

GALVONALL®

	18ga	17ga	16ga	GBR-20	GBR-40
ROUNDS	1.315" (1 3/8") DIAMETER	●	●	●	
	1.660" (1 5/8") DIAMETER	●	●	●	●
	1.900" (1 7/8") DIAMETER	●	●	●	●
	2.375" (2 3/8") DIAMETER	●	●	●	●
	2.875" (2 7/8") DIAMETER				●

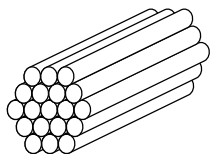
	19ga	18ga	17ga	16ga	14ga	12ga	11ga
SQUARES	.590" (5/8")sq	●	●	●	●		
	.625" (5/8")sq	●	●	●	●		
	.750" (3/4")sq		●	●	●		
	.975" (1")sq		●		●	●	
	1"sq		●		●	●	
	1.25" (1 1/4")sq				●		
	1.5" (1 1/2")sq				●	●	
	1.75" (1 3/4")sq					●	
	2"sq				●	●	●
	2.5" (2 1/2")sq				●	●	●
	3"sq						●
	4"sq						

*Refer to construction specification & tables
 within this section for more details.*

Effective: 01/01/18

GALVONALL® | 18 ga. RAIL & BRACING GALVANIZED ROUNDS

RUNS IN ANY LENGTH | 24' MAX LENGTH | CALL FOR MILL RUN SCHEDULE & PRICING | FULL BUNDLE QUANTITIES ONLY

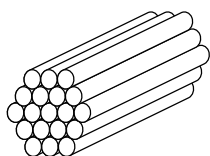


RAIL & BRACING	ITEM NUMBER	WEIGHT PER FT.	WEIGHT EA.	WEIGHT PER BUNDLE	QTY PER BUNDLE
1.315" x 10'-6" SE	GWB300	0.64 lbs	6.73 lbs	612 lbs	91
1.315" x 21' SE	GWB301	0.64 lbs	13.44 lbs	1,223 lbs	91
1.315" x 24'	GWB302	0.64 lbs	15.36 lbs	1,398 lbs	91
1.660" x 21' SE	GWB310	0.81 lbs	17.01 lbs	1,038 lbs	91
1.660" x 22' SE	GWB312	0.81 lbs	17.82 lbs	1,087 lbs	61
1.660" x 24'	GWB383	0.81 lbs	19.44 lbs	1,186 lbs	61
1.900" x 21'	GWB314	0.93 lbs	19.53 lbs	1,191 lbs	61
1.900" x 24'	GWB305	0.93 lbs	22.32 lbs	1,362 lbs	61
2.375" x 21'	GWB316	1.17 lbs	24.57 lbs	909 lbs	37
2.375" x 24'	GWB317	1.17 lbs	28.08 lbs	1,039 lbs	37

