

Table 310.83 {Detail 5 - One Circuit, 1-3/c Directly Buried}

Ambient Earth Temperature = 20 Deg C, Earth Thermal resistivity (RHO) = 90, Load Factor = 100%, Copper Conductors.

1 Circuit, 1-3/c Copper Cables (Fig. B-310-60, Detail 5)																			
COPPER							COPPER												
Size (AWG or kcmil)	2001-5000 Volts						5001-35,000 Volts												
	Ampacity						Ampacity												
	90C (194F) Type MV-90	105C (221F) Type MV-105		90C (194F) Type MV-90	105C (221F) Type MV-105		90C (194F) Type MV-90	105C (221F) Type MV-105		90C (194F) Type MV-90	105C (221F) Type MV-105		90C (194F) Type MV-90	105C (221F) Type MV-105					
	NEC			AmpCalc			%Deviation			NEC			AmpCalc			%Deviation			
8	85	89		78.1	84.1		-8.1%	-5.5%		-	-		-	-		-	-		
6	105	115		101.7	109.6		-3.1%	-4.7%		115	120		111.5	120.1		-3.0%	0.1%		
4	135	150		132.1	142.3		-2.1%	-5.1%		142	155		144.2	155.4		1.5%	0.3%		
2	180	190		170.5	183.7		-5.3%	-3.3%		185	200		184.1	198.5		-0.5%	-0.8%		
1	200	215		195.2	210.3		-2.4%	-2.2%		210	225		210.0	226.4		0.0%	0.6%		
1/0	230	245		222.7	239.9		-3.2%	-2.1%		240	255		238.8	257.6		-0.5%	1.0%		
2/0	260	280		254.0	273.7		-2.3%	-2.3%		270	290		269.7	290.8		-0.1%	0.3%		
3/0	295	320		289.8	312.3		-1.8%	-2.4%		305	330		306.4	330.5		0.5%	0.2%		
4/0	335	360		329.0	354.5		-1.8%	-1.5%		350	375		348.1	375.5		-0.5%	0.1%		
250	365	395		361.2	389.3		-1.0%	-1.4%		380	410		381.4	411.6		0.4%	0.4%		
350	440	475		436.3	470.4		-0.8%	-1.0%		460	495		457.5	494.0		-0.5%	-0.2%		
500	530	570		523.9	565.5		-1.2%	-0.8%		550	590		552.2	596.7		0.4%	1.1%		
750	650	700		633.3	684.7		-2.6%	-2.2%		665	720		673.2	729.0		1.2%	1.3%		
1000	730	785		726.7	787.2		-0.5%	0.3%		750	810		763.7	828.7		1.8%	2.3%		
Average Deviation =								-2.6%	-2.4%	Average Deviation =								0.0%	0.5%

AmpCalc References:

AmpCalc Library = IEERUB_3
 AmpCalc Volume = IEERUB1
 1 kV non-shielded

AmpCalc Library = IEERUB_3
 AmpCalc Volume = IEERUB8 for #6, 4 , IEERUB15 for all others
 8 or 15 kV shielded with both ends grounded

NEC ampacities obtained from "NFPA 70, National Electric Code, 2002 Edition", © 2002, National Fire Protection Association, Inc.
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Table 310.83 {Detail 6 - Two Circuits, 2-3/c Directly Buried}

Ambient Earth Temperature = 20 Deg C, Earth Thermal resistivity (RHO) = 90, Load Factor = 100%, Copper Conductors.

2 Circuits, 2-3/c Copper Cables (Fig. B-310-60, Detail 6)																			
COPPER							COPPER												
Size (AWG or kcmil)	2001-5000 Volts Ampacity						5001-35,000 Volts Shielded Ampacity												
	90C (194F) Type MV-90	105C (221F) Type MV-105		90C (194F) Type MV-90	105C (221F) Type MV-105		90C (194F) Type MV-90	105C (221F) Type MV-105		90C (194F) Type MV-90	105C (221F) Type MV-105	90C (194F) Type MV-90	105C (221F) Type MV-105						
	NEC			AmpCalc			%Deviation			NEC			AmpCalc			%Deviation			
	8	80	84		73.9	79.7		-7.6%	-5.1%		-	-		-	-		-	-	
6	100	105		96.0	103.4		-4.0%	-1.5%		105	115		104.0	112.0		-1.0%	-2.6%		
4	130	140		124.2	133.9		-4.5%	-4.4%		135	145		134.0	144.4		-0.7%	-0.4%		
2	165	180		159.9	172.3		-3.1%	-4.3%		170	185		170.7	184.1		0.4%	-0.5%		
1	185	200		182.6	196.7		-1.3%	-1.7%		195	210		194.2	209.5		-0.4%	-0.2%		
1/0	215	230		207.9	224.0		-3.3%	-2.6%		220	235		220.5	237.8		0.2%	1.2%		
2/0	240	260		236.7	255.0		-1.4%	-1.9%		250	270		248.6	268.2		-0.6%	-0.7%		
3/0	275	295		269.4	290.3		-2.0%	-1.6%		280	305		281.9	304.1		0.7%	-0.3%		
4/0	310	335		305.3	329.0		-1.5%	-1.8%		320	345		319.5	344.7		-0.2%	-0.1%		
250	340	365		334.7	360.7		-1.6%	-1.2%		350	375		349.4	377.1		-0.2%	0.6%		
350	410	440		402.8	434.3		-1.8%	-1.3%		420	450		417.5	450.9		-0.6%	0.2%		
500	490	525		482.5	520.8		-1.5%	-0.8%		500	535		501.6	542.3		0.3%	1.4%		
750	595	640		582.2	629.4		-2.2%	-1.7%		605	650		608.2	658.8		0.5%	1.4%		
1000	665	715		665.2	720.7		0.0%	0.8%		675	730		687.0	745.8		1.8%	2.2%		
Average Deviation =								-2.5%	-2.1%	Average Deviation =								0.0%	0.2%

AmpCalc References:

AmpCalc Library = IEERUB_3
 AmpCalc Volume = IEERUB1
 1 kV non-shielded

AmpCalc Library = IEERUB_3
 AmpCalc Volume = IEERUB8 for #6, 4 , IEERUB15 for all others
 8 or 15 kV shielded with both ends grounded

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