

TROLLEY WIRE



BAYWAY OPERATIONS

Freeport-McMoRan Bayway Operations has played a major role in transit projects nationwide. We have supplied Amtrak, NJ Transit, DART, SEPTA, and others. Freeport-McMoRan Bayway Operations has developed a patented process which provides silver bearing, oxygen free (CDA-107) trolley wire with the highest tensile strength in its ASTM classification. Trolley wire can be made to any ASTM, international, or customer specification.

Freeport-McMoRan Bayway Operations is positioned to provide the commuter and light-rail industry with trolley wire in a variety of configurations and alloys to meet the specific needs of any new or refurbishment project.

Round Trolley Wire Specification : ASTM B47 Copper Alloy UNS NO. C11000

SIZE	AREA		WEIGHT		TENSILE STRENGTH (MINIMUM) PSI	BREAKING STRENGTH (MINIMUM) POUNDS	RESISTANCE @68° F OHMS PER 1000 FEET
	CIRCULAR MILS	SQUARE INCHES	POUNDS PER 1000 FEET	POUNDS PER MILE			
1/0 AWG	105,600	.0829	319.5	1,687	54,500	4,518	.10108
2/0 AWG	133,100	.1045	402.8	2,127	52,800	5,518	.08020
3/0 AWG	167,800	.1318	507.8	2,681	51,000	6,722	.06361
4/0 AWG	211,600	.1662	640.5	3,382	49,000	8,144	.05044
300 MCM	300,000	.2356	908.0	4,794	46,400	10,932	.03558

Round Trolley Wire Specification : ASTM B47 Copper Alloy UNS NO. C10700 (Silver Bearing)

SIZE	AREA		WEIGHT		TENSILE STRENGTH (MINIMUM) PSI	BREAKING STRENGTH (MINIMUM) POUNDS	RESISTANCE @68° F OHMS PER 1000 FEET
	CIRCULAR MILS	SQUARE INCHES	POUNDS PER 1000 FEET	POUNDS PER MILE			
1/0 AWG	105,600	.0829	319.5	1,687	55,000	4,560	.10108
2/0 AWG	133,100	.1045	402.8	2,127	54,000	5,644	.08020
3/0 AWG	167,800	.1318	507.8	2,681	53,000	6,986	.06361
4/0 AWG	211,600	.1662	640.5	3,382	51,500	8,560	.05044
300 MCM	300,000	.2356	908.0	4,794	48,500	11,427	.03558

Round Trolley Wire Specification : ASTM B9 Copper Alloy UNS NO. C16200 (Alloy 80)

SIZE	AREA		WEIGHT		TENSILE STRENGTH (MINIMUM) PSI	BREAKING STRENGTH (MINIMUM) POUNDS	RESISTANCE @68° F OHMS PER 1000 FEET
	CIRCULAR MILS	SQUARE INCHES	POUNDS PER 1000 FEET	POUNDS PER MILE			
1/0 AWG	105,600	.0829	319.5	1,687	72,000	5,969	.12277
2/0 AWG	133,100	.1045	402.8	2,127	69,000	7,211	.09740
3/0 AWG	167,800	.1318	507.8	2,681	67,000	8,831	.07726
4/0 AWG	211,600	.1662	640.5	3,382	65,500	10,803	.06127

Round Trolley Wire Specification : ASTM B9 Copper Alloy UNS NO. C16500 (Alloy 55)

SIZE	AREA		WEIGHT		TENSILE STRENGTH (MINIMUM) PSI	BREAKING STRENGTH (MINIMUM) POUNDS	RESISTANCE @68° F OHMS PER 1000 FEET
	CIRCULAR MILS	SQUARE INCHES	POUNDS PER 1000 FEET	POUNDS PER MILE			
1/0 AWG	105,600	.0829	319.5	1,687	76,000	6,301	.17857
2/0 AWG	133,100	.1045	402.8	2,127	73,000	7,629	.14168
3/0 AWG	167,800	.1318	507.8	2,681	71,000	9,358	.11238
4/0 AWG	211,600	.1662	640.5	3,362	69,000	11,468	.08912
300 MCM	300,000	.2356	908.0	4,794	64,800	15,267	.06286

TROLLEY WIRE (CONTINUED)



BAYWAY OPERATIONS

Figure – 8 Trolley Wire Specification : ASTM B116 Copper Alloy UNS NO. C11000



SIZE	AREA		WEIGHT		TENSILE STRENGTH (MINIMUM) PSI	BREAKING STRENGTH (MINIMUM) POUNDS	RESISTANCE @68° F OHMS PER 1000 FEET
	CIRCULAR MILS	SQUARE INCHES	POUNDS PER 1000 FEET	POUNDS PER MILE			
1/0 AWG	105,600	.0829	319.5	1,687	51,800	4,294	.10108
2/0 AWG	133,100	.1045	402.8	2,127	50,200	5,246	.08020
3/0 AWG	167,800	.1318	507.9	2,682	48,500	6,392	.06361
4/0 AWG	211,600	.1662	640.5	3,382	46,600	7,745	.05044
350 MCM	350,100	.2750	1060.0	5,597	42,800	11,770	.03049

