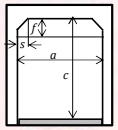
流速.流量表 (8割水深)

流速・流量計算式(マニング公式)



全断面積 $A_0=a\cdot c-s^2$ (m²)

$f \geq s$ のとき

通水断面積 $A=a(c-f)$ (m²)

潤　辺 プレキャスト部 $P_1=2(c-f)$ (m)

現場打ち部 $P_2=a$ (m)

$f<s$ のとき

通水断面積 $A=a(c-s)+(s-f)(a-s+f)$ (m²)

潤　辺 プレキャスト部 $P_1=2(c-s)+2\sqrt{2}(s-f)$ (m)

現場打ち部 $P_2=a$ (m)

潤　辺 $P=P_1+P_2$ (m)

粗度係数 $n=\left[\frac{1}{P}(P_1\cdot n_1^{1.5}+P_2\cdot n_2^{1.5})\right]^{0.5}$

プレキャスト部 $n_1=$

現場打ち部 $n_2=$

径　深 $R=A/P$ (m)

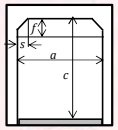
流　速 $V=1/n\cdot R^{2/3}\cdot I^{1/2}$ (m/s)

流　量 $Q=A\cdot V$ (m³/s)

サイズ		1600×600		1600×700		1600×800		1600×900		1600×1000		1600×1100		1600×1200		1600×1300		1600×1400		1600×1500		1600×1600		1600×1700		1600×1800		1600×1900		1600×2000		1600×2100		1600×2200	
a = P_2		1.600		1.600		1.600		1.600		1.600		1.600		1.600		1.600		1.600		1.600		1.600		1.600		1.600		1.600		1.600		1.600		1.600	
c		0.600		0.700		0.800		0.900		1.000		1.100		1.200		1.300		1.400		1.500		1.600		1.700		1.800		1.900		2.000		2.100		2.200	
s		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200	
f = c (1 − 0.8)		0.120		0.140		0.160		0.180		0.200		0.220		0.240		0.260		0.280		0.300		0.320		0.340		0.360		0.380		0.400		0.420		0.440	
p_1= 2 (c − f) or …		1.026		1.170		1.313		1.457		1.600		1.760		1.920		2.080		2.240		2.400		2.560		2.720		2.880		3.040		3.200		3.360		3.520	
n_1		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013	
n_2		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015	
全断面積 A_0(m²)		0.9200		1.0800		1.2400		1.4000		1.5600		1.7200		1.8800		2.0400		2.2000		2.3600		2.5200		2.6800		2.8400		3.0000		3.1600		3.3200		3.4800	
通水断面積 $A(m_3)$		0.7616		0.8924		1.0224		1.1516		1.2800		1.4080		1.5360		1.6640		1.7920		1.9200		2.0480		2.1760		2.3040		2.4320		2.5600		2.6880		2.8160	
潤　辺 P(m)		2.6263		2.7697		2.9131		3.0566		3.2000		3.3600		3.5200		3.6800		3.8400		4.0000		4.1600		4.3200		4.4800		4.6400		4.8000		4.9600		5.1200	
径　深 R(m)		0.2900		0.3222		0.3510		0.3768		0.4000		0.4190		0.4364		0.4522		0.4667		0.4800		0.4923		0.5037		0.5143		0.5241		0.5333		0.5419		0.5500	
粗度係数 n		0.0142		0.0142		0.0141		0.0141		0.0140		0.0140		0.0139		0.0139		0.0139		0.0138		0.0138		0.0138		0.0137		0.0137		0.0137		0.0137		0.0136	
$R^{2/3}$		0.4381		0.4700		0.4976		0.5216		0.5429		0.5600		0.5753		0.5891		0.6016		0.6130		0.6235		0.6331		0.6419		0.6501		0.6577		0.6647		0.6713	
I(‰)	$I^{1/2}$	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q
20.0	0.14142	4.353	3.3149	4.690	4.1851	4.985	5.0964	5.245	6.0404	5.477	7.0105	5.669	7.9816	5.842	8.9733	5.999	9.9829	6.143	11.0082	6.275	12.0472	6.396	13.0985	6.508	14.1606	6.611	15.2324	6.708	16.3129	6.797	17.4012	6.881	18.4966	6.960	19.5985
10.0	0.10000	3.078	2.3440	3.316	2.9593	3.525	3.6037	3.709	4.2712	3.873	4.9572	4.008	5.6438	4.131	6.3451	4.242	7.0590	4.344	7.7839	4.437	8.5187	4.522	9.2620	4.602	10.0130	4.675	10.7709	4.743	11.5349	4.806	12.3045	4.866	13.0791	4.921	13.8582
9.5	0.09747	3.000	2.2846	3.232	2.8844	3.435	3.5124	3.615	4.1630	3.775	4.8317	3.907	5.5009	4.026	6.1844	4.135	6.8802	4.234	7.5869	4.324	8.3030	4.408	9.0275	4.485	9.7595	4.557	10.4982	4.623	11.2429	4.685	11.9930	4.743	12.7479	4.797	13.5073
9.0	0.09487	2.920	2.2237	3.146	2.8075	3.344	4.4188	3.519	4.0520	3.674	4.7028	3.803	5.3542	3.919	6.0195	4.024	6.6967	4.121	7.3845	4.209	8.0815	4.290	8.7867	4.365	9.4992	4.435	10.2182	4.500	10.9430	4.560	11.6731	4.616	12.4079	4.669	13.1470
8.5	0.09220	2.837	2.1610	3.057	2.7284	3.250	3.3224	3.419	3.9378	3.571	4.5703	3.696	5.2034	3.809	5.8499	3.911	6.5080	4.005	7.1764	4.091	7.8538	4.170	8.5392	4.242	9.2316	4.310	9.9303	4.373	10.6347	4.431	11.3442	4.486	12.0583	4.537	12.7766
8.0	0.08944	2.753	2.0965	2.966	2.6469	3.153	3.2232	3.317	3.8203	3.464	4.4338	3.585	5.0480	3.695	5.6752	3.794	6.3137	3.885	6.9622	3.968	7.6193	4.045	8.2842	4.116	8.9559	4.181	9.6338	4.242	10.3172	4.299	11.0055	4.352	11.6983	4.402	12.3952
7.5	0.08660	2.665	2.0299	2.872	2.5628	3.053	3.1209	3.212	3.6990	3.354	4.2930	3.471	4.8877	3.577	5.4950	3.674	6.1132	3.762	6.7411	3.842	7.3774	3.917	8.0211	3.985	8.6716	4.049	9.3279	4.108	9.9896	4.163	10.6560	4.214	11.3268	4.262	12.0016
