

4THOUGHT™

4/0 GAUGE COPPERWELD® CCS

STRONGER | LASTS LONGER | RELIABLE

GENERATION PLANTS | SUBSTATIONS | SWITCH YARDS | INDUSTRIAL INSTALLATIONS

CHOOSING THE RIGHT 4/0 REQUIRES 4THOUGHT™

DIRECT SIZE REPLACEMENT TO 4/0 COPPER CABLE

- Same corrosion resistance to solid CU
- Suitable ampacity/ fusing current
- Utilizes same size connectors
- Similar flexibility to CU

LONGEVITY

- 4Thought™ has 2x fatigue capability

COST REDUCTION

- 4Thought™ saves money over copper 4/0 cables

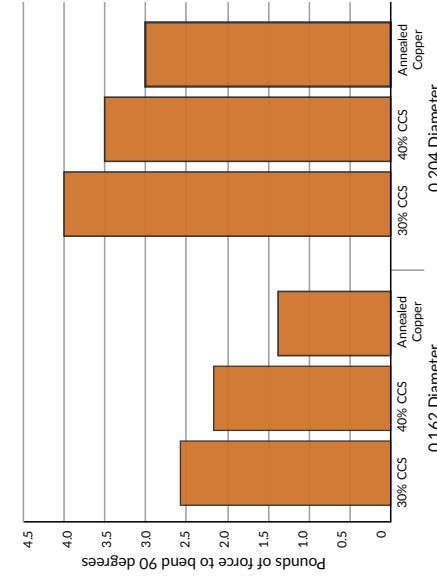
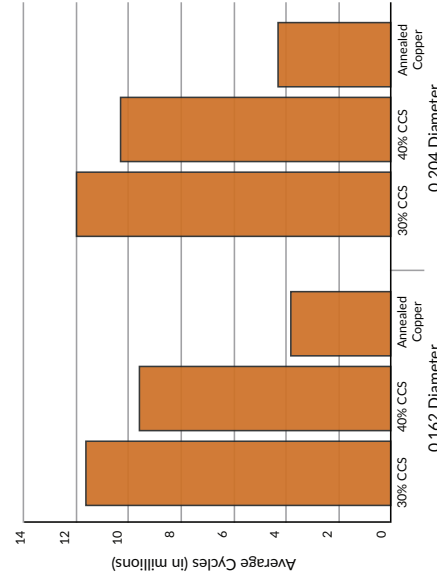
IS 4/0 COPPER CABLE OVERKILL?

- Over designs cost too much- 42kA is often too much

FUSING CURRENT ULTIMATE & IEEE FOR CCS

Conductor Size AWG	Cross Section Area				3 cycles 0.05 sec		6 cycles 0.1 sec		30 cycles 0.5 sec		60 cycles 1 sec		120 cycles 2 sec	
	cmil		mm ²		IEEE	Ultimate	IEEE	Ultimate	IEEE	Ultimate	IEEE	Ultimate	IEEE	Ultimate
	19 No. 5	628,665	0.4938	318.55	330.29	190.17	233.55	85.05	104.45	60.14	73.86	42.52	52.22	42.52
19 No. 6	498,636	0.3916	252.66	261.98	150.84	185.25	67.46	82.84	47.70	58.58	33.73	41.42	33.73	41.42
19 No. 7	395,627	0.3107	200.47	207.86	119.68	146.98	53.52	65.73	37.85	46.48	26.76	32.87	26.76	32.87
19 No. 8	313,733	0.2464	158.97	164.83	94.91	116.55	42.44	52.12	30.01	36.86	21.22	26.06	21.22	26.06
19 No. 9	248,660	0.1953	126.00	130.64	75.22	92.38	33.64	41.31	23.79	29.21	16.82	20.66	16.82	20.66
4THOUGHT™ 4/0	211,475	0.1661	107.16	111.11	63.97	78.56	28.61	35.13	20.23	24.84	14.30	17.57	14.30	17.57
7 No. 4	292,169	0.2295	148.04	153.50	88.38	108.54	39.53	48.54	27.95	34.32	19.76	24.27	19.76	24.27
7 No. 5	231,613	0.1819	117.36	121.69	70.06	86.05	31.33	38.48	22.16	27.21	15.67	19.24	15.67	19.24
7 No. 6	183,708	0.1443	93.09	96.52	55.57	68.25	24.85	30.52	17.57	21.58	12.43	15.26	12.43	15.26
7 No. 7	145,757	0.1145	73.86	76.58	44.09	54.15	19.72	24.22	13.94	17.12	9.86	12.11	9.86	12.11
7 No. 8	115,586	0.0908	58.57	49.45	34.97	42.94	15.64	19.20	11.06	13.58	7.82	9.60	7.82	9.60
7 No. 9	91,612	0.0720	46.42	39.19	27.71	34.03	12.39	15.22	8.76	10.76	6.20	7.61	6.20	7.61
7 No. 10	72,685	0.0571	36.83	31.10	21.99	27.00	9.83	12.08	6.95	8.54	4.92	6.04	4.92	6.04
No. 2	66,368	0.0521	33.63	28.39	20.08	24.66	8.98	11.03	6.35	7.80	4.49	5.51	4.49	5.51
No. 2 (Strand)	51,772	0.0407	26.23	22.15	15.66	19.23	7.00	8.60	4.95	6.08	3.50	4.30	3.50	4.30
No. 4	41,738	0.0328	21.15	17.86	12.63	15.51	5.65	6.93	3.99	4.90	2.82	3.47	2.82	3.47
No. 4 (Strand)	32,368	0.0254	16.40	13.85	9.79	12.02	4.38	5.38	3.10	3.80	2.19	2.69	2.19	2.69
No. 6	26,250	0.0206	13.30	11.23	7.94	9.75	3.55	4.36	2.51	3.08	1.78	2.18	1.78	2.18

FATIGUE TEST OF SELECTED GAGES BEND TEST OF SELECTED GAGES 4THOUGHT™ SPECIFICATIONS & STANDARDS



Number of single wires in strand	19
Diameter of single wire	0.1055 inch
	2.68 mm
Overall diameter	0.5275 inch
	13.40 mm
Area	211.47 kcmil
	107.16 mm ²
Weight	601.25 lbs/1000ft
	894.78 kg/km
Wire resistance	0.1268 Ω/1000 ft
	0.4161 Ω/km
Minimum break loads	5979 lbf
	2712 kgf
Minimum elongation	15 %
Fusing current at 30 cycles (0.5 sec)	28.60 kA
Fusing current at 3 cycles (0.05 sec)	90.47 kA