Grooved Trolley Wire Specification : ASTM B47 Copper Alloy UNS NO. C11000



SIZE	AREA		WEIGHT		TENSILE STRENGTH (MINIMUM) PSI	BREAKING STRENGTH (MINIMUM) POUNDS	RESISTANCE @68° F OHMS PER 1000 FEET
	CIRCULAR MILS	SQUARE INCHES	POUNDS PER 1000 FEET	POUNDS PER MILE			
2/0 AWG	137,900	.1083	417.6	2,205	50,200	5,437	.07740
3/0 AWG	167,300	.1314	506.4	2,674	48,500	6,373	.06380
4/0 AWG	212,000	.1665	641.8	3,389	46,600	7,759	.05035
300 MCM	299,800	.2355	907.6	4,792	44,200	10,409	.03560
350 MCM	351,200	.2758	1062.8	5,612	42,800	11,804,804	.03039

Grooved Trolley Wire Specification : ASTM B47 Copper Alloy UNS NO. C10700 (Silver Bearing)



SIZE	AREA		WEIGHT		TENSILE STRENGTH (MINIMUM) PSI	BREAKING STRENGTH (MINIMUM) POUNDS	RESISTANCE @68° F OHMS PER 1000 FEET
	CIRCULAR MILS	SQUARE INCHES	POUNDS PER 1000 FEET	POUNDS PER MILE			
2/0 AWG	137,900	.1083	417.6	2,205	53,000	5,740	.07740
3/0 AWG	167,300	.1314	506.4	2,674	52,700	6,925	.06380
4/0 AWG	212,000	.1665	641.8	3,389	51,300	8,541	.05035
300 MCM	299,800	.2355	907.6	4,792	48,000	11,304	.03560
350 MCM	351,200	.2758	1062.8	5,612	44,600	12,300	.03039

Grooved Trolley Wire Specification : ASTM B9 Copper Alloy UNS NO. C16200 (Alloy 80)



SIZE	AREA		WEIGHT		TENSILE STRENGTH (MINIMUM) PSI	BREAKING STRENGTH (MINIMUM) POUNDS	RESISTANCE @68° F OHMS PER 1000 FEET
	CIRCULAR MILS	SQUARE INCHES	POUNDS PER 1000 FEET	POUNDS PER MILE			
2/0 AWG	137,900	.1083	417.6	2,205	69,000	7,473	.09401
3/0 AWG	167,300	.1314	506.4	2,674	67,000	8,804	.07749
4/0 AWG	212,000	.1665	641.8	3,389	65,000	10,822	.06115
300 MCM	299,800	.2355	907.6	4,792	61,500	14,483	.04324
350 MCM	351,200	.2758	1062.8	5,612	59,500	16,410	.03691

Grooved Trolley Wire Specification : ASTM B9 Copper Alloy UNS NO. C16500 (Alloy 55)



SIZE	AREA		WEIGHT		TENSILE STRENGTH (MINIMUM) PSI	BREAKING STRENGTH (MINIMUM) POUNDS	RESISTANCE @68° F OHMS PER 1000 FEET
	CIRCULAR MILS	SQUARE INCHES	POUNDS PER 1000 FEET	POUNDS PER MILE			
2/0 AWG	137,900	.1083	417.6	2,205	73,000	7,906	.13674
3/0 AWG	167,300	.1314	506.4	2,674	71,000	9,329	.11271
4/0 AWG	212,000	.1665	641.8	3,389	69,000	11,489	.08895
300 MCM	299,800	.2355	907.6	4,792	64,800	15,280	.06290
350 MCM	351,200	.2758	1062.8	5,612	62,500	17,238	.05369


NEXT PAGE

TROLLEY WIRE (CONTINUED)




BAYWAY OPERATIONS

Figure – 9 Deep-Section Grooved Trolley Wire Specification : ASTM B116 Copper Alloy UNS NO. C11000




SIZE	AREA		WEIGHT		TENSILE STRENGTH (MINIMUM) PSI	BREAKING STRENGTH (MINIMUM) POUNDS	RESISTANCE @68° F OHMS PER 1000 FEET
	CIRCULAR MILS	SQUARE INCHES	POUNDS PER 1000 FEET	POUNDS PER MILE			
350 MCM	348,900	.2740	1056.0	5,576	42,800	11,727	.03059
400 MCM	397,200	.3120	1202.0	6,347	41,300	12,885	.02687

Figure – 9 Deep-Section Grooved Trolley Wire Specification : ASTM B9 Copper Alloy UNS NO. C16200 (Alloy 80)



SIZE	AREA		WEIGHT		TENSILE STRENGTH (MINIMUM) PSI	BREAKING STRENGTH (MINIMUM) POUNDS	RESISTANCE @68° F OHMS PER 1000 FEET
	CIRCULAR MILS	SQUARE INCHES	POUNDS PER 1000 FEET	POUNDS PER MILE			
335 MCM	336,400	.2642	1020.1	5,386	56,800	15,007	.03854

Figure – 9 Deep-Section Grooved Trolley Wire Specification : ASTM B9 Copper Alloy UNS NO. C16500 (Alloy 55)



SIZE	AREA		WEIGHT		TENSILE STRENGTH (MINIMUM) PSI	BREAKING STRENGTH (MINIMUM) POUNDS	RESISTANCE @68° F OHMS PER 1000 FEET
	CIRCULAR MILS	SQUARE INCHES	POUNDS PER 1000 FEET	POUNDS PER MILE			
335 MCM	336,400	.2642	1020.1	5,386	61,500	16,248	.05605