	5,085	205	305
5/16	7.94	7	6,000	2,722									225	335
3/8	9.53	7	11,500	5,216	4,250	1,930	6,950	3,155	10,800	4,903	15,400	6,992	273	407
7/16	11.11	7	18,000	8,165	5,700	2,588	9,350	4,245	14,500	6,583	20,800	9,443	399	595
1/2	12.70	7	25,000	11,340	7,400	3,360	12,100	5,493	18,800	8,535	26,900	12,213	517	770
5/8	15.88	19			11,000	4,994	18,100	8,217	28,100	12,757	40,200	18,251	796	1,186
7/8	22.23	19			21,900	9,943	35,900	16,299	55,800	25,333	79,700	36,184	1,581	2,356
1	25.40	19			28,700	13,030	47,000	21,338	73,200	33,233	104,500	47,443	2,073	3,089

**ZINC COATING**

**TABLE 5**

Nominal Wire Diameter		Minimum Zinc Coating Weight			
in	mm	Class A		Class B	
		Oz/ft <sup>2</sup>	g/m <sup>2</sup>	Oz/ft <sup>2</sup>	g/m <sup>2</sup>
0.080	2.03	0.60	183	1.20	366
0.104	2.64	0.80	244	1.60	488
0.109	2.77	0.80	244	1.60	488
0.120	3.05	0.85	259	1.70	519
0.125	3.18	0.85	259	1.70	519
0.145	3.68	0.90	275	1.80	549
0.165	4.19	0.90	275	1.80	549
0.177	4.50	0.90	275	1.80	549
0.179	4.55	0.90	275	1.80	549
0.200	5.08	1.00	305	2.0	610

**STANDARDS**

**TABLE 6**

Standard	Test	Method
ASTM A 475	Stranding	ASTM A 475
	Breaking Strength	ASTM A 370
	Elongation	ASTM A 475
	Ductility of Steel	ASTM A 475
	Coating Weight	ASTM A 90
	Adherence of Coating	ASTM A 475
	Diameter	ASTM A 475



# Galvanized Steel Wire Strands

## 1.3 Zinc-coated and helical steel wire structural strand and zinc-coated wire for spun-in-place structural strand

This specification covers helical and parallel steel wire structural strand, prestretched or not, for uses where a high strength, high modulus prefabricated zinc-coated steel multiple-wire tension member is required as a component part of a structure.

The strand's individual wires are mainly used for overhead ground wires, guy and Messenger strands, cores for ACSR/AS (AW) conductors, preformed products and for fiber optic ground wire better known as OPGW.

STRUCTURAL STRAND								TABLE 7	
Nominal Diameter		Minimum Breaking Load		Transversal Area		Approx. Weight			
in	mm	lbf	kgf	in <sup>2</sup>	mm <sup>2</sup>	lb/ft	kg/m		
1/2	12.70	30,000	13,608	0.150	96.8	0.52	0.77		
9/16	14.29	38,000	17,236	0.190	122.6	0.66	0.98		
5/8	15.88	48,000	21,772	0.234	151.0	0.82	1.2		
11/16	17.46	58,000	26,308	0.284	183.2	0.99	1.5		
3/4	19.05	68,000	30,844	0.338	218.1	1.18	1.8		
13/16	20.64	80,000	36,287	0.396	255.5	1.39	2.1		
7/8	22.23	92,000	41,730	0.459	296.1	1.61	2.4		
15/16	23.81	108,000	48,988	0.527	340.0	1.85	2.8		
1	25.40	122,000	55,338	0.600	387.1	2.10	3.1		
1-1/16	26.99	138,000	62,596	0.677	436.8	2.37	3.5		
1-1/8	28.58	156,000	70,760	0.759	489.7	2.66	4.0		

