

Table B.310.10 {Detail 9 - One Circuit, 3-1/c Spaced Directly Buried}

0-2000 Volt Cable, Ambient Earth Temperature = 20 Deg C, Earth Thermal resistivity (RHO) = 90,
Load Factor = 100%, Conductor Temperature = 75C (167F).

Size (AWG or kcmil)		1 Set of 3 Spaced 1/c Cables (Fig. B-310-2, Detail 9)															
		60C (140F)	75C (167F)	60C (140F)	75C (167F)	60C (140F)	75C (167F)	60C (140F)	75C (167F)	60C (140F)	75C (167F)	60C (140F)	75C (167F)				
Size (AWG or kcmil)		TYPES															
		UF	USE	UF	USE	UF	USE	UF	USE	UF	USE	UF	USE				
Size (AWG or kcmil)		ALUMINUM OR COPPER-CLAD ALUMINUM															
		NEC	AmpCalc		%Deviation		NEC	AmpCalc		%Deviation		NEC	AmpCalc		%Deviation		
COPPER																	
8	84 98	85.9	98.2	2.3%	0.2%	66 77	66.9	76.5	1.4%	-0.6%	84 98	85.7	98.0	2.0%	0.0%		
6	107 126	109.9	125.7	2.7%	-0.2%	84 98	85.7	98.0	2.0%	0.0%	107 126	109.9	125.7	2.7%	-0.2%		
4	139 163	142.5	163.0	2.5%	0.0%	108 127	111.1	127.0	2.9%	0.0%	139 163	142.5	163.0	2.5%	0.0%		
2	178 209	182.7	209.0	2.6%	0.0%	139 163	142.5	162.9	2.5%	-0.1%	178 209	182.7	209.0	2.6%	0.0%		
1	201 236	206.6	236.4	2.8%	0.2%	157 184	161.1	184.2	2.6%	0.1%	201 236	206.6	236.4	2.8%	0.2%		
1/0	230 270	235.3	269.1	2.3%	-0.3%	179 210	183.5	209.8	2.5%	-0.1%	230 270	235.3	269.1	2.3%	-0.3%		
2/0	261 306	267.6	306.1	2.5%	0.0%	204 239	208.7	238.7	2.3%	-0.1%	261 306	267.6	306.1	2.5%	0.0%		
3/0	297 348	304.3	348.1	2.5%	0.0%	232 272	237.4	271.4	2.3%	-0.2%	297 348	304.3	348.1	2.5%	0.0%		
4/0	336 394	343.5	392.9	2.2%	-0.3%	262 307	268.1	306.5	2.3%	-0.2%	336 394	343.5	392.9	2.2%	-0.3%		
250	- 429	-	428.7	-	-0.1%	335	-	334.5	-	-0.1%	250	-	428.7	-	-0.1%		
350	- 516	-	515.9	-	0.0%	403	-	403.1	-	0.0%	350	-	515.9	-	0.0%		
500	- 626	-	625.8	-	0.0%	490	-	490.2	-	0.0%	500	-	625.8	-	0.0%		
750	- 767	-	767.8	-	0.1%	605	-	605.3	-	0.0%	750	-	767.8	-	0.1%		
1000	- 887	-	887.6	-	0.1%	706	-	705.6	-	-0.1%	1000	-	887.6	-	0.1%		
1250	- 979	-	979.9	-	0.1%	787	-	786.6	-	-0.1%	1250	-	979.9	-	0.1%		
1500	- 1063	-	1063.2	-	0.0%	862	-	862.4	-	0.0%	1500	-	1063.2	-	0.0%		
1750	- 1133	-	1134.4	-	0.1%	930	-	929.8	-	0.0%	1750	-	1134.4	-	0.1%		
2000	- 1195	-	1195.7	-	0.1%	990	-	990.1	-	0.0%	2000	-	1195.7	-	0.1%		
Average Deviation =		2.5%		0.0%		Average Deviation =		2.3%		-0.1%		Average Deviation =		2.3%		-0.1%	

* See the note on page 3 regarding ampacity ratings for the 60C UF cable.

AmpCalc References:

AmpCalc Library = IEERUB_1, AmpCalc Volume = IEERUB1, 1 kV non-shielded.

NEC ampacities obtained from "NFPA 70, National Electric Code, 2002 Edition", © 2002, National Fire Protection Association, Inc.
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Table B.310.10 {Detail 10 - Two Circuits, 6-1/c Spaced Directly Buried}

0-2000 Volt Cable, Ambient Earth Temperature = 20 Deg C, Earth Thermal resistivity (RHO) = 90,
Load Factor = 100%, Conductor Temperature = 75C (167F).