SE = Swedged End

GALVONALL® | 18 ga. CUT POST GALVANIZED ROUNDS

RUNS IN ANY LENGTH | 24' MAX LENGTH | CALL FOR MILL RUN SCHEDULE & PRICING | FULL BUNDLE QUANTITIES ONLY

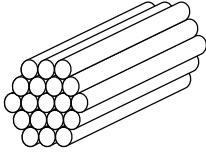


CUT POST	ITEM NUMBER	WEIGHT PER FT.	WEIGHT EA.	WEIGHT PER BUNDLE	QTY PER BUNDLE
1.660" x 5'-6"	GWB322	0.81 lbs	4.46 lbs	272 lbs	61
1.660" x 6'	GWB323	0.81 lbs	4.86 lbs	296 lbs	61
1.660" x 6'-6"	GWB324	0.81 lbs	5.27 lbs	321 lbs	61
1.660" x 7'-6"	GWB326	0.81 lbs	6.08 lbs	371 lbs	61
1.900" x 5'-6"	GWB332	0.93 lbs	5.12 lbs	312 lbs	61
1.900" x 6'	GWB333	0.93 lbs	5.58 lbs	340 lbs	61
1.900" x 7'	GWB335	0.93 lbs	6.51 lbs	397 lbs	61
1.900" x 7'-6"	GWB336	0.93 lbs	6.98 lbs	425 lbs	61
1.900" x 8'	GWB337	0.93 lbs	7.44 lbs	454 lbs	61
2.375" x 5'-6"	GWB342	1.17 lbs	6.44 lbs	238 lbs	37
2.375" x 6'	GWB343	1.17 lbs	7.02 lbs	260 lbs	37
2.375" x 6'-6"	GWB344	1.17 lbs	7.61 lbs	281 lbs	37
2.375" x 7'	GWB345	1.17 lbs	8.19 lbs	303 lbs	37
2.375" x 7'-6"	GWB347	1.17 lbs	8.78 lbs	325 lbs	37
2.375" x 8'	GWB348	1.17 lbs	9.36 lbs	346 lbs	37
2.375" x 9'	GWB349	1.17 lbs	10.53 lbs	390 lbs	37

Effective: 01/01/18

GALVONALL® | 17 ga. RAIL & BRACING GALVANIZED ROUNDS

RUNS IN ANY LENGTH | 24' MAX LENGTH | CALL FOR MILL RUN SCHEDULE & PRICING | FULL BUNDLE QUANTITIES ONLY

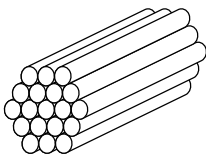


RAIL & BRACING	ITEM NUMBER	WEIGHT PER FT.	WEIGHT EA.	WEIGHT PER BUNDLE	QTY PER BUNDLE
1.315" x 10'-6" SE	GWB400	0.74 lbs	7.77 lbs	707 lbs	91
1.315" x 21' SE	GWB401	0.74 lbs	15.54 lbs	1414 lbs	91
1.315" x 21'	GWB402	0.74 lbs	15.54 lbs	1414 lbs	91
1.660" x 21' SE	GWB410	0.94 lbs	19.74 lbs	1204 lbs	61
1.660" x 22' SE	GWB412	0.94 lbs	20.68 lbs	1261 lbs	61
1.660" x 21'	GWB411	0.94 lbs	19.74 lbs	1204 lbs	61
1.900" x 21'	GWB414	1.08 lbs	22.68 lbs	1383 lbs	61
1.900" x 24'	GWB415	1.08 lbs	25.92 lbs	1581 lbs	61
2.375" x 24'	GWB417	1.36 lbs	32.64 lbs	1208 lbs	37