ZINC COATING						TABLE 8			
Nominal Diameter of coated wire						Approx. Weight of Class A Zinc Coating		Approx. Weight of Class B Zinc Coating	
						Oz/ft <sup>2</sup>	g/m <sup>2</sup>	Oz/ft <sup>2</sup>	g/m <sup>2</sup>
in		mm		Oz/ft <sup>2</sup>	g/m <sup>2</sup>	Oz/ft <sup>2</sup>	g/m <sup>2</sup>		
0.040	to	0.061	1.016	to	1.549	0,4	122	0,8	244
0.062	to	0.079	1.575	to	2.007	0,5	153	1	306
0.080	to	0.092	2.032	to	2.337	0,6	183	1,2	366
0.093	to	0.103	2.362	to	2.616	0,7	214	1,4	428
0.104	to	0.119	2.642	to	3.023	0,8	244	1,6	488
0.120	to	0.142	3.048	to	3.607	0,85	259	1,7	518
0.143	to	0.182	3.632	to	4.623	0,9	275	1,8	550
0.188	and larger	4.775	and larger			1	305	2	610

STANDARDS		TABLE 9	
Standard	Test	Method	
ASTM B 586	Tensile Properties	ASTM A 586	
	Coating Weight	ASTM A 90	
	Adherence of Coating	ASTM A 586	
	Ductility of Steel	ASTM A 586	
	Elongation	ASTM A 586	
	Stress at 0.7% extension under load	ASTM A 586	

# Aluminum Clad Shield Stranded Wire

## 2 | ALUMINUM CLAD STEEL PRODUCTS

Since 1988, EMCOCABLES® has been manufacturing aluminum-clad steel strands and wires using the continual extrusion method.

The process begins with a drawn steel wire in order to obtain a sufficient roundness so that the wire can go onto the extrusion process. The wire goes through an aluminum clad steel extrusion process using grade 1350 aluminum. After the extrusion process, the wire is submitted to another drawing in order to achieve the final required diameter.

EMCOCABLES® aluminum clad steel products are mainly used for land lines, messenger cables, ACSR/AS (AW) conductor nucleus, preformed elements and for fiber optic cable also known as OPGW. Additional to the strands made under the ASTM B 416 standard,

EMCOCABLES® has developed ALUSHIELD® with less weight, higher corrosion resistance and breaking strength, lower weight than Class C galvanized products.

### 2.1. Aluminum Clad Shield Stranded Wire

Aluminum clad steel conductors with a concentric pass.

This specification covers bare concentric-lay-stranded conductors made from bare, hard drawn, round, aluminum clad steel wires 20.3% conductivity for general use of electrical purposes. This specification does not apply to stranded conductors for reinforcement in ACSR conductors.

**BREAK LOADS**

**TABLE 10**

Description	Quantity and Diameter of each wire			Conductor Diameter		Break Load		Electric Resistance		Area			Approx. Weight	
	No.	in	mm	in	mm	lbf	kgf	Ω/1000ft	Ω/km	cmils	in <sup>2</sup>	mm <sup>2</sup>	lb/1000ft	kg/km
19 No. 5 AWG	19	0.182	4.62	0.910	23.11	73,350	33,301	0.082	0.269	628,900	0.493	318	1,430	2,128
19 No. 6 AWG	19	0.162	4.11	0.810	20.57	61,700	28,012	0.103	0.340	498,800	0.391	252	1,134	1,687
19 No. 7 AWG	19	0.144	3.67	0.721	18.31	51,730	23,485	0.130	0.429	395,500	0.310	200	899	1,338
19 No. 8 AWG	19	0.129	3.26	0.642	16.31	43,240	19,631	0.164	0.541	313,700	0.246	158	713	1,062
19 No. 9 AWG	19	0.114	2.91	0.572	14.53	34,290	15,568	0.207	0.682	248,800	0.195	126	565	841
19 No. 10 AWG	19	0.102	2.59	0.509	12.93	27,190	12,344	0.262	0.860	197,300	0.155	99	448	667
7 No. 5 AWG	7	0.182	4.62	0.546	13.87	27,030	12,272	0.226	0.742	231,700	0.181	117	524	781
7 No. 6 AWG	7	0.162	4.11	0.486	12.34	22,730	10,319	0.280	0.919	183,800	0.144	93	416	619
7 No. 7 AWG	7	0.144	3.67	0.433	11.00	19,060	8,653	0.353	1.159	145,700	0.114	73	330	491
7 No. 8 AWG	7	0.129	3.26	0.385	9.78	15,930	7,232	0.445	1.462	115,600	0.090	58	261	389
7 No. 9 AWG	7	0.114	2.91	0.343	8.71	12,630	5,734	0.562	1.844	91,650	0.072	46	207	308
7 No. 10 AWG	7	0.102	2.59	0.306	7.77	10,020	4,549	0.708	2.325	72,680	0.057	36	164	245
7 No. 11 AWG	7	0.091	2.30	0.272	6.91	7,945	3,607	0.893	2.932	57,590	0.045	29	130	194
7 No. 12 AWG	7	0.081	2.05	0.242	6.15	6,310	2,865	1.127	3.697	45,710	0.035	23	103	154
3 No. 5 AWG	3	0.182	4.62	0.392	9.96	12,230	5,552	0.517	1.698	99,310	0.078	50	224	334
3 No. 6 AWG	3	0.162	4.11	0.349	8.86	10,280	4,667	0.652	2.141	78,750	0.061	39	178	265
3 No. 7 AWG	3	0.144	3.67	0.311	7.90	8,621	3,914	0.823	2.700	62,450	0.049	31	141	210
3 No. 8 AWG	3	0.129	3.26	0.277	7.04	7,206	3,272	1.038	3.405	49,530	0.038	25	112	166
3 No. 9 AWG	3	0.114	2.91	0.247	6.27	5,715	2,595	1.309	4.294	39,280	0.030	19	88	32
3 No. 10 AWG	3	0.102	2.59	0.220	5.59	4,532	2,058	1.651	5.416	31,150	0.024	15	70	104