7.0	0.08367	2.575	1.9611	2.774	2.4759	2.949	3.0151	3.103	3.5735	3.240	4.1475	3.354	4.7220	3.456	5.3087	3.549	5.9060	3.634	6.5125	3.712	7.1272	3.784	7.7492	3.850	8.3775	3.911	9.0116	3.968	9.6508	4.021	10.2947	4.071	10.9427	4.117	11.5946
6.5	0.08062	2.481	1.8898	2.674	2.3859	2.842	2.9054	2.990	3.4435	3.122	3.9966	3.232	4.5502	3.330	5.1156	3.420	5.6911	3.502	6.2756	3.577	6.8680	3.646	7.4673	3.710	8.0728	3.769	8.6838	3.824	9.2998	3.875	9.9202	3.923	10.5447	3.968	11.1728
6.0	0.07746	2.384	1.8156	2.569	2.2923	2.730	2.7914	2.873	3.3085	3.000	3.8398	3.105	4.3717	3.200	4.9149	3.286	5.4679	3.365	6.0294	3.437	6.5985	3.503	7.1743	3.564	7.7561	3.621	8.3431	3.674	8.9349	3.723	9.5310	3.769	10.1310	3.812	10.7345
5.5	0.07416	2.282	1.7383	2.459	2.1947	2.614	2.6726	2.751	3.1676	2.872	3.6763	2.973	4.1856	3.064	4.7056	3.146	5.2351	3.221	5.7727	3.290	6.3176	3.354	6.8689	3.413	7.4259	3.467	7.9879	3.517	8.5545	3.565	9.1253	3.609	9.6997	3.650	10.2775
5.0	0.07071	2.176	1.6574	2.345	2.0926	2.492	2.5482	2.623	3.0202	2.738	3.5053	2.834	3.9906	2.921	4.4866	3.000	4.9914	3.071	5.5041	3.137	6.0236	3.198	6.5492	3.254	7.0803	3.306	7.6162	3.354	8.1564	3.399	8.7006	3.441	9.2483	3.480	9.7992
4.8	0.06928	2.132	1.6239	2.297	2.0503	2.442	2.4967	2.570	2.9592	2.683	3.4344	2.777	3.9102	2.862	4.3960	2.939	4.8906	3.009	5.3929	3.074	5.9019	3.133	6.4169	3.188	6.9372	3.239	7.4623	3.286	7.9916	3.330	8.5248	3.371	9.0615	3.410	9.6012
4.6	0.06782	2.087	1.5898	2.249	2.0071	2.391	2.4441	2.516	2.8969	2.627	3.3621	2.719	3.8278	2.802	4.3034	2.877	4.7876	2.946	5.2793	3.009	5.7776	3.067	6.2818	3.121	6.7912	3.171	7.3052	3.217	7.8234	3.260	8.3453	3.300	8.8707	3.338	9.3991
4.5	0.06708	2.065	1.5724	2.225	1.9852	2.364	2.4174	2.488	2.8652	2.598	3.3254	2.689	3.7860	2.771	4.2564	2.846	4.7353	2.914	5.2216	2.976	5.7145	3.034	6.2132	3.087	6.7170	3.136	7.2254	3.182	7.7379	3.224	8.2541	3.264	8.7737	3.301	9.2964
4.4	0.06633	2.042	1.5548	2.200	1.9630	2.338	2.3904	2.460	2.8332	2.569	3.2882	2.659	3.7437	2.740	4.2088	2.814	4.6824	2.881	5.1633	2.943	5.6506	3.000	6.1437	3.052	6.6419	3.101	7.1446	3.146	7.6514	3.188	8.1619	3.228	8.6757	3.264	9.1925
4.2	0.06481	1.995	1.5191	2.149	1.9179	2.284	2.3355	2.404	2.7681	2.510	3.2126	2.598	3.6576	2.677	4.1121	2.749	4.5747	2.815	5.0446	2.875	5.5207	2.931	6.0025	2.982	6.4892	3.030	6.9804	3.074	7.4755	3.115	7.9742	3.153	8.4762	3.189	8.9811
4.0	0.06325	1.947	1.4825	2.097	1.8716	2.229	2.2792	2.346	2.7013	2.449	3.1352	2.535	3.5695	2.613	4.0130	2.683	4.4645	2.747	4.9230	2.806	5.3877	2.860	5.8578	2.910	6.3328	2.957	6.8121	3.000	7.2953	3.040	7.7821	3.077	8.2719	3.112	8.7647
3.8	0.06164	1.897	1.4449	2.044	1.8242	2.173	2.2215	2.286	2.6329	2.387	3.0558	2.471	3.4791	2.546	3.9114	2.615	4.3514	2.678	4.7983	2.735	5.2513	2.788	5.7095	2.837	6.1725	2.882	6.6396	2.924	7.1106	2.963	7.5850	2.999	8.0625	3.034	8.5428
3.6	0.06000	1.847	1.4064	1.990	1.7756	2.115	2.1622	2.225	2.5627	2.324	2.9743	2.405	3.3863	2.479	3.8070	2.545	4.2354	2.606	4.6704	2.662	5.1112	2.713	5.5572	2.761	6.0078	2.805	6.4626	2.846	6.9210	2.884	7.3827	2.919	7.8474	2.953	8.3149
3.5	0.05916	1.821	1.3867	1.962	1.7508	2.085	2.1320	2.194	2.5269	2.291	2.9327	2.371	3.3389	2.444	3.7538	2.510	4.1761	2.570	4.6050	2.625	5.0397	2.676	5.4795	2.722	5.9238	2.766	6.3722	2.806	6.8242	2.844	7.2794	2.879	7.7377	2.911	8.1986
3.2	0.05657	1.741	1.3259	1.876	1.6740	1.994	2.0386	2.098	2.4162	2.191	2.8042	2.267	3.1926	2.337	3.5893	2.400	3.9932	2.457	4.4033	2.510	4.8189	2.558	5.2394	2.603	5.6642	2.645	6.0930	2.683	6.5251	2.719	6.9605	2.752	7.3986	2.784	7.8394
3.0	0.05477	1.686	1.2838	1.816	1.6209	1.931	1.9738	2.031	2.3394	2.121	2.7152	2.195	3.0913	2.263	3.4753	2.324	3.8664	2.379	4.2634	2.430	4.6659	2.477	5.0730	2.520	5.4844	2.561	5.8995	2.598	6.3179	2.633	6.7395	2.665	7.1637	2.695	7.5904
2.8	0.05292	1.629	1.2403	1.755	1.5659	1.865	1.9069	1.963	2.2601	2.049	2.6231	2.121	2.9864	2.186	3.3575	2.245	3.7353	2.298	4.1189	2.348	4.5077	2.393	4.9010	2.435	5.2984	2.474	5.6994	2.510	6.1037	2.543	6.5109	2.575	6.9208	2.604	7.3331
