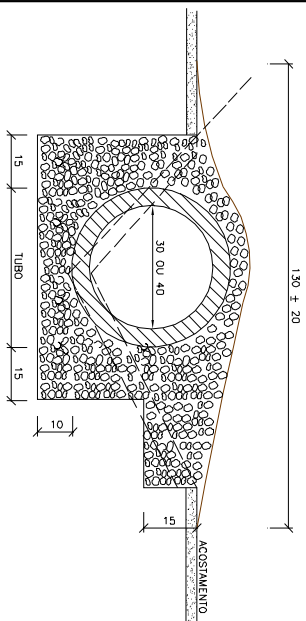


TRANSPOSIÇÃO DE SEGMENTOS DE SARJETAS (I)

SEÇÃO TRANSVERSAL



CONSUMOS MÉDIOS

TUBO DE CONCRETO	$\beta=30$	$\beta=40$
CONCRETO fck > 15MPa	< 0,30m ³ /m	< 0,35m ³ /m
ESCAMAÇÃO	< 0,35m ³ /m	< 0,40m ³ /m

ISS 01 ISS 02

- NOTAS:
- 1 - Dimensões em cm.
 - 2 - Concreto fck ≥ 15 MPa.
 - 3 - As voletas serão executadas em trechos alternados de 3m, seremos juntas feitas com prisma serrilhado (SPS).

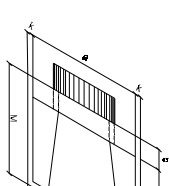
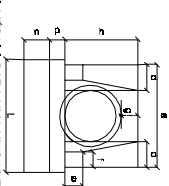
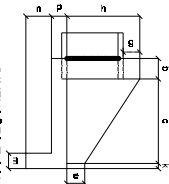
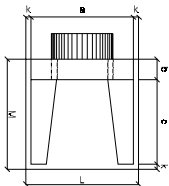
BUERO SIMPLES TUBULAR DE CONCRETO - BOCAS NORMAIS E ESCONSAS (I)