# Aluminum Clad Shield Stranded Wire

STANDARDS		TABLE 11
Standard	Test	Method
ASTM B 415	Material	ASTM B 415
	Tensile Test	ASTM A 370
	Resistance	ASTM B 193
	Dimension	ASTM B 415
	Aluminum Thickness	ASTM B 415
	Twist Test	ASTM B 415

STANDARDS		TABLE 12
Standard	Test	Method
ASTM B 416	Breaking Strength	ASTM A 370
	Construction	ASTM B 416
	Mass and Resistance	ASTM B 193

## 2.2 Guy and Messenger “MG” Strands

This specification covers bare, hard drawn, round aluminum-clad steel wire for general use for electrical purposes in sizes 0.2043” to 0.0808” inclusive (4 to 12 AWG). This specification does not apply to wires used as reinforcement in ACSR conductor.

When 20.3% conductivity strands are used as messenger cables, it is common practice to add the letters MG (Messenger Guys) to the name. As shown in the following table:

GUY AND MESSENGER “MG” STRANDS												TABLE 13
Description	AWG	Quantity and Diameter of each wire			Conductor Diameter		Break Load		Area		Approx. Weight	
		No.	in	mm	in	mm	lbf	kgf	in <sup>2</sup>	mm <sup>2</sup>	lb/1000ft	kg/km
4 MG3	3/10	3	0.102	2.59	0.220	5.59	4,500	2,061	0.024	15.8	71	105
5 MG3	3/9	3	0.114	2.90	0.247	6.27	5,600	2,565	0.030	19.8	88	131
6 MG	7/12	7	0.081	2.06	0.242	6.15	6,300	2,885	0.036	23.3	104	155
6.6 MG		7	0.083	2.11	0.249	6.32	6,600	3,023	0.037	24.4	109	163
7 MG3	3/8	3	0.128	3.25	0.277	7.04	7,100	3,252	0.038	24.9	111	165
8 MG	7/11	7	0.091	2.31	0.272	6.91	8,000	3,664	0.045	29.4	131	196
5/16 in MG3	3/7	3	0.141	3.68	0.313	7.94	8,400	3,847	0.049	32.0	143	212
10 MG	7/10	7	0.102	2.59	0.306	7.77	10,000	4,580	0.057	36.9	165	246
5/16 in MG		7	0.104	2.64	0.313	7.95	10,400	4,763	0.059	38.4	172	255
11.5 MG		7	0.110	2.79	0.330	8.38	11,600	5,313	0.066	42.9	192	286
12.5 MG	7/9	7	0.114	2.90	0.343	8.71	12,500	5,725	0.071	46.1	206	307
3/8 in MG		7	0.120	3.05	0.375	9.53	13,800	6,320	0.079	51.1	228	240
14 MG		7	0.121	3.07	0.363	9.22	14,100	6,458	0.080	51.9	232	346
16 MG	7/8	7	0.128	3.25	0.386	9.80	16,000	7,328	0.090	58.1	260	387
18 MG		7	0.139	3.53	0.417	10.59	18,000	8,244	0.106	68.5	307	456
7/16 in MG	7/7	7	0.145	3.68	0.438	11.11	18,700	8,565	0.115	74.6	334	496
20 MG		7	0.148	3.76	0.444	11.28	20,000	9,160	0.120	77.7	348	517
1/2 in MG		7	0.165	4.19	0.500	12.70	22,900	10,488	0.149	96.6	432	643
25 MG		7	0.173	4.39	0.519	13.18	25,000	11,450	0.164	106.2	475	707