2.6	0.05099	1.569	1.1952	1.691	1.5090	1.797	1.8375	1.891	2.1779	1.975	2.5277	2.044	2.8778	2.106	3.2354	2.163	3.5994	2.215	3.9691	2.262	4.3437	2.306	4.7227	2.346	5.1057	2.384	5.4921	2.418	5.8817	2.451	6.2741	2.481	6.6690	2.509	7.0663
2.5	0.05000	1.539	1.1720	1.658	1.4797	1.762	1.8018	1.854	2.1356	1.936	2.4786	2.004	2.8219	2.065	3.1725	2.121	3.5295	2.172	3.8920	2.218	4.2593	2.261	4.6310	2.301	5.0065	2.337	5.3855	2.371	5.7675	2.403	6.1523	2.433	6.5395	2.461	6.9291
2.4	0.04899	1.508	1.1483	1.625	1.4498	1.727	1.7654	1.817	2.0924	1.897	2.4285	1.964	2.7649	2.024	3.1084	2.078	3.4582	2.128	3.8133	2.174	4.1733	2.216	4.5374	2.254	4.9054	2.290	5.2767	2.324	5.6509	2.355	6.0280	2.384	6.4074	2.411	6.7891
2.2	0.04690	1.444	1.0994	1.555	1.3880	1.653	1.6903	1.740	2.0034	1.817	2.3251	1.880	2.6472	1.938	2.9761	1.990	3.3110	2.037	3.6510	2.081	3.9956	2.121	4.3443	2.158	4.6965	2.193	5.0520	2.225	5.4104	2.254	5.7713	2.282	6.1346	2.308	6.5001
2.0	0.04472	1.376	1.0483	1.483	1.3234	1.576	1.6116	1.659	1.9101	1.732	2.2169	1.793	2.5240	1.847	2.8376	1.897	3.1569	1.943	3.4811	1.984	3.8097	2.023	4.1421	2.058	4.4780	2.091	4.8169	2.121	5.1586	2.150	5.5027	2.176	5.8491	2.201	6.1976
1.8	0.04243	1.306	0.9945	1.407	1.2555	1.495	1.5289	1.574	1.8121	1.643	2.1032	1.701	2.3945	1.753	2.6920	1.800	2.9949	1.843	3.3024	1.882	3.6142	1.919	3.9295	1.952	4.2482	1.983	4.5697	2.012	4.8939	2.039	5.2204	2.064	5.5490	2.088	5.8795
1.6	0.04000	1.231	0.9376	1.326	1.1837	1.410	1.4415	1.484	1.7085	1.549	1.9829	1.603	2.2575	1.652	2.5380	1.697	2.8236	1.737	3.1136	1.775	3.4075	1.809	3.7048	1.841	4.0052	1.870	4.3084	1.897	4.6140	1.923	4.9218	1.946	5.2316	1.968	5.5433
1.5	0.03873	1.192	0.9078	1.284	1.1461	1.365	1.3957	1.436	1.6542	1.500	1.9199	1.552	2.1858	1.600	2.4574	1.643	2.7339	1.682	3.0147	1.718	3.2993	1.752	3.5872	1.782	3.8780	1.811	4.1716	1.837	4.4675	1.862	4.7655	1.884	5.0655	1.906	5.3673
1.4	0.03742	1.152	0.8770	1.241	1.1073	1.319	1.3484	1.388	1.5981	1.449	1.8548	1.500	2.1117	1.546	2.3741	1.587	2.6412	1.625	2.9125	1.660	3.1874	1.692	3.4655	1.722	3.7465	1.749	4.0301	1.775	4.3160	1.798	4.6039	1.821	4.8937	1.841	5.1853
1.2	0.03464	1.066	0.8120	1.149	1.0251	1.221	1.2484	1.285	1.4796	1.342	1.7172	1.389	1.9551	1.431	2.1980	1.470	2.4453	1.505	2.6964	1.537	2.9510	1.567	3.2085	1.594	3.4686	1.619	3.7312	1.643	3.9958	1.665	4.2624	1.686	4.5307	1.705	4.8006
1.0	0.03162	0.973	0.7412	1.049	0.9358	1.115	1.1396	1.173	1.3507	1.225	1.5676	1.268	1.7847	1.306	2.0065	1.341	2.2322	1.374	2.4615	1.403	2.6938	1.430	2.9289	1.455	3.1664	1.478	3.4061	1.500	3.6477	1.520	3.8910	1.539	4.1360	1.556	4.3823
0.8	0.02828	0.871	0.6630	0.938	0.8370	0.997	1.0193	1.049	1.2081	1.095	1.4021	1.134	1.5963	1.168	1.7947	1.200	1.9966	1.229	2.2016	1.255	2.4094	1.279	2.6197	1.302	2.8321	1.322	3.0465	1.342	3.2626	1.359	3.4802	1.376	3.6993	1.392	3.9197
0.6	0.02449	0.754	0.5742	0.812	0.7249	0.863	0.8827	0.908	1.0462	0.949	1.2143	0.982	1.3825	1.012	1.5542	1.039	1.7291	1.064	1.9067	1.087	2.0866	1.108	2.2687	1.127	2.4527	1.145	2.6383	1.162	2.8255	1.177	3.0140	1.192	3.2037	1.205	3.3946
0.5	0.02236	0.688	0.5241	0.742	0.6617	0.788	0.8058	0.829	0.9551	0.866	1.1085	0.896	1.2620	0.924	1.4188	0.949	1.5784	0.971	1.7405	0.992	1.9048	1.011	2.0711	1.029	2.2390	1.045	2.4085	1.061	2.5793	1.075	2.7514	1.088	2.9246	1.100	3.0988
0.4	0.02000	0.616	0.4688	0.663	0.5919	0.705	0.7207	0.742	0.8542	0.775	0.9914	0.802	1.1288	0.826	1.2690	0.848	1.4118	0.869	1.5568	0.887	1.7037	0.904	1.8524	0.920	2.0026	0.935	2.1542	0.949	2.3070	0.961	2.4609	0.973	2.6158	0.984	2.7716
0.2	0.01414	0.435	0.3315	0.469	0.4185	0.498	0.5096	0.525	0.6040	0.548	0.7011	0.567	0.7982	0.584	0.8973	0.600	0.9983	0.614	1.1008	0.627	1.2047	0.640	1.3098	0.651	1.4161	0.661	1.5232	0.671	1.6313	0.680	1.7401	0.688	1.8497	0.696	1.9598
0.1	0.01000	0.308	0.2344	0.332	0.2959	0.352	0.3604	0.371	0.4271	0.387	0.4957	0.401	0.5644	0.413	0.6345	0.424	0.7059	0.434	0.7784	0.444	0.8519	0.452	0.9262	0.460	1.0013	0.467	1.0771	0.474	1.1535	0.481	1.2305	0.487	1.3079	0.492	1.3858