SE = Swedged End

GALVONALL® | 17 ga. CUT POST GALVANIZED ROUNDS

RUNS IN ANY LENGTH | 24' MAX LENGTH | CALL FOR MILL RUN SCHEDULE & PRICING | FULL BUNDLE QUANTITIES ONLY

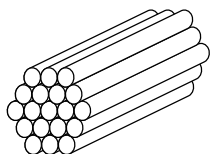


RAIL & BRACING	ITEM NUMBER	WEIGHT PER FT.	WEIGHT EA.	WEIGHT PER BUNDLE	QTY PER BUNDLE
1.660" x 5'-6"	GWB422	0.94 lbs	5.17 lbs	315 lbs	61
1.660" x 6'	GWB423	0.94 lbs	5.64 lbs	344 lbs	61
1.660" x 6'-6"	GWB424	0.94 lbs	6.11 lbs	373 lbs	61
1.660" x 7'	GWB425	0.94 lbs	6.58 lbs	401 lbs	61
1.660" x 7'-6"	GWB426	0.94 lbs	7.05 lbs	430 lbs	61
1.660" x 8'	GWB427	0.94 lbs	7.52 lbs	459 lbs	61
1.900" x 5'-6"	GWB432	1.08 lbs	5.94 lbs	362 lbs	61
1.900" x 6'	GWB433	1.08 lbs	6.48 lbs	395 lbs	61
1.900" x 7'	GWB435	1.08 lbs	7.56 lbs	461 lbs	61
1.900" x 7'-6"	GWB436	1.08 lbs	8.10 lbs	494 lbs	61
1.900" x 8'	GWB437	1.08 lbs	8.64 lbs	527 lbs	61
2.375" x 5'-6"	GWB442	1.36 lbs	7.48 lbs	227 lbs	37
2.375" x 6'	GWB443	1.36 lbs	8.16 lbs	302 lbs	37
2.375" x 6'-6"	GWB444	1.36 lbs	8.84 lbs	327 lbs	37
2.375" x 8'	GWB447	1.36 lbs	10.88 lbs	403 lbs	37
2.375" x 9'	GWB449	1.36 lbs	12.24 lbs	453 lbs	37

Effective: 01/01/18

GALVONALL® | 16 ga. RAIL & BRACING GALVANIZED ROUNDS

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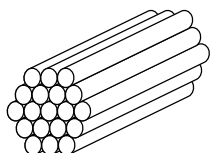


RAIL & BRACING	ITEM NUMBER	WEIGHT PER FT.	WEIGHT EA.	WEIGHT PER BUNDLE	QTY PER BUNDLE
1.315" x 10'-6" SE	GWB500	0.87 lbs	9.14 lbs	831 lbs	91
1.315" x 21' SE	GWB501	0.87 lbs	18.27 lbs	1663 lbs	91
1.315" x 21'	GWB507	0.87 lbs	18.27 lbs	1663 lbs	91
1.315" x 24'	GWB505	0.87 lbs	20.88 lbs	1900 lbs	91
1.660" x 10'-6" SE	GWB530	1.11 lbs	11.66 lbs	711 lbs	61
1.660" x 21' SE	GWB510	1.11 lbs	23.31 lbs	1422 lbs	61
1.660" x 22' SE	GWB512	1.11 lbs	24.42 lbs	1490 lbs	61
1.660" x 21'	GWB511	1.11 lbs	23.31 lbs	1422 lbs	61
1.660" x 24'	GWB513	1.11 lbs	26.64 lbs	1625 lbs	61
1.900" x 21'	GWB514	1.27 lbs	26.67 lbs	1627 lbs	61
1.900" x 24'	GWB515	1.27 lbs	30.48 lbs	1859 lbs	61
2.375" x 21'	GWB516	1.60 lbs	33.60 lbs	1243 lbs	37
2.375" x 24'	GWB517	1.60 lbs	38.40 lbs	1421 lbs	37

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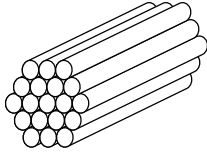
CUT POST	ITEM NUMBER	WEIGHT PER FT.	WEIGHT EA.	WEIGHT PER BUNDLE	QTY PER BUNDLE
1.660" x 6'	GWB523	1.11 lbs	6.66 lbs	406 lbs	61
1.660" x 6'-6"	GWB524	1.11 lbs	7.22 lbs	440 lbs	61
1.660" x 7'	GWB525	1.11 lbs	7.77 lbs	474 lbs	61
1.660" x 7'-6"	GWB526	1.11 lbs	8.33 lbs	508 lbs	61
1.660" x 8'	GWB527	1.11 lbs	8.88 lbs	542 lbs	61
1.900" x 6'	GWB533	1.27 lbs	7.62 lbs	465 lbs	61
1.900" x 6'-6"	GWB534	1.27 lbs	8.26 lbs	504 lbs	61
1.900" x 7'	GWB535	1.27 lbs	8.89 lbs	542 lbs	61
1.900" x 7'-6"	GWB536	1.27 lbs	9.53 lbs	581 lbs	61
1.900" x 8'	GWB537	1.27 lbs	10.16 lbs	620 lbs	61
2.375" x 6'	GWB543	1.60 lbs	9.60 lbs	355 lbs	37
2.375" x 6'-6"	GWB544	1.60 lbs	10.40 lbs	385 lbs	37
2.375" x 7'	GWB545	1.60 lbs	11.20 lbs	414 lbs	37
2.375" x 7'-6"	GWB546	1.60 lbs	12.00 lbs	444 lbs	37
2.375" x 8'	GWB547	1.60 lbs	12.80 lbs	474 lbs	37