**Requirements for Wire:** Before the stranding, aluminum re-jacketed steel wires must satisfy all requirements of the ASTM 415 standard.

**Requirements for Strand:** Strands must comply with the requirements of the ASTM B 416 standard

# Aluminum Clad Shield Stranded Wire

## 2.3 Aluminum-clad steel wire / conductor

This specification covers aluminum concentric lay stranded conductors manufactured from round aluminum wires and round aluminum clad steel core wires used as phase conductors to increase longitude and clearances, messenger, ground cables and as self-supporting cables.

ALUMINUM - CLAD STEEL WIRE CONDUCTOR

TABLE 14

Description	Conductor Diameter		Design of Conductor						Breaking Load		Area		Approx. Weight	
			Aluminum Wires			AS Wires								
			No.	Diameter		No.	Diameter							
in	mm	No.	in	mm	No.	in	mm	lbg	kgf	lbf	kgf	lb/1000ft	Kg/km	
No. 4 AWG														
No. 4 - 6/1	0.245	6.22	6	0.082	2.08	1	0.082	2.08	1,783	817	0.037	23.68	52	78
No. 4 - 5/2	0.261	6.63	5	0.087	2.21	2	0.087	2.21	2,830	1,296	0.042	29.91	70	104
No. 4 - 4/3	0.281	7.14	4	0.094	2.38	3	0.094	2.38	4,305	1,972	0.048	31.14	92	137
No. 4 - 3/4	0.307	7.80	3	0.102	2.60	4	0.102	2.60	6,325	2,897	0.057	37.05	124	184
No. 4 - 2/5	0.340	8.64	2	0.113	2.88	5	0.113	2.88	9,314	4,266	0.071	45.53	169	252
No. 3 AWG														
No. 3 - 6/1	0.275	6.99	6	0.092	2.33	1	0.092	2.33	2,228	1,020	0.046	29.89	66	98
No. 3 - 5/2	0.293	7.44	5	0.098	2.48	2	0.098	2.48	3,551	1,626	0.053	33.93	88	131
No. 3 - 4/3	0.316	8.03	4	0.105	2.67	3	0.105	2.67	5,397	2,472	0.061	39.33	117	173
No. 3 - 3/4	0.344	8.74	3	0.115	2.91	4	0.115	2.91	7,966	3,648	0.072	46.66	156	232
No. 3 - 2/5	0.382	9.70	2	0.127	3.23	5	0.127	3.23	11,730	5,372	0.089	57.48	214	318
No. 2 AWG														
No. 2 - 6/1	0.309	7.85	6	0.103	2.62	1	0.103	2.62	2,760	1,264	0.058	37.63	440	654
No. 2 - 5/2	0.330	8.38	5	0.110	2.79	2	0.110	2.79	4,436	2,032	0.066	42.84	585	870
No. 2 - 4/3	0.355	9.02	4	0.118	3.00	3	0.118	3.00	6,785	3,108	0.077	49.56	776	1154
No. 2 - 3/4	0.386	9.80	3	0.129	3.27	4	0.129	3.27	9,793	4,485	0.091	58.84	1,038	1,545
