

EPR, 105C, TAPE SHIELD, 133% INSULATION, COPPER, THREE CONDUCTORS PER FEEDER

CONDUCTOR SIZE	GROUND SIZE (1)	APPROX. O.D. INCHES (2)	APPROX. WEIGHT LBS/1000' (2)	AMPACITY IN DUCT (3)	MIN. BENDING RADIUS INCHES (4)	CONDUIT SIZE (5)	JAM RATIO (6)	PERCENT FILL (7)	MAX. PULLING TENSION LBS (8)	MAX. SIDEWALL PRESSURE LB-FT
BICC CABLE										
2 AWG	6 AWG	1.01	685	115	12.1	6	5.94	8.6%	1,060	500
2/0 AWG	4 AWG	1.13	979	165	13.6	6	5.31	10.8%	2,130	500
4/0 AWG	2 AWG	1.23	1299	205	14.8	6	4.88	13.0%	3,380	500
350 KCMIL (9)	4/0 AWG	1.41	1875	265	16.9	6	4.26	16.9%	5,600	500
500 KCMIL	4/0 AWG	1.53	2440	310	18.4	6	3.92	19.9%	6,500	500
750 KCMIL (10)	4/0 AWG	1.72	3378	375	20.6	6	3.49	25.0%	6,500	500
KERITE CABLE										
2 AWG	6 AWG	1.06	725	115	12.7	6	5.66	9.5%	1,062	675
2/0 AWG	4 AWG	1.19	1021	165	14.3	6	5.04	11.9%	2,130	675
4/0 AWG	2 AWG	1.29	1344	205	15.5	6	4.65	14.2%	3,386	675
350 KCMIL (9)	4/0 AWG	1.47	1916	265	17.6	6	4.08	18.4%	5,600	675
500 KCMIL	4/0 AWG	1.60	2478	310	19.2	6	3.75	21.5%	8,000	675
750 KCMIL (10)	4/0 AWG	1.87	3533	375	22.4	6	3.21	29.5%	12,000	675
OKONITE CABLE										
2 AWG	6 AWG	1.00	670	115	12.0	6	6.00	8.4%	1,062	500
2/0 AWG	4 AWG	1.11	955	165	13.3	6	5.41	10.4%	2,130	500
4/0 AWG	2 AWG	1.21	1265	205	14.5	6	4.96	12.5%	3,386	500
350 KCMIL (9)	4/0 AWG	1.37	1810	265	16.4	6	4.38	16.0%	5,600	500
500 KCMIL	4/0 AWG	1.49	2355	310	17.9	6	4.03	18.8%	8,000	500
750 KCMIL (10)	4/0 AWG	1.73	3360	375	20.8	6	3.47	25.3%	10,000	500
2 AWG	6 AWG	NOT RECOMMENDED, CONSIDER TRIPLEX --->				4	4.00	19.0%		
2/0 AWG	4 AWG					4	3.60	23.4%		
4/0 AWG	2 AWG					4	3.31	28.2%		
350 KCMIL (9)	4/0 AWG					4	2.92	36.0%		

NOTES:

- (1) BARE COPPER FOR STEEL OR PVC CONDUIT. INSULATED WIRE FOR ALUMINUM CONDUIT.
- (2) BASED ON BICC UNIBLEND POWER CABLE P/N 17031-130200, -135200, -135400, -136200, -136500, -137000; KERITE POWER CABLE TYPE MV-105 CAT. NO. 102C15-C4400, 121C15-, 141C15-, 135C15-, 150C15-, 175C15-; OKONITE TYPE MV-105 133% INSULATION CABLE CAT # 115-23-3111, -3117, -3121, -3127, -3131, -3135.
- (3) PER LATEST VERSION OF NEC ADOPTED BY AHJ, FOLLOW TABLE FOR "AMPACITIES OF THREE SINGLE-INSULATED COPPER CONDUCTORS IN UNDERGROUND ELECTRIC DUCTS (THREE CONDUCTORS PER ELECTRIC DUCT) BASED ON AMBIENT EARTH TEMPERATURE OF 20°C (68°F), ELECTRICAL DUCT ARRANGEMENT PER FIGURE 310.60, 100 PERCENT LOAD FACTOR, THERMAL RESISTANCE (RHO) OF 90, CONDUCTOR TEMPERATURES OF 90°C (194°F) AND 105°C (221°F)." IN 310.60 DETAIL 3, DIMENSIONS SHALL BE 30" TO TOP OF DUCT, 7-1/2" CENTERS, 6 CIRCUITS.
- (4) 12 X CABLE OD FOR SHIELDED CONDUCTORS - PER PER LATEST VERSION OF NEC ADOPTED BY THE AHJ, ARTICLE 300 (CONDUCTOR BENDING RADIUS).
- (5) 6 INCH DUCT STANDARD FOR MAIN DUCTBANKS. 4 INCH DUCT STANDARD FOR LOAD SPECIFIC FEEDERS <200A.
- (6) CONDUIT ID/CABLE OD. 2.8 TO 3.2 = CRITICAL AREA TO BE AVOIDED
- (7) BARE GROUND CONDUCTOR ASSUMED.
- (8) $T = 0.008 \times 2 \text{ CONDUCTORS (CRADLED POSITION ASSUMED)} \times \text{CIRCULAR MILLS}$. ALL MANUFACTURER'S USE SOME VARIATION OF THIS FORMULA. BICC'S VALUES ARE FROM A TABLE. OKONITE LIMITS MAXIMUM TENSION TO 10,000 LBS. SIDEWALL PRESSURE IS USUALLY THE LIMITING FACTOR.
- (9) STIA STANDARD FEEDER CABLE SIZE
- (10) 750KCMIL TO BE USED ON AN EXCEPTION BASIS ONLY



Port of Seattle

DESIGNED BY DCR	DATE 6/25/03	DETAIL: STIA, F&I STANDARD DETAILS STANDARD STIA 12.47KV FEEDER AND DUCT SIZES	
DRAWN BY JAS	DATE 6/25/03		
CHECKED BY JAS	DATE 6/25/03		
APPROVED BY	DATE	REVISION: 1	DESCRIPTION: UPDATED NEC REFERENCES. 1/28/15
			STD: 260513 01