Size (AWG or kcmil)		2 Sets of 3 Spaced 1/c Cables (Fig. B-310-2, Detail 10)															
		60C (140F)		75C (167F)		60C (140F)		75C (167F)		60C (140F)		75C (167F)		60C (140F)		75C (167F)	
		TYPES															
		UF	USE	UF	USE	UF	USE	UF	USE	UF	USE	UF	USE	UF	USE		
		COPPER															
		NEC		AmpCalc		%Deviation				NEC		AmpCalc		%Deviation			
8	78	92	80.2	91.8	2.8%	-0.2%	8	61	72	62.5	71.5	2.5%	-0.7%				
6	101	118	102.5	117.3	1.5%	-0.6%	6	78	92	79.9	91.4	2.4%	-0.7%				
4	130	152	132.4	151.5	1.8%	-0.3%	4	101	118	103.2	118.0	2.2%	0.0%				
2	165	194	169.4	193.7	2.7%	-0.2%	2	129	151	132.0	151.0	2.3%	0.0%				
1	187	219	191.4	218.9	2.4%	0.0%	1	146	171	149.2	170.6	2.2%	-0.2%				
1/0	212	249	217.4	248.7	2.5%	-0.1%	1/0	165	194	169.6	193.9	2.8%	-0.1%				
2/0	241	283	246.9	282.4	2.4%	-0.2%	2/0	188	220	192.5	220.1	2.4%	0.0%				
3/0	274	321	280.1	320.5	2.2%	-0.2%	3/0	213	250	218.6	249.9	2.6%	0.0%				
4/0	309	362	315.9	361.4	2.2%	-0.2%	4/0	241	283	246.5	281.9	2.3%	-0.4%				
250	-	394	-	394.1	-	0.0%	250	-	308	-	307.5	-	-0.2%				
350	-	474	-	472.8	-	-0.3%	350	-	370	-	369.4	-	-0.2%				
500	-	572	-	571.7	-	-0.1%	500	-	448	-	447.8	-	0.0%				
750	-	700	-	700.0	-	0.0%	750	-	552	-	551.9	-	0.0%				
1000	-	808	-	807.1	-	-0.1%	1000	-	642	-	641.7	-	0.0%				
1250	-	891	-	890.4	-	-0.1%	1250	-	716	-	714.7	-	-0.2%				
1500	-	965	-	964.5	-	-0.1%	1500	-	783	-	782.3	-	-0.1%				
1750	-	1027	-	1027.6	-	0.1%	1750	-	843	-	842.3	-	-0.1%				
2000	-	1082	-	1081.8	-	0.0%	2000	-	897	-	895.8	-	-0.1%				
		Average Deviation =		2.3%		-0.1%				Average Deviation =		2.4%		-0.2%			

* See the note on page 3 regarding ampacity ratings for the 60C UF cable.

AmpCalc References:

AmpCalc Library = IEERUB_1, AmpCalc Volume = IEERUB1, 1 kV non-shielded.

NEC ampacities obtained from "NFPA 70, National Electric Code, 2002 Edition", © 2002, National Fire Protection Association, Inc.
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For the 60C ratings AmpCalc consistently calculates values 2% to 3% higher than the NEC. The NEC 75C ratings are identical to Standard S-135 but the NEC 60C ratings are unexplicably 2% to 3% lower than the S-135 values. Note in the sample table below that the calculated AmpCalc values correspond closely to the S-135 figures.

Detail 9 - One Circuit, 3-1/c Spaced Directly Buried Comparison with IEEE S-135, (IPCEA P-46-426)

Size (AWG or kcmil)	60C	75C		60C	75C		60C	75C
	(140F)	(167F)		(140F)	(167F)		(140F)	(167F)
	TYPES							
	UF	USE		UF	USE		UF	USE
COPPER								
	S-135			AmpCalc			%Deviation	
8	86	98		85.9	98.2		-0.1%	0.2%
6	110	126		109.9	125.7		-0.1%	-0.2%
4	143	163		142.5	163.0		-0.3%	0.0%
2	183	209		182.7	209.0		-0.2%	0.0%
1	207	236		206.6	236.4		-0.2%	0.2%
1/0	236	270		235.3	269.1		-0.3%	-0.3%
2/0	268	306		267.6	306.1		-0.1%	0.0%
3/0	305	348		304.3	348.1		-0.2%	0.0%
4/0	344	394		343.5	392.9		-0.1%	-0.3%
Average Deviation =							-0.2%	0.0%

AmpCalc References:

AmpCalc Library = IEERUB_1, AmpCalc Volume = IEERUB1, 1 kV non-shielded.

S-135 ampacities obtained from IEEE S-135, IPCEA P-46-426, "IEEE-IPCEA Power Cable Ampacities", © 1962, IPCEA. Remainder of table, © 2002, CalcWare, All Rights Reserved.