No. 2 - 2/5	0.429	10.90	2	0.143	3.63	5	0.143	3.63	14,060	6,439	0.112	72.43	1,422	2,116
No. 1 AWG														
No. 1 - 6/1	0.347	8.81	6	0.116	2.94	1	0.116	2.94	3,450	1,580	0.074	47.48	105	156
No. 1 - 5/2	0.370	9.40	5	0.123	3.13	2	0.123	3.13	5,539	2,537	0.084	54.01	140	208
No. 1 - 4/3	0.398	10.11	4	0.133	3.37	3	0.133	3.37	8,344	3,822	0.097	62.46	185	276
No. 1 - 3/4	0.434	11.02	3	0.145	3.67	4	0.145	3.67	11,740	5,377	0.115	74.16	248	369
No. 1 - 2/5	0.482	12.24	2	0.161	4.08	5	0.161	4.08	16,800	7,694	0.142	91.37	340	505
No. 1/0														
No. 1/0 - 6/1	0.390	9.91	6	0.130	3.30	1	0.130	3.30	4,246	1,945	0.093	59.94	133	197
No. 1/0 - 5/2	0.416	10.57	5	0.139	3.52	2	0.139	3.52	6,712	3,074	0.105	68.04	176	262
No. 1/0 - 4/3	0.447	11.35	4	0.149	3.78	3	0.149	3.78	10,020	4,589	0.122	78.75	234	347
No. 1/0 - 3/4	0.487	12.37	3	0.162	4.12	4	0.162	4.12	14,000	6,412	0.145	93.55	313	465
No. 1/0 - 2/5	0.541	13.74	2	0.180	4.58	5	0.180	4.58	20,030	9,174	0.179	115.18	428	637
No. 2/0														
No. 2/0 - 6/1	0.438	11.13	6	0.146	3.71	1	0.146	3.71	5,135	2,352	0.117	75.50	167	249
No. 2/0 - 5/2	0.467	11.86	5	0.156	3.95	2	0.156	3.95	8,040	3,682	0.133	85.88	222	330
No. 2/0 - 4/3	0.502	12.75	4	0.167	4.25	3	0.167	4.25	12,000	5,496	0.154	99.40	295	438
No. 2/0 - 3/4	0.547	13.89	3	0.182	4.63	4	0.182	4.63	16,750	7,672	0.183	118.01	394	587
No. 3/0														
No. 3/0 - 6/1	0.492	12.50	6	0.164	4.16	1	0.164	4.16	6,305	2,888	0.148	95.28	211	314
No. 3/0 - 5/2	0.524	13.31	5	0.175	4.44	2	0.175	4.44	9,705	4,445	0.168	108.25	281	418
No. 3/0 - 4/3	0.564	14.33	4	0.188	4.78	3	0.188	4.78	14,380	6,586	0.194	125.36	371	553
No. 4/0														
No. 4/0 - 6/1	0.552	14.02	6	0.184	4.67	1	0.184	4.67	7,685	3,520	0.186	120.09	266	358
No. 4/0 - 15/4	0.575	14.61	15	0.115	2.92	4	0.115	2.92	10,870	4,978	0.197	127.32	305	412

# Aluminum Clad Shield Stranded Wire

## ASTM B 230 ASTM B 549

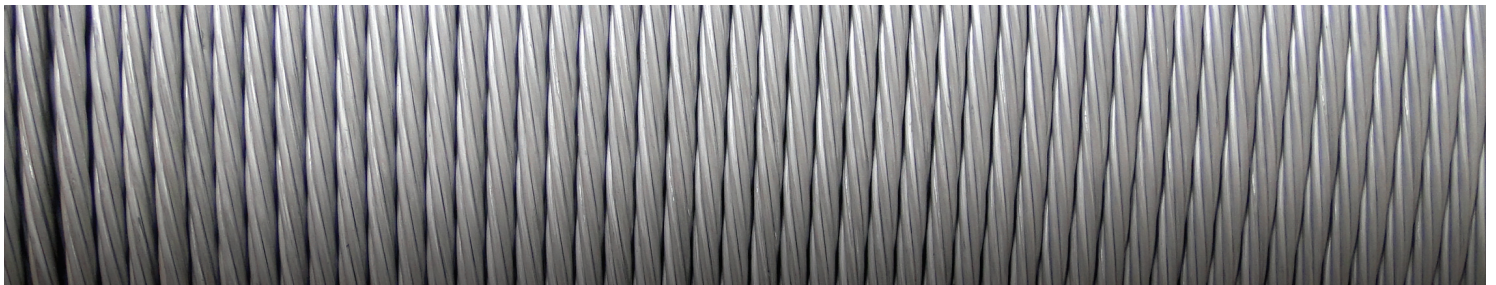
STANDARDS		TABLE 15
Standard	Test	Method
ASTM B 549	Material	ASTM B 549
	Tensile Properties	ASTM E 8
	Resistance	ASTM B 193
	Aluminum Thickness	ASTM B 549
	Torsion	ASTM B 549