流速.流量表 (8割水深)

流速・流量計算式(マニング公式)



全断面積 $A_0=a\cdot c-s^2$ (m²)

$f \geq s$ のとき

通水断面積 $A=a(c-f)$ (m²)

潤　辺 プレキャスト部 $P_1=2(c-f)$ (m)

現場打ち部 $P_2=a$ (m)

$f<s$ のとき

通水断面積 $A=a(c-s)+(s-f)(a-s+f)$ (m²)

潤　辺 プレキャスト部 $P_1=2(c-s)+2\sqrt{2}(s-f)$ (m)

現場打ち部 $P_2=a$ (m)

潤　辺 $P=P_1+P_2$ (m)

粗度係数 $n=\left[\frac{1}{P}(P_1\cdot n_1^{1.5}+P_2\cdot n_2^{1.5})\right]^{0.5}$

プレキャスト部 $n_1=$

現場打ち部 $n_2=$

径　深 $R=A/P$ (m)

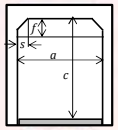
流　速 $V=1/n\cdot R^{2/3}\cdot I^{1/2}$ (m/s)

流　量 $Q=A\cdot V$ (m³/s)

サイズ		1700×600		1700×700		1700×800		1700×900		1700×1000		1700×1100		1700×1200		1700×1300		1700×1400		1700×1500		1700×1600		1700×1700		1700×1800		1700×1900		1700×2000		1700×2100		1700×2200	
a = P_2		1.700		1.700		1.700		1.700		1.700		1.700		1.700		1.700		1.700		1.700		1.700		1.700		1.700		1.700		1.700		1.700		1.700	
c		0.600		0.700		0.800		0.900		1.000		1.100		1.200		1.300		1.400		1.500		1.600		1.700		1.800		1.900		2.000		2.100		2.200	
s		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200	
f = c (1 − 0.8)		0.120		0.140		0.160		0.180		0.200		0.220		0.240		0.260		0.280		0.300		0.320		0.340		0.360		0.380		0.400		0.420		0.440	
p_1= 2 (c − f) or …		1.026		1.170		1.313		1.457		1.600		1.760		1.920		2.080		2.240		2.400		2.560		2.720		2.880		3.040		3.200		3.360		3.520	
n_1		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013	
n_2		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015	
全断面積 A_0(m²)		0.9800		1.1500		1.3200		1.4900		1.6600		1.8300		2.0000		2.1700		2.3400		2.5100		2.6800		2.8500		3.0200		3.1900		3.3600		3.5300		3.7000	
通水断面積 $A(m_3)$		0.8096		0.9484		1.0864		1.2236		1.3600		1.4960		1.6320		1.7680		1.9040		2.0400		2.1760		2.3120		2.4480		2.5840		2.7200		2.8560		2.9920	
潤　辺 P(m)		2.7263		2.8697		3.0131		3.1566		3.3000		3.4600		3.6200		3.7800		3.9400		4.1000		4.2600		4.4200		4.5800		4.7400		4.9000		5.0600		5.2200	
径　深 R(m)		0.2970		0.3305		0.3606		0.3876		0.4121		0.4324		0.4508		0.4677		0.4832		0.4976		0.5108		0.5231		0.5345		0.5451		0.5551		0.5644		0.5732	
粗度係数 n		0.0143		0.0142		0.0141		0.0141		0.0140		0.0140		0.0140		0.0139		0.0139		0.0138		0.0138		0.0138		0.0138		0.0137		0.0137		0.0137		0.0137	
	$R^{2/3}$	0.4451		0.4780		0.5066		0.5316		0.5538		0.5718		0.5880		0.6026		0.6158		0.6279		0.6390		0.6492		0.6586		0.6673		0.6754		0.6830		0.6900	
I(‰)	$I^{1/2}$	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q
20.0	0.14142	4.413	3.5729	4.760	4.5144	5.064	5.5020	5.334	6.5270	5.575	7.5820	5.776	8.6405	5.957	9.7226	6.123	10.8253	6.274	11.9460	6.413	13.0826	6.541	14.2334	6.660	15.3968	6.769	16.5715	6.872	17.7564	6.967	18.9504	7.056	20.1528	7.140	21.3626
10.0	0.10000	3.121	2.5264	3.366	3.1921	3.581	3.8905	3.772	4.6153	3.942	5.3613	4.084	6.1098	4.213	6.8749	4.330	7.6546	4.436	8.4471	4.535	9.2508	4.625	10.0646	4.709	10.8872	4.787	11.7178	4.859	12.5557	4.926	13.4000	4.990	14.2501	5.049	15.1057
9.5	0.09747	3.042	2.4625	3.281	3.1113	3.490	3.7920	3.676	4.4984	3.842	5.2256	3.981	5.9551	4.106	6.7008	4.220	7.4608	4.324	8.2332	4.420	9.0166	4.508	9.8097	4.590	10.6115	4.665	11.4211	4.736	12.2377	4.802	13.0607	4.863	13.8893	4.921	14.7232
9.0	0.09487	2.960	2.3968	3.193	3.0283	3.397	3.6909	3.578	4.3784	3.740	5.0862	3.874	5.7962	3.996	6.5221	4.107	7.2618	4.209	8.0136	4.302	8.7761	4.388	9.5481	4.467	10.3285	4.541	11.1165	4.610	11.9113	4.674	12.7123	4.734	13.5189	4.790	14.3305
8.5	0.09220	2.877	2.3292	3.103	2.9430	3.302	3.5869	3.477	4.2551	3.634	4.9429	3.765	5.6329	3.884	6.3384	3.992	7.0572	4.090	7.7878	4.181	8.5288	4.264	9.2791	4.341	10.0375	4.413	10.8033	4.480	11.5758	4.542	12.3542	4.600	13.1380	4.655	13.9267
8.0	0.08944	2.791	2.2597	3.010	2.8551	3.203	3.4798	3.374	4.1280	3.526	4.7953	3.653	5.4647	3.768	6.1491	3.872	6.8465	3.968	7.5553	4.056	8.2742	4.137	9.0020	4.212	9.7378	4.281	10.4808	4.346	11.2301	4.406	11.9853	4.463	12.7457	4.516	13.5109
7.5	0.08660	2.703	2.1879	2.915	2.7645	3.101	3.3693	3.267	3.9969	3.414	4.6430	3.537	5.2912	3.648	5.9538	3.749	6.6291	3.842	7.3154	3.927	8.0114	4.006	8.7162	4.078	9.4286	4.145	10.1479	4.208	10.8735	4.266	11.6047	4.321	12.3410	4.372	13.0819
7.0	0.08367	2.611	2.1138	2.816	2.6707	2.996	3.2550	3.156	3.8614	3.298	4.4856	3.417	5.1118	3.524	5.7520	3.622	6.4043	3.712	7.0673	3.794	7.7398	3.870	8.4206	3.940	9.1089	4.005	9.8039	4.065	10.5048	4.122	11.2112	4.175	11.9225	4.224	12.6383
6.5	0.08062	2.516	2.0369	2.714	2.5736	2.887	3.1366	3.041	3.7209	3.178	4.3224	3.293	4.9258	3.396	5.5427	3.491	6.1713	3.577	6.8103	3.656	7.4582	3.729	8.1143	3.797	8.7775	3.859	9.4472	3.917	10.1227	3.972	10.8034	4.023	11.4888	4.070	12.1786
6.0	0.07746	2.417	1.9570	2.607	2.4726	2.774	3.0136	2.922	3.5750	3.054	4.1529	3.164	4.7326	3.263	5.3253	3.354	5.9292	3.436	6.5431	3.513	7.1656	3.583	7.7960	3.648	8.4332	3.708	9.0766	3.764	9.7256	3.816	10.3796	3.865	11.0381	3.911	11.7008
5.5	0.07416	2.314	1.8736	2.496	2.3674	2.656	2.8853	2.797	3.4228	2.924	3.9761	3.029	4.5311	3.124	5.0986	3.211	5.6768	3.290	6.2645	3.363	6.8606	3.430	7.4641	3.492	8.0742	3.550	8.6902	3.604	9.3115	3.654	9.9377	3.700	10.5682	3.744	11.2027
5.0	0.07071	2.207	1.7864	2.380	2.2572	2.532	2.7510	2.667	3.2635	2.788	3.7910	2.888	4.3203	2.979	4.8613	3.061	5.4126	3.137	5.9730	3.207	6.5413	3.271	7.1167	3.330	7.6984	3.385	8.2858	3.436	8.8782	3.484	9.4752	3.528	10.0764	3.570	10.6813
4.8	0.06928	2.162	1.7504	2.332	2.2116	2.481	2.6954	2.613	3.1975	2.731	3.7144	2.830	4.2330	2.919	4.7631	3.000	5.3033	3.074	5.8523	3.142	6.4092	3.204	6.9729	3.262	7.5429	3.316	8.1184	3.366	8.6988	3.413	9.2838	3.457	9.8728	3.498	10.4655
4.6	0.06782	2.116	1.7135	2.283	2.1650	2.429	2.6387	2.558	3.1302	2.674	3.6362	2.770	4.1438	2.857	4.6628	2.936	5.1916	3.009	5.7291	3.076	6.2742	3.137	6.8261	3.194	7.3841	3.246	7.9474	3.296	8.5157	3.341	9.0883	3.384	9.6649	3.424	10.2452
4.5	0.06708	2.093	1.6948	2.258	2.1414	2.402	2.6098	2.530	3.0960	2.644	3.5965	2.740	4.0986	2.826	4.6118	2.904	5.1349	2.976	5.6665	3.042	6.2056	3.103	6.7515	3.159	7.3034	3.211	7.8606	3.260	8.4226	3.305	8.9890	3.347	9.5593	3.387	10.1332