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GALVONALL® | GBR-20 RAIL & BRACING GALVANIZED ROUNDS

RUNS IN ANY LENGTH | 24' MAX LENGTH | CALL FOR MILL RUN SCHEDULE & PRICING

***SURCHARGE ADDED TO ALL ITEMS ORDERED IN LESS THAN BUNDLE QUANTITIES



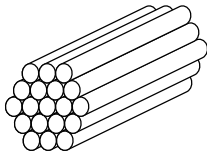
RAIL & BRACING	ITEM NUMBER	WEIGHT PER FT.	WEIGHT EA.	WEIGHT PER BUNDLE	QTY PER BUNDLE
1.660" x 21' SE	GWB611	1.43 lbs	30.04 lbs	1832 lbs	61
1.660" x 24' SE	GWB609	1.43 lbs	30.04 lbs	1832 lbs	61
1.660" x 21'	GWB612	1.43 lbs	30.04 lbs	1832 lbs	61
1.660" x 24'	GWB610	1.43 lbs	30.04 lbs	1832 lbs	61
1.900" x 21'	GWB613	1.74 lbs	36.54 lbs	2229 lbs	61
1.900" x 24'	GWB614	1.74 lbs	41.76 lbs	2547 lbs	61
2.375" x 21'	GWB615	2.32 lbs	48.73 lbs	1803 lbs	37
2.375" x 24'	GWB616	2.32 lbs	55.68 lbs	2060 lbs	37
2.875" x 21'	GWB617	3.25 lbs	68.27 lbs	1297 lbs	19
2.875" x 24'	GWB618	3.25 lbs	78.00 lbs	1482 lbs	19

SE = Swaged End

GALVONALL® | GBR-20 CUT POST GALVANIZED ROUNDS

RUNS IN ANY LENGTH | 24' MAX LENGTH | CALL FOR MILL RUN SCHEDULE & PRICING

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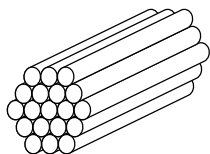
CUT POST	ITEM NUMBER	WEIGHT PER FT.	WEIGHT EA.	WEIGHT PER BUNDLE	QTY PER BUNDLE
1.900" x 6'	GWB631	1.74 lbs	10.44 lbs	637 lbs	61
1.900" x 7'	GWB632	1.74 lbs	12.18 lbs	743 lbs	61
1.900" x 8'	GWB633	1.74 lbs	13.92 lbs	849 lbs	61
2.375" x 7'	GWB642	2.32 lbs	16.24 lbs	601 lbs	37
2.375" x 8'	GWB643	2.32 lbs	18.56 lbs	687 lbs	37
2.375" x 9'	GWB644	2.32 lbs	20.88 lbs	773 lbs	37
2.875" x 8'	GWB653	3.25 lbs	26.00 lbs	494 lbs	19
2.875" x 9'	GWB654	3.25 lbs	29.25 lbs	556 lbs	19
2.875" x 10'	GWB655	3.25 lbs	32.50 lbs	618 lbs	19