PLANTA NORMAL

VISTA LATERAL

VISTA FRONTAL

PLANTA ESCOISO



BUERO SIMPLES TUBULAR $\Phi=10$

Eq.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Q ²	0,01	0,02	0,03	0,04	0,05	0,06	0,07	0,08	0,09	0,10	0,11	0,12	0,13	0,14	0,15	0,16	0,17	0,18	0,19	0,20	0,21	0,22	0,23	0,24	0,25	0,26	0,27	0,28	0,29	0,30	0,31	0,32	0,33	0,34	0,35	0,36	0,37	0,38	0,39	0,40	0,41	0,42	0,43	0,44	0,45	0,46	0,47	0,48	0,49	0,50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Q ³	0,0001	0,0004	0,0009	0,0016	0,0025	0,0036	0,0049	0,0064	0,0081	0,0099	0,0119	0,0141	0,0165	0,0191	0,0219	0,0249	0,0281	0,0315	0,0351	0,0389	0,0429	0,0471	0,0515	0,0561	0,0609	0,0659	0,0711	0,0765	0,0821	0,0879	0,0939	0,0999	0,1061	0,1125	0,1191	0,1259	0,1329	0,1399	0,1471	0,1545	0,1621	0,1699	0,1779	0,1859	0,1941	0,2025	0,2109	0,2195	0,2281	0,2369	0,2459	0,2549	0,2641	0,2735	0,2831	0,2929	0,3029	0,3129	0,3231	0,3335	0,3441	0,3549	0,3659	0,3771	0,3885	0,4001	0,4119	0,4239	0,4361	0,4485	0,4611	0,4739	0,4869	0,4999	0,5131	0,5265	0,5401	0,5539	0,5679	0,5821	0,5965	0,6111	0,6259	0,6409	0,6561	0,6715	0,6871	0,7029	0,7189	0,7351	0,7515	0,7681	0,7849	0,8019	0,8191	0,8365	0,8541	0,8719	0,8901	0,9085	0,9271	0,9459	0,9649	0,9841	1,0035	1,0231	1,0429	1,0629	1,0831	1,1035	1,1241	1,1449	1,1659	1,1871	1,2085	1,2301	1,2519	1,2739	1,2961	1,3185	1,3411	1,3639	1,3869	1,4101	1,4335	1,4571	1,4809	1,5049	1,5291	1,5535	1,5781	1,6029	1,6279	1,6531	1,6785	1,7041	1,7299	1,7559	1,7821	1,8085	1,8351	1,8619	1,8889	1,9161	1,9435	1,9711	1,9989	2,0269	2,0551	2,0835	2,1121	2,1409	2,1699	2,1991	2,2285	2,2581	2,2879	2,3179	2,3481	2,3785	2,4091	2,4399	2,4709	2,5021	2,5335	2,5651	2,5969	2,6289	2,6611	2,6935	2,7261	2,7589	2,7919	2,8251	2,8585	2,8921	2,9259	2,9599	2,9941	3,0285	3,0631	3,0979	3,1329	3,1681	3,2035	3,2391	3,2749	3,3109	3,3471	3,3835	3,4201	3,4569	3,4939	3,5311	3,5685	3,6061	3,6439	3,6819	3,7201	3,7585	3,7971	3,8359	3,8749	3,9141	3,9535	3,9931	4,0329	4,0729	4,1131	4,1535	4,1941	4,2349	4,2759	4,3171	4,3585	4,4001	4,4419	4,4839	4,5261	4,5685	4,6111	4,6539	4,6969	4,7401	4,7835	4,8271	4,8709	4,9149	4,9591	5,0035	5,0481	5,0929	5,1379	5,1831	5,2285	5,2741	5,3199	5,3659	5,4121	5,4585	5,5051	5,5519	5,5989	5,6461	5,6935	5,7411	5,7889	5,8369	5,8851	5,9335	5,9821	6,0309	6,0799	6,1291	6,1785	6,2281	6,2779	6,3279	6,3781	6,4285	6,4791	6,5299	6,5809	6,6321	6,6835	6,7351	6,7869	6,8389	6,8911	6,9435	6,9961	7,0489	7,1019	7,1551	7,2085	7,2621	7,3159	7,3699	7,4241	7,4785	7,5331	7,5879	7,6429	7,6981	7,7535	7,8091	7,8649	7,9209	7,9771	8,0335	8,0901	8,1469	8,2039	8,2611	8,3185	8,3761	8,4339	8,4919	8,5501	8,6085	8,6671	8,7259	8,7849	8,8441	8,9035	8,9631	9,0229	9,0829	9,1431	9,2035	9,2641	9,3249	9,3859	9,4471	9,5085	9,5701	9,6319	9,6939	9,7561	9,8185	9,8811	9,9439	1,0069	1,0699	1,1331	1,1965	1,2601	1,3239	1,3879	1,4521	1,5165	1,5811	1,6459	1,7109	1,7761	1,8415	1,9071	1,9729	2,0389	2,1051	2,1715	2,2381	2,3049	2,3719	2,4391	2,5065	2,5741	2,6419	2,7099	2,7781	2,8465	2,9151	2,9839	3,0529	3,1221	3,1915	3,2611	3,3309	3,4009	3,4711	3,5415	3,6121	3,6829	3,7539	3,8251	3,8965	3,9681	4,0399	4,1119	4,1841	4,2565	4,3291	4,4019	4,4749	4,5481	4,6215	4,6951	4,7689	4,8429	4,9171	4,9915	5,0661	5,1409	5,2159	5,2911	5,3665	5,4421	5,5179	5,5939	5,6699	5,7461	5,8225	5,8991	5,9759	6,0529	6,1299	6,2071	6,2845	6,3621	6,4399	6,5179	6,5961	6,6745	