4.4	0.06633	2.070	1.6758	2.233	2.1174	2.375	2.5807	2.502	3.0614	2.615	3.5563	2.709	4.0528	2.794	4.5603	2.872	5.0775	2.943	5.6032	3.008	6.1363	3.068	6.6761	3.124	7.2218	3.175	7.7727	3.223	8.3285	3.268	8.8885	3.310	9.4525	3.349	10.0200
4.2	0.06481	2.022	1.6373	2.181	2.0687	2.321	2.5213	2.444	2.9910	2.555	3.4745	2.647	3.9596	2.730	4.4555	2.806	4.9608	2.875	5.4743	2.939	5.9952	2.998	6.5226	3.052	7.0557	3.102	7.5940	3.149	8.1370	3.193	8.6842	3.234	9.2352	3.272	9.7896
4.0	0.06325	1.974	1.5978	2.129	2.0189	2.265	2.4606	2.386	2.9189	2.493	3.3908	2.583	3.8642	2.664	4.3481	2.738	4.8412	2.806	5.3424	2.868	5.8507	2.925	6.3654	2.978	6.8857	3.027	7.4110	3.073	7.9409	3.116	8.4749	3.156	9.0126	3.193	9.5537
3.8	0.06164	1.924	1.5574	2.075	1.9678	2.208	2.3983	2.325	2.8450	2.430	3.3049	2.518	3.7663	2.597	4.2380	2.669	4.7186	2.735	5.2071	2.795	5.7026	2.851	6.2042	2.903	6.7113	2.951	7.2234	2.995	7.7398	3.037	8.2603	3.076	8.7844	3.112	9.3118
3.6	0.06000	1.872	1.5159	2.019	1.9153	2.149	2.3343	2.263	2.7692	2.365	3.2168	2.450	3.6659	2.528	4.1249	2.598	4.5928	2.662	5.0682	2.721	5.5505	2.775	6.0387	2.825	6.5323	2.872	7.0307	2.915	7.5334	2.956	8.0400	2.994	8.5501	3.029	9.0634
3.5	0.05916	1.846	1.4947	1.991	1.8885	2.119	2.3017	2.231	2.7304	2.332	3.1718	2.416	3.6146	2.492	4.0673	2.561	4.5285	2.625	4.9974	2.683	5.4729	2.736	5.9543	2.786	6.4410	2.832	6.9324	2.875	7.4280	2.915	7.9275	2.952	8.4305	2.987	8.9366
3.2	0.05657	1.765	1.4292	1.904	1.8057	2.026	2.2008	2.134	2.6108	2.230	3.0328	2.310	3.4562	2.383	3.8890	2.449	4.3301	2.510	4.7784	2.565	5.2331	2.616	5.6934	2.664	6.1587	2.708	6.6286	2.749	7.1026	2.787	7.5802	2.823	8.0611	2.856	8.5451
3.0	0.05477	1.709	1.3838	1.844	1.7484	1.961	2.1309	2.066	2.5279	2.159	2.9365	2.237	3.3465	2.307	3.7655	2.371	4.1926	2.430	4.6267	2.484	5.0669	2.533	5.5126	2.579	5.9632	2.622	6.4181	2.661	6.8770	2.698	7.3395	2.733	7.8051	2.765	8.2737
2.8	0.05292	1.651	1.3369	1.781	1.6891	1.895	2.0587	1.996	2.4422	2.086	2.8369	2.161	3.2330	2.229	3.6379	2.291	4.0504	2.348	4.4698	2.400	4.8951	2.447	5.3257	2.492	5.7610	2.533	6.2005	2.571	6.6438	2.607	7.0906	2.640	7.5405	2.672	7.9932
2.6	0.05099	1.591	1.2882	1.716	1.6277	1.826	1.9838	1.923	2.3533	2.010	2.7337	2.082	3.1154	2.148	3.5055	2.208	3.9031	2.262	4.3072	2.312	4.7170	2.358	5.1319	2.401	5.5514	2.441	5.9750	2.478	6.4022	2.512	6.8327	2.544	7.2662	2.574	7.7024
2.5	0.05000	1.560	1.2632	1.683	1.5961	1.791	1.9453	1.886	2.3076	1.971	2.6807	2.042	3.0549	2.106	3.4375	2.165	3.8273	2.218	4.2235	2.267	4.6254	2.313	5.0323	2.354	5.4436	2.393	5.8589	2.430	6.2778	2.463	6.7000	2.495	7.1251	2.524	7.5528
2.4	0.04899	1.529	1.2377	1.649	1.5638	1.754	1.9060	1.848	2.2610	1.931	2.6265	2.001	2.9932	2.064	3.3680	2.121	3.7500	2.173	4.1382	2.222	4.5320	2.266	4.9306	2.307	5.3336	2.345	5.7405	2.380	6.1510	2.413	6.5646	2.444	6.9811	2.473	7.4002
2.2	0.04690	1.464	1.1850	1.579	1.4972	1.680	1.8248	1.769	2.1648	1.849	2.5147	1.916	2.8657	1.976	3.2246	2.031	3.5903	2.081	3.9620	2.127	4.3390	2.169	4.7207	2.209	5.1066	2.245	5.4962	2.279	5.8891	2.311	6.2851	2.340	6.6839	2.368	7.0852
2.0	0.04472	1.396	1.1298	1.505	1.4276	1.602	1.7399	1.687	2.0640	1.763	2.3976	1.826	2.7324	1.884	3.0746	1.936	3.4232	1.984	3.7776	2.028	4.1371	2.068	4.5010	2.106	4.8689	2.141	5.2404	2.173	5.6151	2.203	5.9926	2.231	6.3729	2.258	6.7555
1.8	0.04243	1.324	1.0719	1.428	1.3543	1.519	1.6506	1.600	1.9581	1.673	2.2746	1.733	2.5922	1.787	2.9168	1.837	3.2476	1.882	3.5838	1.924	3.9248	1.962	4.2700	1.998	4.6190	2.031	4.9715	2.062	5.3269	2.090	5.6851	2.117	6.0458	2.142	6.4088
1.6	0.04000	1.248	1.0106	1.346	1.2769	1.432	1.5562	1.509	1.8461	1.577	2.1445	1.634	2.4439	1.685	2.7500	1.732	3.0618	1.775	3.3788	1.814	3.7003	1.850	4.0258	1.884	4.3549	1.915	4.6871	1.944	5.0223	1.971	5.3600	1.996	5.7001	2.019	6.0423
1.5	0.03873	1.209	0.9785	1.304	1.2363	1.387	1.5068	1.461	1.7875	1.527	2.0764	1.582	2.3663	1.632	2.6626	1.677	2.9646	1.718	3.2715	1.756	3.5828	1.791	3.8980	1.824	4.2166	1.854	4.5383	1.882	4.8628	1.908	5.1898	1.932	5.5191	1.955	5.8504
1.4	0.03742	1.168	0.9453	1.259	1.1944	1.340	1.4557	1.411	1.7269	1.475	2.0060	1.528	2.2861	1.576	2.5724	1.620	2.8641	1.660	3.1606	1.697	3.4613	1.731	3.7658	1.762	4.0736	1.791	4.3844	1.818	4.6979	1.843	5.0138	1.867	5.3319	1.889	5.6520
1.2	0.03464	1.081	0.8752	1.166	1.1058	1.241	1.3477	1.307	1.5988	1.366	1.8572	1.415	2.1165	1.459	2.3815	1.500	2.6516	1.537	2.9262	1.571	3.2046	1.602	3.4865	1.631	3.7714	1.658	4.0592	1.683	4.3494	1.707	4.6419	1.728	4.9364	1.749	5.2328
1.0	0.03162	0.987	0.7989	1.064	1.0094	1.132	1.2303	1.193	1.4595	1.247	1.6954	1.291	1.9321	1.332	2.1740	1.369	2.4206	1.403	2.6712	1.434	2.9254	1.463	3.1827	1.489	3.4428	1.514	3.7055	1.537	3.9704	1.558	4.2374	1.578	4.5063	1.597	4.7768
0.8	0.02828	0.883	0.7146	0.952	0.9029	1.013	1.1004	1.067	1.3054	1.115	1.5164	1.155	1.7281	1.191	1.9445	1.225	2.1651	1.255	2.3892	1.283	2.6165	1.308	2.8467	1.332	3.0794	1.354	3.3143	1.374	3.5513	1.393	3.7901	1.411	4.0306	1.428	4.2725
0.6	0.02449	0.764	0.6188	0.824	0.7819	0.877	0.9530	0.924	1.1305	0.966	1.3132	1.000	1.4966	1.032	1.6840	1.061	1.8750	1.087	2.0691	1.111	2.2660	1.133	2.4653	1.153	2.6668	1.172	2.8703	1.190	3.0755	1.207	3.2823	1.222	3.4906	1.237	3.7001
0.5	0.02236	0.698	0.5649	0.753	0.7138	0.801	0.8699	0.843	1.0320	0.881	1.1988	0.913	1.3662	0.942	1.5373	0.968	1.7116	0.992	1.8888	1.014	2.0685	1.034	2.2505	1.053	2.4345	1.070	2.6202	1.087	2.8075	1.102	2.9963	1.116	3.1864	1.129	3.3777
0.4	0.02000	0.624	0.5053	0.673	0.6384	0.716	0.7781	0.754	0.9231	0.788	1.0723	0.817	1.2220	0.843	1.3750	0.866	1.5309	0.887	1.6894	0.907	1.8502	0.925	2.0129	0.942	2.1774	0.957	2.3436	0.972	2.5111	0.985	2.6800	0.998	2.8500	1.010	3.0211
0.2	0.01414	0.441	0.3573	0.476	0.4514	0.506	0.5502	0.533	0.6527	0.558	0.7582	0.578	0.8641	0.596	0.9723	0.612	1.0825	0.627	1.1946	0.641	1.3083	0.654	1.4233	0.666	1.5397	0.677	1.6572	0.687	1.7756	0.697	1.8950	0.706	2.0153	0.714	2.1363
0.1	0.01000	0.312	0.2526	0.337	0.3192	0.358	0.3891	0.377	0.4615	0.394	0.5361	0.408	0.6110	0.421	0.6875	0.433	0.7655	0.444	0.8447	0.453	0.9251	0.463	1.0065	0.471	1.0887	0.479	1.1718	0.486	1.2556	0.493	1.3400	0.499	1.4250	0.505	1.5106