Effective: 01/01/18

GALVONALL® | GBR-40 RAIL & BRACING GALVANIZED ROUNDS

RUNS IN ANY LENGTH | 24' MAX LENGTH | CALL FOR MILL RUN SCHEDULE & PRICING

***SURCHARGE ADDED TO ALL ITEMS ORDERED IN LESS THAN BUNDLE QUANTITIES

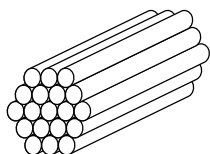


RAIL & BRACING	ITEM NUMBER	WEIGHT PER FT.	WEIGHT EA.	WEIGHT PER BUNDLE	QTY PER BUNDLE
1.660" x 21'	GWB711	1.84	38.64 lbs	2357 lbs	61
1.660" x 24'	GWB712	1.84	44.16 lbs	2694 lbs	61
1.900" x 21'	GWB713	2.28	47.88 lbs	2921 lbs	61
1.900" x 24'	GWB714	2.28	54.72 lbs	3338 lbs	61
2.375" x 21'	GWB715	3.12	65.52 lbs	2424 lbs	37
2.375" x 24'	GWB716	3.12	74.88 lbs	2771 lbs	37
2.875" x 21'	GWB717	4.64	97.44 lbs	1851 lbs	19
2.875" x 24'	GWB718	4.64	111.36 lbs	2116 lbs	19

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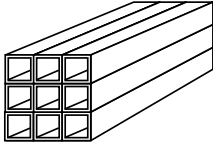


RAIL & BRACING	ITEM NUMBER	WEIGHT PER FT.	WEIGHT EA.	WEIGHT PER BUNDLE	QTY PER BUNDLE
1.900" x 7'	GWB730	2.28 lbs	15.96 lbs	974 lbs	61
1.900" x 8'	GWB731	2.28 lbs	18.24 lbs	1113 lbs	61
1.900" x 9'	GWB733	2.28 lbs	20.52 lbs	1252 lbs	61
2.375" x 7'	GWB741	3.12 lbs	21.84 lbs	808 lbs	37
2.375" x 8'	GWB742	3.12 lbs	24.96 lbs	924 lbs	37
2.375" x 9'	GWB744	3.12 lbs	28.08 lbs	1039 lbs	37
2.375" x 10'	GWB745	3.12 lbs	31.20 lbs	1154 lbs	37
2.375" x 11'	GWB781	3.12 lbs	34.32 lbs	1270 lbs	37
2.375" x 12'	GWB747	3.12 lbs	37.44 lbs	1385 lbs	37
2.375" x 13'	GWB749	3.12 lbs	40.56 lbs	1501 lbs	37
2.375" x 14'	GWB740	3.12 lbs	43.68 lbs	1616 lbs	37
2.375" x 15'	GWB750	3.12 lbs	46.80 lbs	1732 lbs	37
2.875" x 8'	GWB751	4.64 lbs	37.12 lbs	705 lbs	19
2.875" x 9'	GWB752	4.64 lbs	41.76 lbs	793 lbs	19
2.875" x 10'	GWB753	4.64 lbs	46.40 lbs	882 lbs	19
2.875" x 11'	GWB755	4.64 lbs	51.04 lbs	970 lbs	19
2.875" x 12'	GWB756	4.64 lbs	55.68 lbs	1058 lbs	19
2.875" x 13'	GWB757	4.64 lbs	60.32 lbs	1146 lbs	19
2.875" x 14'	GWB760	4.64 lbs	64.96 lbs	1234 lbs	19
2.875" x 15'	GWB758	4.64 lbs	69.60 lbs	1322 lbs	19

Effective: 01/01/18

GALVONALL® | GALVANIZED SQUARES

20' & 24" MILL LENGTHS | CUT LENGTHS AVAILABLE IN BUNDLE QTY | 1/2 TRUCKLOAD = MINIMUM ORDER
 .625" / .75" / 1" SPEAR POINTING OPTION AVAILABLE | CALL 888-333-3422 FOR MILL RUN SCHEDULE & PRICING