## ASTM B 502

STANDARDS		TABLE 16
Standard	Test	Method
ASTM B 502	Tension Test	ASTM E 8
	Aluminum Thickness	ASTM B 502
	Resistance	ASTM B 193

PHYSICAL AND MECHANICAL PROPERTIES OF ALUSHIELD® STRAND										TABLE 17	
Description		Nominal Diameter		Resistance		Break Load				Approx. Weight	
						HS		EHS			
Construction	in	in	mm	Ω/1000ft	Ω/km	lbf	kgf	lbf	kgf	lb/1000ft	kg/km
1x7	5/16	0.313	7.94	0.97	3.19	7,996	3,630	11,149	5,082	188	280
1x7	3/8	0.375	9.53	0.72	2.36	10,793	4,900	15,390	6,987	252	375
1x7	7/16	0.438	11.11	0.49	1.61	14,489	6,578	20,786	9,437	366	545
1x7	1/2	0.500	12.70	0.39	1.27	18,789	8,530	26,883	12,205	477	710
1x19	1/2	0.500	12.70	0.38	1.24	19,088	8,666	26,683	12,114	477	710
1x19	5/8	0.625	15.88	0.26	0.84	28,081	12,749	40,174	18,239	726	1,080

Alushield is a registered trade mark of Empresa Colombiana de Cables S.A. Electrical resistance is calculated using a base electrical resistance 0.130Ω mm<sup>2</sup>/m



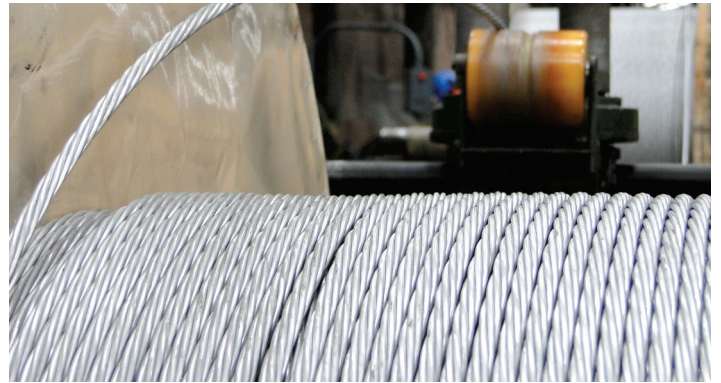


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## 2.4 ALUSHIELD®

EMCOCABLES® has developed an economical price competitive product as an alternative to Class C Galvanized, with better physical-mechanical and electrical properties.

Another important aspect to take into account with our new ALUSHIELD® product is its excellent resistance against corrosion which guarantees a longer useful life.



**ALUSHIELD® VS. GALVANIZED**

**TABLE 18**

Grade	High Resistance H.S.				Extra High Resistance E.H.S.			
	Break load Min. kgf	Electrical Resistance Max. $\Omega/\text{km}^2$	Weight kg/ km (Approx)	Min. %	Break load Min. kgf	Electrical Resistance Max. $\Omega/\text{km}^2$	Weight kg/ km (Approx)	Min. % Elongation in 600 mm
Alushield®5/16 (ASTM 474)	3,630	3.19	280	4	5,082	3.19	280	4
Galvanized 5/16 (ASTM 475)	3,630	5.09	305	4	5,082	5.09	305	4
Alushield®3/8 (ASTM 474)	4,900	2.36	375	4	6,987	2.36	375	4
Galvanized 3/8 (ASTM 475)	4,900	3.75	406	4	6,987	3.75	406	4



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