流速.流量表 (8割水深)

流速・流量計算式(マニング公式)



全断面積 $A_0=a\cdot c-s^2$ (m²)

$f \geq s$ のとき

通水断面積 $A=a(c-f)$ (m²)

潤　辺 プレキャスト部 $P_1=2(c-f)$ (m)

現場打ち部 $P_2=a$ (m)

$f<s$ のとき

通水断面積 $A=a(c-s)+(s-f)(a-s+f)$ (m²)

潤　辺 プレキャスト部 $P_1=2(c-s)+2\sqrt{2}(s-f)$ (m)

現場打ち部 $P_2=a$ (m)

潤　辺 $P=P_1+P_2$ (m)

粗度係数 $n=\left[\frac{1}{P}(P_1\cdot n_1^{1.5}+P_2\cdot n_2^{1.5})\right]^{0.5}$

プレキャスト部 $n_1=$

現場打ち部 $n_2=$

径　深 $R=A/P$ (m)

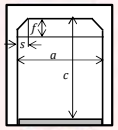
流　速 $V=1/n\cdot R^{2/3}\cdot I^{1/2}$ (m/s)

流　量 $Q=A\cdot V$ (m³/s)

サイズ		1800×600		1800×700		1800×800		1800×900		1800×1000		1800×1100		1800×1200		1800×1300		1800×1400		1800×1500		1800×1600		1800×1700		1800×1800		1800×1900		1800×2000		1800×2100		1800×2200	
a = P_2		1.800		1.800		1.800		1.800		1.800		1.800		1.800		1.800		1.800		1.800		1.800		1.800		1.800		1.800		1.800		1.800		1.800	
c		0.600		0.700		0.800		0.900		1.000		1.100		1.200		1.300		1.400		1.500		1.600		1.700		1.800		1.900		2.000		2.100		2.200	
s		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200	
f = c (1 − 0.8)		0.120		0.140		0.160		0.180		0.200		0.220		0.240		0.260		0.280		0.300		0.320		0.340		0.360		0.380		0.400		0.420		0.440	
p_1= 2 (c − f) or …		1.026		1.170		1.313		1.457		1.600		1.760		1.920		2.080		2.240		2.400		2.560		2.720		2.880		3.040		3.200		3.360		3.520	
n_1		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013	
n_2		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015	
全断面積 A_0(m²)		1.0400		1.2200		1.4000		1.5800		1.7600		1.9400		2.1200		2.3000		2.4800		2.6600		2.8400		3.0200		3.2000		3.3800		3.5600		3.7400		3.9200	
通水断面積 $A(m_3)$		0.8576		1.0044		1.1504		1.2956		1.4400		1.5840		1.7280		1.8720		2.0160		2.1600		2.3040		2.4480		2.5920		2.7360		2.8800		3.0240		3.1680	
潤　辺 P(m)		2.8263		2.9697		3.1131		3.2566		3.4000		3.5600		3.7200		3.8800		4.0400		4.2000		4.3600		4.5200		4.6800		4.8400		5.0000		5.1600		5.3200	
径　深 R(m)		0.3034		0.3382		0.3695		0.3978		0.4235		0.4449		0.4645		0.4825		0.4990		0.5143		0.5284		0.5416		0.5538		0.5653		0.5760		0.5860		0.5955	
粗度係数 n		0.0143		0.0142		0.0142		0.0141		0.0141		0.0140		0.0140		0.0139		0.0139		0.0139		0.0138		0.0138		0.0138		0.0138		0.0137		0.0137		0.0137	
	$R^{2/3}$	0.4516		0.4854		0.5150		0.5409		0.5640		0.5828		0.5998		0.6152		0.6291		0.6419		0.6536		0.6644		0.6744		0.6837		0.6923		0.7003		0.7078	
I(‰)	$I^{1/2}$	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q
20.0	0.14142	4.469	3.8325	4.825	4.8459	5.138	5.9108	5.417	7.0178	5.666	8.1590	5.875	9.3063	6.065	10.4804	6.238	11.6779	6.397	12.8960	6.543	14.1323	6.677	15.3849	6.802	16.6519	6.918	17.9320	7.026	19.2237	7.127	20.5261	7.222	21.8382	7.310	23.1590
10.0	0.10000	3.160	2.7100	3.412	3.4266	3.633	4.1796	3.830	4.9623	4.006	5.7693	4.154	6.5806	4.289	7.4108	4.411	8.2575	4.523	9.1188	4.626	9.9930	4.722	10.8787	4.810	11.7747	4.892	12.6798	4.968	13.5932	5.040	14.5142	5.106	15.4419	5.169	16.3759
9.5	0.09747	3.080	2.6413	3.325	3.3398	3.541	4.0738	3.733	4.8367	3.905	5.6232	4.049	6.4139	4.180	7.2231	4.299	8.0484	4.409	8.8879	4.509	9.7400	4.602	10.6033	4.688	11.4765	4.768	12.3587	4.842	13.2490	4.912	14.1467	4.977	15.0509	5.038	15.9612
9.0	0.09487	2.998	2.5709	3.236	3.2507	3.447	3.9651	3.634	4.7077	3.801	5.4732	3.941	6.2429	4.069	7.0305	4.185	7.8338	4.291	8.6509	4.389	9.4802	4.479	10.3205	4.563	11.1704	4.641	12.0291	4.713	12.8957	4.781	13.7694	4.844	14.6495	4.904	15.5355
8.5	0.09220	2.913	2.4985	3.145	3.1591	3.350	3.8534	3.531	4.5750	3.694	5.3190	3.830	6.0670	3.954	6.8324	4.067	7.6131	4.170	8.4072	4.265	9.2131	4.353	10.0297	4.435	10.8557	4.510	11.6902	4.581	12.5323	4.646	13.3814	4.708	14.2367	4.766	15.0978
8.0	0.08944	2.826	2.4239	3.051	3.0646	3.250	3.7383	3.426	4.4384	3.583	5.1602	3.716	5.8858	3.836	6.6284	3.945	7.3857	4.046	8.1561	4.138	8.9381	4.223	9.7302	4.302	10.5316	4.375	11.3412	4.444	12.1582	4.508	12.9819	4.567	13.8117	4.623	14.6470
7.5	0.08660	2.737	2.3469	2.954	2.9675	3.146	3.6196	3.317	4.2975	3.470	4.9963	3.598	5.6989	3.714	6.4179	3.820	7.1512	3.917	7.8971	4.007	8.6542	4.089	9.4213	4.166	10.1972	4.237	10.9810	4.303	11.7721	4.364	12.5696	4.422	13.3731	4.477	14.1819
7.0	0.08367	2.644	2.2673	2.854	2.8669	3.040	3.4969	3.205	4.1518	3.352	4.8269	3.476	5.5057	3.588	6.2003	3.691	6.9087	3.784	7.6294	3.871	8.3606	3.950	9.1018	4.024	9.8514	4.093	10.6087	4.157	11.3729	4.216	12.1434	4.272	12.9196	4.325	13.7010
6.5	0.08062	2.548	2.1848	2.750	2.7626	2.929	3.3697	3.088	4.0007	3.230	4.6513	3.349	5.3054	3.458	5.9747	3.556	6.6574	3.647	7.3518	3.730	8.0567	3.807	8.7707	3.878	9.4930	3.944	10.2228	4.006	10.9592	4.063	11.7017	4.117	12.4497	4.168	13.2026
6.0	0.07746	2.448	2.0991	2.643	2.6542	2.814	3.2375	2.967	3.8438	3.103	4.4689	3.218	5.0973	3.322	5.7404	3.417	6.3962	3.504	7.0634	3.584	7.7406	3.657	8.4266	3.726	9.1206	3.789	9.8217	3.848	10.5293	3.904	11.2426	3.955	11.9613	4.004	12.6847
5.5	0.07416	2.343	2.0098	2.530	2.5412	2.694	3.0997	2.840	3.6801	2.971	4.2766	3.081	4.8803	3.181	5.4960	3.271	6.1239	3.355	6.7627	3.431	7.4110	3.502	8.0679	3.567	8.7323	3.628	9.4036	3.685	10.0810	3.738	10.7640	3.787	11.4520	3.834	12.1447
5.0	0.07071	2.234	1.9162	2.412	2.4229	2.569	2.9554	2.708	3.5089	2.833	4.0795	2.938	4.6532	3.033	5.2402	3.119	5.8389	3.198	6.4480	3.271	7.0662	3.339	7.6924	3.401	8.3259	3.459	8.9660	3.513	9.6119	3.564	10.2631	3.611	10.9191	3.655	11.5795
4.8	0.06928	2.189	1.8775	2.364	2.3740	2.517	2.8957	2.654	3.4380	2.776	3.9971	2.878	4.5591	2.971	5.1343	3.056	5.7210	3.134	6.3177	3.205	6.9234	3.271	7.5370	3.332	8.1577	3.389	8.7848	3.442	9.4177	3.492	10.0557	3.538	10.6985	3.581	11.3455
4.6	0.06782	2.143	1.8380	2.314	2.3240	2.464	2.8347	2.598	3.3656	2.717	3.9129	2.818	4.4632	2.909	5.0262	2.992	5.6005	3.068	6.1847	3.138	6.7776	3.202	7.3783	3.262	7.9860	3.318	8.5999	3.370	9.2194	3.418	9.8440	3.463	10.4732	3.506	11.1067
4.5	0.06708	2.120	1.8179	2.289	2.2986	2.437	2.8038	2.569	3.3288	2.688	3.8701	2.787	4.4144	2.877	4.9713	2.959	5.5393	3.034	6.1171	3.103	6.7035	3.167	7.2977	3.227	7.8987	3.282	8.5059	3.333	9.1186	3.381	9.7364	3.426	10.3588	3.468	10.9853