SIZE	GAUGE	QTY PER BUNDLE
.590"sq (5/8")	19 ga	260
.590"sq (5/8")	18 ga	260
.590"sq (5/8")	17 ga	260
.590"sq (5/8")	16 ga	260
.625"sq (5/8")	19 ga	260
.625"sq (5/8")	18 ga	260
.625"sq (5/8")	17 ga	260
.625"sq (5/8")	16 ga	260
.75"sq (3/4")	18 ga	160
.75"sq (3/4")	17 ga	160
.75"sq (3/4")	16 ga	160
.975"sq (1")	18 ga	96
.975"sq (1")	16 ga	96
.975"sq (1")	14 ga	96
1"sq	18 ga	96
1"sq	16 ga	96
1"sq	14 ga	96
1.25"sq (1 1/4")	16 ga	100
1.5"sq (1 1/2")	16 ga	64
1.5"sq (1 1/2")	14 ga	64
1.75"sq (1 3/4")	14 ga	64
2"sq	16 ga	64
2"sq	14 ga	64
2"sq	12 ga	64
2.5"sq (2 1/2")	16 ga	36
2.5"sq (2 1/2")	14 ga	36
2.5"sq (2 1/2")	12 ga	36
3"sq	12 ga	25
4"sq	11 ga	16

NOTE: Minimum quantity of one item = Bundle. Availability subject to mill schedule refer to sales policy for purchasing guidelines.

Effective: 01/01/18

GALVONALL® | GBR-20 CONSTRUCTION SPECIFICATION 32 31 13

CHAIN LINK FRAMEWORK | COMMERCIAL WEIGHT

PART 2 - MATERIALS

2.01 MANUFACTURER

Framework for galvanized chain link fence systems shall conform to Ameristar® GalvOnAll™ GBR-20™ (*commercial weight*), as manufactured by Ameristar® Fence Products in Tulsa, Oklahoma.

2.02 MATERIAL

- A. The steel material used to manufacture Ameristar GalvOnAll GBR-20 shall be zinc-coated steel strip, galvanized by the hot-dip process conforming to the criteria of **ASTM A653/A653M** and the general requirements of **ASTM A924/A924M**.
- B. The zinc used in the galvanizing process shall conform to **ASTM B6**. Weight of zinc shall be determined using the test method described in **ASTM A90** and shall conform to the weight range allowance for **ASTM A653**, Designation G-185.
- C. The framework shall be manufactured in accordance with commercial standards to meet the strength (*50,000 psi minimum yield strength*) and coating requirements of the following standards: 1) **ASTM F1043**, Group IC, Electrical Resistance Welded Round Steel Pipe, heavy commercial weight. 2) **M181**, Type I, Grade 2, Electrical Resistance Welded Steel Pipe 3) **RR-F-191/3**, Class 1, Grade B, Electrical Resistance Welded Steel Pipe.
- D. The exterior surface of the electrical resistance weld shall be recoated with the same type of material and thickness as the basic zinc coating.
- E. A chromate conversion coating shall be applied to the external surface. The chromate shall be 30-micrograms/in² ± 15 micrograms/in² and shall be verified by a strip and weigh method utilizing an atomic absorption spectrophotometer or x-ray fluorescence spectrograph.

