RESUMEN

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400 kV

$Z_1 = 0,0346 + j0,3208\ \Omega$ / km

$R_0 = 0.1828(\Omega / km)$

ρ	5	10	20	50	100	200	500	1000
X_0	0.8659	0.9312	0.9965	1.0829	1.1482	1.2136	1.3000	1.3653
X_0/X_1	2.70	2.90	3.11	3.38	3.58	3.78	4.05	4.26

$R_{0m} = 0.1482(\Omega / km)$

ρ	5	10	20	50	100	200	500	1000
X_{0m}	0.4559	0.5212	0.5866	0.6729	0.7383	0.8036	0.8900	0.9553
X_{0m}/X_1	1.42	1.62	1.83	2.10	2.30	2.50	2.77	2.98

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220 kV

$Z_1 = 0,0829 + j0,4135\ \Omega$ / km

$R_0 = 0.2311(\Omega / km)$

ρ	5	10	20	50	100	200	500	1000
X_0	1.0261	1.0915	1.1568	1.2432	1.3085	1.3739	1.4602	1.5256
X_0/X_1	2.48	2.64	2.80	3.01	3.16	3.32	3.53	3.69

$R_{0m} = 0.1482(\Omega / km)$

ρ	5	10	20	50	100	200	500	1000
X_{0m}	0.5207	0.5860	0.6514	0.7377	0.8031	0.8684	0.9548	1.0201
X_{0m}/X_1	1.26	1.42	1.58	1.78	1.94	2.10	2.31	2.47

132kV

$Z_1 = 0,1342 + j0,4042\ \Omega$ / km

$R_0 = 0.2824(\Omega / km)$

ρ	5	10	20	50	100	200	500	1000
X_0	1.0895	1.1548	1.2201	1.3065	1.3718	1.4372	1.5236	1.5889
X_0/X_1	2.70	2.86	3.02	3.23	3.39	3.56	3.77	3.93

$R_{0m} = 0.1482(\Omega / km)$

ρ	5	10	20	50	100	200	500	1000
X_{0m}	0.6123	0.6777	0.7430	0.8294	0.8947	0.9601	1.0464	1.1118
X_{0m}/X_1	1.51	1.68	1.84	2.05	2.21	2.38	2.59	2.75

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66 kV

$Z_1 = 0,2156 + j0,3952\ \Omega$ / km

$R_0 = 0.3636(\Omega / km)$

ρ	5	10	20	50	100	200	500	1000
X_0	1.1454	1.2107	1.2760	1.3624	1.4278	1.4931	1.5795	1.6448
X_0/X_1	2.90	3.06	3.23	3.45	3.61	3.78	4.00	4.16

$R_{0m} = 0.1482(\Omega / km)$

ρ	5	10	20	50	100	200	500	1000
X_{0m}	0.6464	0.7117	0.7771	0.8635	0.9288	0.9941	1.0805	1.1458
X_{0m}/X_1	1.64	1.80	1.97	2.18	2.35	2.52	2.73	2.90

Constantes Adoptadas:

Adoptando $\rho = 100(\Omega m^2 / m)$

Impedancias en Ω / km

Tensión (kV)	Z_1	Z_0	Z_{0m}
400	0.0346 + j 0.3208	0.1828 + j 1.1482	0.1482 + j 0.7383
220	0.0829 + j 0.4135	0.2311 + j 1.3085	0.1482 + j 0.8031
132	0.1342 + j 0.4042	0.2824 + j 1.3718	0.1482 + j 0.8947
66	0.2156 + j 0.3952	0.3636 + j 1.4278	0.1482 + j 0.9288