4.4	0.06633	2.096	1.7976	2.263	2.2729	2.410	2.7724	2.541	3.2916	2.658	3.8269	2.756	4.3650	2.845	4.9157	2.926	5.4774	3.000	6.0488	3.069	6.6286	3.132	7.2161	3.191	7.8104	3.245	8.4108	3.296	9.0167	3.343	9.6276	3.387	10.2430	3.429	10.8625
4.2	0.06481	2.048	1.7563	2.211	2.2207	2.355	2.7087	2.482	3.2159	2.596	3.7389	2.692	4.2647	2.779	4.8027	2.859	5.3515	2.931	5.9097	2.998	6.4762	3.060	7.0502	3.117	7.6309	3.170	8.2175	3.220	8.8094	3.266	9.4063	3.309	10.0075	3.350	10.6128
4.0	0.06325	1.999	1.7139	2.158	2.1671	2.298	2.6434	2.422	3.1384	2.534	3.6488	2.627	4.1619	2.712	4.6870	2.790	5.2225	2.861	5.7673	2.926	6.3202	2.986	6.8803	3.042	7.4470	3.094	8.0194	3.142	8.5971	3.187	9.1796	3.230	9.7663	3.269	10.3570
3.8	0.06164	1.948	1.6705	2.103	2.1123	2.240	2.5765	2.361	3.0590	2.470	3.5564	2.561	4.0565	2.644	4.5683	2.719	5.0903	2.788	5.6212	2.852	6.1601	2.911	6.7061	2.965	7.2584	3.016	7.8164	3.063	8.3794	3.107	8.9471	3.148	9.5190	3.186	10.0948
3.6	0.06000	1.896	1.6260	2.047	2.0559	2.180	2.5078	2.298	2.9774	2.404	3.4616	2.493	3.9483	2.573	4.4485	2.647	4.9545	2.714	5.4713	2.776	5.9958	2.833	6.5272	2.886	7.0648	2.935	7.6079	2.981	8.1559	3.024	8.7085	3.064	9.2652	3.101	9.8255
3.5	0.05916	1.869	1.6032	2.018	2.0272	2.149	2.4727	2.266	2.9357	2.370	3.4132	2.458	3.8931	2.537	4.3843	2.610	4.8852	2.676	5.3948	2.737	5.9120	2.793	6.4359	2.846	6.9660	2.894	7.5015	2.939	8.0419	2.981	8.5867	3.021	9.1356	3.058	9.6881
3.2	0.05657	1.788	1.5330	1.930	1.9384	2.055	2.3643	2.167	2.8071	2.266	3.2636	2.350	3.7225	2.426	4.1922	2.495	4.6712	2.559	5.1584	2.617	5.6529	2.671	6.1539	2.721	6.6608	2.767	7.1728	2.810	7.6895	2.851	8.2105	2.889	8.7353	2.924	9.2636
3.0	0.05477	1.731	1.4843	1.869	1.8768	1.990	2.2893	2.098	2.7180	2.194	3.1600	2.275	3.6043	2.349	4.0590	2.416	4.5228	2.477	4.9946	2.534	5.4734	2.586	5.9585	2.634	6.4493	2.679	6.9450	2.721	7.4453	2.760	7.9497	2.797	8.4579	2.831	8.9694
2.8	0.05292	1.672	1.4340	1.805	1.8132	1.922	2.2116	2.027	2.6258	2.120	3.0528	2.198	3.4821	2.269	3.9214	2.334	4.3695	2.393	4.8252	2.448	5.2878	2.498	5.7565	2.545	6.2306	2.589	6.7095	2.629	7.1929	2.667	7.6802	2.702	8.1711	2.735	8.6653
2.6	0.05099	1.611	1.3818	1.740	1.7472	1.853	2.1312	1.953	2.5303	2.043	2.9418	2.118	3.3554	2.187	3.7788	2.249	4.2105	2.306	4.6497	2.359	5.0955	2.408	5.5471	2.453	6.0039	2.494	6.4655	2.533	6.9312	2.570	7.4008	2.604	7.8739	2.636	8.3501
2.5	0.05000	1.580	1.3550	1.706	1.7133	1.817	2.0898	1.915	2.4812	2.003	2.8846	2.077	3.2903	2.144	3.7054	2.206	4.1288	2.262	4.5594	2.313	4.9965	2.361	5.4394	2.405	5.8873	2.446	6.3399	2.484	6.7966	2.520	7.2571	2.553	7.7210	2.585	8.1879
2.4	0.04899	1.548	1.3276	1.671	1.6787	1.780	2.0476	1.876	2.4310	1.963	2.8264	2.035	3.2238	2.101	3.6305	2.161	4.0453	2.216	4.4673	2.266	4.8956	2.313	5.3295	2.356	5.7684	2.397	6.2118	2.434	6.6593	2.469	7.1105	2.502	7.5650	2.532	8.0225
2.2	0.04690	1.482	1.2711	1.600	1.6072	1.704	1.9604	1.796	2.3275	1.879	2.7060	1.949	3.0866	2.012	3.4760	2.069	3.8731	2.122	4.2771	2.170	4.6872	2.215	5.1026	2.256	5.5228	2.295	5.9474	2.330	6.3758	2.364	6.8078	2.395	7.2429	2.425	7.6810
2.0	0.04472	1.413	1.2119	1.526	1.5324	1.625	1.8692	1.713	2.2192	1.792	2.5801	1.858	2.9429	1.918	3.3142	1.973	3.6929	2.023	4.0781	2.069	4.4690	2.112	4.8651	2.151	5.2658	2.188	5.6706	2.222	6.0791	2.254	6.4909	2.284	6.9058	2.312	7.3235
1.8	0.04243	1.341	1.1497	1.447	1.4538	1.541	1.7732	1.625	2.1053	1.700	2.4477	1.763	2.7919	1.820	3.1441	1.871	3.5034	1.919	3.8688	1.963	4.2397	2.003	4.6155	2.041	4.9956	2.075	5.3796	2.108	5.7671	2.138	6.1578	2.166	6.5515	2.193	6.9477
1.6	0.04000	1.264	1.0840	1.365	1.3706	1.453	1.6718	1.532	1.9849	1.603	2.3077	1.662	2.6322	1.715	2.9643	1.764	3.3030	1.809	3.6475	1.851	3.9972	1.889	4.3515	1.924	4.7099	1.957	5.0719	1.987	5.4373	2.016	5.8057	2.043	6.1768	2.068	6.5503
1.5	0.03873	1.224	1.0496	1.321	1.3271	1.407	1.6187	1.483	1.9219	1.552	2.2344	1.609	2.5486	1.661	2.8702	1.708	3.1981	1.752	3.5317	1.792	3.8703	1.829	4.2133	1.863	4.5603	1.895	4.9109	1.924	5.2646	1.952	5.6213	1.978	5.9806	2.002	6.3423
1.4	0.03742	1.182	1.0140	1.276	1.2821	1.359	1.5639	1.433	1.8567	1.499	2.1587	1.554	2.4622	1.605	2.7729	1.650	3.0897	1.692	3.4120	1.731	3.7391	1.767	4.0704	1.800	4.4057	1.830	4.7443	1.859	5.0861	1.888	5.4307	1.911	5.7778	1.934	6.1273
1.2	0.03464	1.095	0.9388	1.182	1.1870	1.259	1.4479	1.327	1.7190	1.388	1.9985	1.439	2.2796	1.486	2.5672	1.528	2.8605	1.567	3.1589	1.603	3.4617	1.636	3.7685	1.666	4.0789	1.695	4.3924	1.721	4.7088	1.746	5.0279	1.769	5.3492	1.791	5.6728
1.0	0.03162	0.999	0.8570	1.079	1.0836	1.149	1.3217	1.211	1.5692	1.267	1.8244	1.314	2.0810	1.356	2.3435	1.395	2.6113	1.430	2.8836	1.463	3.1601	1.493	3.4402	1.521	3.7235	1.547	4.0097	1.571	4.2986	1.594	4.5898	1.615	4.8832	1.635	5.1785
0.8	0.02828	0.894	0.7665	0.965	0.9692	1.028	1.1822	1.083	1.4036	1.133	1.6318	1.175	1.8613	1.213	2.0961	1.248	2.3356	1.279	2.5792	1.309	2.8265	1.335	3.0770	1.360	3.3304	1.384	3.5864	1.405	3.8447	1.425	4.1052	1.444	4.3676	1.462	4.6318
0.6	0.02449	0.774	0.6638	0.836	0.8393	0.890	1.0238	0.938	1.2155	0.981	1.4132	1.018	1.6119	1.050	1.8153	1.080	2.0227	1.108	2.2336	1.133	2.4478	1.157	2.6647	1.178	2.8842	1.198	3.1059	1.217	3.3296	1.234	3.5552	1.251	3.7825	1.266	4.0113
0.5	0.02236	0.707	0.6060	0.763	0.7662	0.812	0.9346	0.856	1.1096	0.896	1.2900	0.929	1.4715	0.959	1.6571	0.986	1.8464	1.011	2.0390	1.034	2.2345	1.056	2.4326	1.076	2.6329	1.094	2.8353	1.111	3.0395	1.127	3.2455	1.142	3.4529	1.156	3.6618
0.4	0.02000	0.632	0.5420	0.682	0.6853	0.727	0.8359	0.766	0.9925	0.801	1.1539	0.831	1.3161	0.858	1.4822	0.882	1.6515	0.905	1.8238	0.925	1.9986	0.944	2.1757	0.962	2.3549	0.978	2.5360	0.994	2.7186	1.008	2.9028	1.021	3.0884	1.034	3.2752
0.2	0.01414	0.447	0.3832	0.482	0.4846	0.514	0.5911	0.542	0.7018	0.567	0.8159	0.588	0.9306	0.607	1.0480	0.624	1.1678	0.640	1.2896	0.654	1.4132	0.668	1.5385	0.680	1.6652	0.692	1.7932	0.703	1.9224	0.713	2.0526	0.722	2.1838	0.731	2.3159
0.1	0.01000	0.316	0.2710	0.341	0.3427	0.363	0.4180	0.383	0.4962	0.401	0.5769	0.415	0.6581	0.429	0.7411	0.441	0.8258	0.452	0.9119	0.463	0.9993	0.472	1.0879	0.481	1.1775	0.489	1.2680	0.497	1.3593	0.504	1.4514	0.511	1.5442	0.517	1.6376