- F. A clear coat shall be applied over the chromate conversion coating. Clear polymeric coatings shall be a clear film applied in a manner assuring good adhesion. The existence of a clear film coating shall be verified by a 15-second contact with a copper sulfate solution (*specific gravity 1.186*) at three separate locations on a specimen. Copper sulfate will react with zinc to form a black deposit of copper anywhere the zinc is not protect by the clear polymeric coating. The exterior clear-coated surface must demonstrate the ability to withstand exposure of 500 hours without failure at a black panel temperature of 145° F when tested in accordance with **ASTM D1499**. The clear coat shall also withstand 500 hours of exposure to 100% relative humidity per **ASTM D2247** without blistering or peeling and 950 hours of exposure to salt spray per **ASTM B117** with a maximum of 5% red rust.
- G. The strength of Ameristar GalvOnAll GBR-20 shall conform to the requirements of **ASTM F1043**; the minimum weight shall not be less than 90% of the nominal weight (**see Table 1**). The strength of line, end, corner and pull posts shall be determined by the use of 4' or 6' cantilevered beam test. The top rail shall be determined by a 10' free-supported beam test (**see Table 1**). An alternative method of determining pipe strength is by the calculation of bending moment (**see Table 1**). Conformance with this specification can be demonstrated by measuring the yield strength of a randomly selected piece of pipe from each lot and calculating the section modulus. The yield strength shall be determined according to the methods described in **ASTM E8**. For materials under this specification, the 0.2 offset method shall be used in determining yield strength. Terminal posts, line posts and top/bottom rails shall be precut to specified lengths.

FENCE INDUSTRY	DECIMAL O.D. EQUIVALENT	PIPE WALL THICKNESS	WEIGHT
1.375" O.D.	1.315" / 33.40 mm.	.080" / 2.03 mm.	1.06 lbs./ft. / 1.57 kg./m.
1.660" O.D.	1.660" / 42.16 mm.	.085" / 2.16 mm.	1.43 lbs./ft. / 2.13 kg./m.
2" O.D.	1.900" / 48.26 mm.	.090" / 2.29 mm.	1.74 lbs./ft. / 2.59 kg./m.
2.5" O.D.	2.375" / 60.33 mm.	.095" / 2.41 mm.	2.32 lbs./ft. / 3.45 kg./m.
3" O.D.	2.875" / 73.03 mm.	.111" / 2.82 mm.	3.26 lbs./ft. / 4.85 kg./m.

SECTION MODULUS x MIN. YEILD STRENGTH = MAX. BENDING MOMENT	10' Free Supported	4' Cantilever	6' Cantilever
.0900" x 50,000 (psi) = 4,500 (lbs./in.)	150 lbs.	N/A	N/A
.1574" x 50,000 (psi) = 7,870 (lbs./in.)	262 lbs.	164 lbs.	109 lbs.
.2208" x 50,000 (psi) = 11,040 (lbs./in.)	N/A	230 lbs.	154 lbs.
.3734" x 50,000 (psi) = 18,670 (lbs./in.)	N/A	389 lbs.	259 lbs.
.6365" x 50,000 (psi) = 31,825 (lbs./in.)	N/A	663 lbs.	442 lbs.

TABLE 1

Effective: 01/01/18

GALVONALL® | GBR-40 CONSTRUCTION SPECIFICATION 32 31 13

CHAIN LINK FRAMEWORK | INDUSTRIAL WEIGHT

PART 2 - MATERIALS

2.01 MANUFACTURER

Framework for galvanized chain link fence systems shall conform to Ameristar® GalvOnAll™ GBR-40™ (*industrial weight*), as manufactured by Ameristar® Fence Products in Tulsa, Oklahoma.

2.02 MATERIAL

- A. The steel material used to manufacture Ameristar GalvOnAll GBR-40 shall be zinc-coated steel strip, galvanized by the hot-dip process conforming to the criteria of **ASTM A653/A653M** and the general requirements of **ASTM A924/A924M**.
- B. The zinc used in the galvanizing process shall conform to **ASTM B6**. Weight of zinc shall be determined using the test method described in **ASTM A90** and shall conform to the weight range allowance for **ASTM A653**, Designation G-185.
- C. The framework shall be manufactured in accordance with commercial standards to meet the strength (*50,000 psi minimum yield strength*) and coating requirements of the following standards: 1) **ASTM F1043**, Group IC, Electrical Resistance Welded Round Steel Pipe, heavy industrial weight. 2) **M181**, Type I, Grade 2, Electrical Resistance Welded Steel Pipe 3) **RR-F-191/3**, Class 1, Grade B, Electrical Resistance Welded Steel Pipe.
- D. The exterior surface of the electrical resistance weld shall be recoated with the same type of material and thickness as the basic zinc coating.
- E. A chromate conversion coating shall be applied to the external surface. The chromate shall be 30-micrograms/in² ± 15 micrograms/in² and shall be verified by a strip and weigh method utilizing an atomic absorption spectrophotometer or x-ray fluorescence spectrograph.