6,7531	6,8319	6,9109	6,9901	7,0695	7,1491	7,2289	7,3089	7,3891	7,4695	7,5501	7,6309	7,7119	7,7931	7,8745	7,9561	8,0379	8,1199	8,2021	8,2845	8,3671	8,4501	8,5333	8,6167	8,7003	8,7841	8,8681	8,9523	9,0367	9,1213	9,2061	9,2911	9,3763	9,4617	9,5473	9,6331	9,7191	9,8053	9,8917	9,9783	10,0651	10,1521	10,2393	10,3267	10,4143	10,5021	10,5901	10,6783	10,7667	10,8553	10,9441	11,0331	11,1223	11,2117	11,3013	11,3911	11,4811	11,5713	11,6617	11,7523	11,8431	11,9341	12,0253	12,1167	12,2083	12,2999	12,3917	12,4837	12,5759	12,6683	12,7609	12,8537	12,9467	13,0399	13,1333	13,2269	13,3207	13,4147	13,5089	13,6033	13,6979	13,7927	13,8877	13,9829	14,0783	14,1739	14,2697	14,3657	14,4619	14,5583	14,6549	14,7517	14,8487	14,9459	15,0433	15,1409	15,2387	15,3367	15,4349	15,5333	15,6319	15,7307	15,8297	15,9289	16,0283	16,1279	16,2277	16,3277	16,4279	16,5283	16,6289	16,7297	16,8307	16,9319	17,0333	17,1349	17,2367	17,3387	17,4409	17,5433	17,6459	17,7487	17,8517	17,9549	18,0583	18,1619	18,2657	18,3697	18,4739	18,5783	18,6829	18,7877	18,8927	18,9979	19,1033	19,2089	19,3147	19,4207	19,5269	19,6333	19,7399	19,8467	19,9537	20,0609	20,1683	20,2759	20,3837	20,4917	20,5999	20,7083	20,8169	20,9257	21,0347	21,1439	21,2533	21,3629	21,4727	21,5827	21,6929	21,8033	21,9139	22,0247	22,1357	22,2469	22,3583	22,4699	22,5817	22,6937	22,8059	22,9183	23,0309	23,1437	23,2567	23,3699	23,4833	23,5969	23,7107	23,8247	23,9389	24,0533	24,1679	24,2827	24,3977	24,5129	24,6283	24,7439	24,8597	24,9757	25,0919	25,2083	25,3249	25,4417	25,5587	25,6759	25,7933	25,9109	26,0287	26,1467	26,2649	26,3833	26,5019	26,6207	26,7397	26,8589	26,9783	27,0979	27,2177	27,3377	27,4579	27,5783	27,6989	27,8197	27,9407	28,0619	28,1833	28,3049	28,4267	28,5487	28,6709	28,7933	28,9159	29,0387	29,1617	29,2849	29,4083	29,5319	29,6557	29,7797	29,9039	30,0283	30,1529	30,2777	30,4027	30,5279	30,6533	30,7789	30,9047	31,0307	31,1569	31,2833	31,4099	31,5367	31,6637	31,7909	31,9183	32,0459	32,1737	32,3017	32,4299	32,5583	32,6869	32,8157	32,9447	33,0739	33,2033	33,3329	33,4627	33,5927	33,7229	33,8533	33,9839	34,1147	34,2457	34,3769	34,5083	34,6399	34,7717	34,9037	35,0359	35,1683	35,2999	35,4317	35,5637	35,6959	35,8283	35,9609	36,0937	36,2267	36,3599	36,4933	36,6269	36,7607	36,8947	37,0289	37,1633	37,2979	37,4327	37,5677	37,7029	37,8383	37,9739	38,1097	38,2457	38,3819	38,5183	38,6549	38,7917	38,9287	39,0659	39,2033	39,3409	39,4787	39,6167	39,7549	39,8933	40,0319	40,1707	40,3097	40,4489	40,5883	40,7279	40,8677	41,0077	41,1479	41,2883	41,4289	41,5697	41,7107	41,8519	41,9933	42,1349	42,2767	42,4187	42,5609	42,7033	42,8459	42,9887	43,1317	43,2749	43,4183	43,5619	43,7057	43,8497	43,9939	44,1383	44,2829	44,4277	44,5727	44,7179	44,8633	45,0089	45,1547	45,3007	45,4469	45,5933	45,7399	45,8867	46,0337	46,1809	46,3283	46,4759	46,6237	46,7717	46,9199	47,0683	47,2169	47,3657	47,5147	47,6639	47,8133	47,9629	48,1127	48,2627	48,4129	48,5633	48,7139	48,8647	49,0157	49,1669	49,3183	49,4699	49,6217	49,7737	49,9259	50,0783	50,2309	50,3837	50,5367	50,6899	50,8433	50,9969	51,1507	51,3047	51,4589	51,6133	51,7679	51,9227	52,0777	52,2329	52,3883	52,5439	52,6997	52,8557	53,0119	53,1683	53,3249	53,4817	53,6387	53,7959	53,9533	54,1109	54,2687	54,4267	54,5849	54,7433	54,9019	55,0607	55,2197	55,3789	55,5383	55,6979	55,8577	56,0177	56,1779	56,3383