- F. A clear coat shall be applied over the chromate conversion coating. Clear polymeric coatings shall be a clear film applied in a manner assuring good adhesion. The existence of a clear film coating shall be verified by a 15-second contact with a copper sulfate solution (*specific gravity 1.186*) at three separate locations on a specimen. Copper sulfate will react with zinc to form a black deposit of copper anywhere the zinc is not protect by the clear polymeric coating. The exterior clear-coated surface must demonstrate the ability to withstand exposure of 500 hours without failure at a black panel temperature of 145° F when tested in accordance with **ASTM D1499**. The clear coat shall also withstand 500 hours of exposure to 100% relative humidity per **ASTM D2247** without blistering or peeling and 950 hours of exposure to salt spray per **ASTM B117** with a maximum of 5% red rust.
- G. The strength of Ameristar GalvOnAll GBR-40 shall conform to the requirements of **ASTM F1043**; the minimum weight shall not be less than 90% of the nominal weight (**see Table 1**). The strength of line, end, corner and pull posts shall be determined by the use of 4' or 6' cantilevered beam test. The top rail shall be determined by a 10' free-supported beam test (**see Table 1**). An alternative method of determining pipe strength is by the calculation of bending moment (**see Table 1**). Conformance with this specification can be demonstrated by measuring the yield strength of a randomly selected piece of pipe from each lot and calculating the section modulus. The yield strength shall be determined according to the methods described in **ASTM E8**. For materials under this specification, the 0.2 offset method shall be used in determining yield strength. Terminal posts, line posts and top/bottom rails shall be precut to specified lengths.

	FENCE INDUSTRY	DECIMAL O.D. EQUIVALENT	PIPE WALL THICKNESS	WEIGHT
	1.660" O.D.	1.660" / 42.16 mm.	.111" / 2.82 mm.	1.84 lbs./ft. / 2.74 kg./m.
	2" O.D.	1.900" / 48.26 mm.	.120" / 3.05 mm.	2.28 lbs./ft. / 3.39 kg./m.
	2.5" O.D.	2.375" / 60.33 mm.	.130" / 3.30 mm.	3.12 lbs./ft. / 4.64 kg./m.
	3" O.D.	2.875" / 73.03 mm.	.160" / 4.06 mm.	4.64 lbs./ft. / 6.90 kg./m.
	4" O.D.	4" / 101.60 mm.	.160" / 4.06 mm.	6.56 lbs./ft. / 9.76 kg./m.

SECTION MODULUS x MIN. YEILD STRENGTH = MAX. BENDING MOMENT	10' Free Supported	4' Cantilever	6' Cantilever
.1961" x 50,000 (psi) = 9,850 (lbs./in.)	327 lbs.	204 lbs.	136 lbs.
.2810" x 50,000 (psi) = 14,050 (lbs./in.)	468 lbs.	293 lbs.	195 lbs.
.4881" x 50,000 (psi) = 24,405 (lbs./in.)	814 lbs.	508 lbs.	339 lbs.
.8778" x 50,000 (psi) = 43,890 (lbs./in.)	1,463 lbs.	914 lbs.	610 lbs.
1.7819" x 50,000 (psi) = 89,095 (lbs./in.)	2,970 lbs.	1,865 lbs.	1,237 lbs.

TABLE 1

Effective: 01/01/18

QUIK-ROK® | GALVONALL® | PERMACOAT®

GALVONALL® | GALVANIZED CHAIN-LINK FENCE FRAMEWORK

Effective: 01/01/18

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