流速.流量表 (8割水深)

流速・流量計算式(マニング公式)



全断面積 $A_0=a\cdot c-s^2$ (m²)

$f \geq s$ のとき

通水断面積 $A=a(c-f)$ (m²)

潤　辺 プレキャスト部 $P_1=2(c-f)$ (m)

現場打ち部 $P_2=a$ (m)

$f<s$ のとき

通水断面積 $A=a(c-s)+(s-f)(a-s+f)$ (m²)

潤　辺 プレキャスト部 $P_1=2(c-s)+2\sqrt{2}(s-f)$ (m)

現場打ち部 $P_2=a$ (m)

潤　辺 $P=P_1+P_2$ (m)

粗度係数 $n=\left[\frac{1}{P}(P_1\cdot n_1^{1.5}+P_2\cdot n_2^{1.5})\right]^{\frac{2}{3}}$

プレキャスト部 $n_1=$

現場打ち部 $n_2=$

径　深 $R=A/P$ (m)

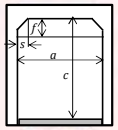
流　速 $V=1/n\cdot R^{2/3}\cdot I^{1/2}$ (m/s)

流　量 $Q=A\cdot V$ (m³/s)

サイズ		1900×600		1900×700		1900×800		1900×900		1900×1000		1900×1100		1900×1200		1900×1300		1900×1400		1900×1500		1900×1600		1900×1700		1900×1800		1900×1900		1900×2000		1900×2100		1900×2200	
a = P_2		1.900		1.900		1.900		1.900		1.900		1.900		1.900		1.900		1.900		1.900		1.900		1.900		1.900		1.900		1.900		1.900		1.900	
c		0.600		0.700		0.800		0.900		1.000		1.100		1.200		1.300		1.400		1.500		1.600		1.700		1.800		1.900		2.000		2.100		2.200	
s		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200	
f = c (1 − 0.8)		0.120		0.140		0.160		0.180		0.200		0.220		0.240		0.260		0.280		0.300		0.320		0.340		0.360		0.380		0.400		0.420		0.440	
p_1= 2 (c − f) or …		1.026		1.170		1.313		1.457		1.600		1.760		1.920		2.080		2.240		2.400		2.560		2.720		2.880		3.040		3.200		3.360		3.520	
n_1		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013	
n_2		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015	
全断面積 A_0(m²)		1.1000		1.2900		1.4800		1.6700		1.8600		2.0500		2.2400		2.4300		2.6200		2.8100		3.0000		3.1900		3.3800		3.5700		3.7600		3.9500		4.1400	
通水断面積 $A(m_3)$		0.9056		1.0604		1.2144		1.3676		1.5200		1.6720		1.8240		1.9760		2.1280		2.2800		2.4320		2.5840		2.7360		2.8880		3.0400		3.1920		3.3440	
潤　辺 P(m)		2.9263		3.0697		3.2131		3.3566		3.5000		3.6600		3.8200		3.9800		4.1400		4.3000		4.4600		4.6200		4.7800		4.9400		5.1000		5.2600		5.4200	
径　深 R(m)		0.3095		0.3454		0.3779		0.4074		0.4343		0.4568		0.4775		0.4965		0.5140		0.5302		0.5453		0.5593		0.5724		0.5846		0.5961		0.6068		0.6170	
粗度係数 n		0.0143		0.0143		0.0142		0.0141		0.0141		0.0141		0.0140		0.0140		0.0139		0.0139		0.0139		0.0138		0.0138		0.0138		0.0138		0.0137		0.0137	
	$R^{2/3}$	0.4575		0.4923		0.5227		0.5496		0.5735		0.5932		0.6109		0.6270		0.6417		0.6551		0.6675		0.6788		0.6894		0.6992		0.7083		0.7168		0.7247	
I(‰)	$I^{1/2}$	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q
20.0	0.14142	4.520	4.0934	4.884	5.1794	5.206	6.3224	5.493	7.5123	5.751	8.7408	5.968	9.9783	6.166	11.2459	6.346	12.5399	6.512	13.8571	6.664	15.1950	6.806	16.5514	6.937	17.9242	7.058	19.3119	7.172	20.7130	7.278	22.1263	7.378	23.5507	7.472	24.9851
10.0	0.10000	3.196	2.8945	3.454	3.6624	3.681	4.4706	3.884	5.3120	4.066	6.1807	4.220	7.0557	4.360	7.9521	4.487	8.8670	4.605	9.7985	4.712	10.7445	4.812	11.7036	4.905	12.6743	4.991	13.6556	5.071	14.6463	5.147	15.6457	5.217	16.6528	5.283	17.6671
9.5	0.09747	3.115	2.8212	3.366	3.5697	3.588	4.3574	3.786	5.1775	3.963	6.0242	4.113	6.8771	4.249	7.7507	4.374	8.6425	4.488	9.5504	4.593	10.4724	4.690	11.4072	4.781	12.3534	4.865	13.3098	4.943	14.2755	5.016	15.2495	5.085	16.2312	5.149	17.2198
9.0	0.09487	3.032	2.7459	3.277	3.4744	3.492	4.2412	3.685	5.0394	3.858	5.8635	4.003	6.6937	4.136	7.5440	4.257	8.4120	4.368	9.2956	4.471	10.1931	4.565	11.1030	4.653	12.0239	4.735	12.9548	4.811	13.8947	4.882	14.8428	4.949	15.7983	5.012	16.7605
8.5	0.09220	2.947	2.6686	3.184	3.3766	3.394	4.1217	3.581	4.8974	3.749	5.6983	3.891	6.5051	4.019	7.3314	4.137	8.1750	4.245	9.0337	4.345	9.9059	4.437	10.7902	4.522	11.6852	4.602	12.5898	4.676	13.5032	4.745	14.4246	4.810	15.3532	4.871	16.2883
8.0	0.08944	2.859	2.5889	3.089	3.2757	3.293	3.9987	3.474	4.7512	3.637	5.5282	3.774	6.3109	3.899	7.1125	4.014	7.9309	4.118	8.7640	4.215	9.6102	4.304	10.4680	4.387	11.3363	4.464	12.2139	4.536	13.1001	4.603	13.9939	4.666	14.8947	4.725	15.8020
7.5	0.08660	2.768	2.5067	2.991	3.1717	3.188	3.8717	3.364	4.6003	3.521	5.3526	3.655	6.1105	3.776	6.8867	3.886	7.6791	3.988	8.4857	4.081	9.3050	4.168	10.1356	4.248	10.9763	4.322	11.8261	4.392	12.6841	4.457	13.5496	4.518	14.4218	4.575	15.3002
7.0	0.08367	2.674	2.4217	2.890	3.0642	3.080	3.7404	3.250	4.4443	3.402	5.1711	3.531	5.9033	3.648	6.6532	3.754	7.4187	3.852	8.1980	3.943	8.9895	4.026	9.7919	4.104	10.6041	4.176	11.4251	4.243	12.2540	4.306	13.0901	4.365	13.9328	4.420	14.7814
6.5	0.08062	2.577	2.3336	2.785	2.9527	2.968	3.6043	3.132	4.2827	3.278	4.9830	3.402	5.6885	3.515	6.4112	3.618	7.1488	3.712	7.8998	3.799	8.6625	3.880	9.4357	3.954	10.2184	4.024	11.0095	4.089	11.8082	4.149	12.6139	4.206	13.4259	4.259	14.2437
6.0	0.07746	2.476	2.2421	2.675	2.8369	2.852	3.4629	3.009	4.1147	3.150	4.7876	3.269	5.4654	3.377	6.1596	3.476	6.8684	3.567	7.5899	3.650	8.3227	3.728	9.0655	3.799	9.8175	3.866	10.5776	3.928	11.3450	3.987	12.1191	4.041	12.8992	4.092	13.6849
5.5	0.07416	2.370	2.1466	2.561	2.7161	2.730	3.3155	2.881	3.9395	3.016	4.5837	3.130	5.2327	3.233	5.8974	3.328	6.5760	3.415	7.2667	3.495	7.9683	3.569	8.6796	3.638	9.3995	3.701	10.1273	3.761	10.8620	3.817	11.6031	3.869	12.3501	3.918	13.1023
5.0	0.07071	2.260	2.0467	2.442	2.5897	2.603	3.1612	2.747	3.7562	2.875	4.3704	2.984	4.9892	3.083	5.6230	3.173	6.2699	3.256	6.9286	3.332	7.5975	3.403	8.2757	3.468	8.9621	3.529	9.6560	3.586	10.3565	3.639	11.0632	3.689	11.7753	3.736	12.4925
4.8	0.06928	2.214	2.0054	2.393	2.5374	2.551	3.0973	2.691	3.6803	2.817	4.2821	2.924	4.8884	3.020	5.5093	3.109	6.1433	3.190	6.7886	3.265	7.4440	3.334	8.1085	3.398	8.7810	3.458	9.4609	3.514	10.1473	3.566	10.8396	3.614	11.5374	3.660	12.2401
4.6	0.06782	2.168	1.9631	2.342	2.4840	2.497	3.0321	2.634	3.6028	2.758	4.1920	2.862	4.7854	2.957	5.3933	3.043	6.0139	3.123	6.6456	3.196	7.2873	3.264	7.9378	3.327	8.5961	3.385	9.2617	3.440	9.9336	3.491	10.6114	3.538	11.2945	3.583	11.9824
4.5	0.06708	2.144	1.9417	2.317	2.4568	2.470	2.9990	2.606	3.5634	2.728	4.1461	2.831	4.7331	2.925	5.3344	3.010	5.9482	3.089	6.5730	3.161	7.2076	3.228	7.8510	3.290	8.5022	3.348	9.1604	3.402	9.8251	3.452	10.4954	3.500	11.1711	3.544	11.8515
4.4	0.06633	2.120	1.9200	2.291	2.4294	2.442	2.9655	2.576	3.5236	2.697	4.0998	2.799	4.6803	2.892	5.2748	2.977	5.8817	3.054	6.4996	3.126	7.1271	3.192	7.7633	3.254	8.4072	3.311	9.0581	3.364	9.7153	3.414	10.3782	3.461	11.0462	3.504	11.7190
4.2	0.06481	2.071	1.8758	2.238	2.3735	2.386	2.8973	2.517	3.4426	2.635	4.0056	2.735	4.5726	2.825	5.1535	2.908	5.7465	2.984	6.3501	3.054	6.9632	3.119	7.5848	3.179	8.2139	3.235	8.8498	3.287	9.4919	3.335	10.1396	3.381	10.7923	3.424	11.4496
4.0	0.06325	2.021	1.8306	2.184	2.3163	2.328	2.8275	2.457	3.3596	2.572	3.9090	2.669	4.4624	2.757	5.0293	2.838	5.6080	2.912	6.1971	2.980	6.7954	3.044	7.4020	3.102	8.0159	3.157	8.6366	3.207	9.2632	3.255	9.8952	3.300	10.5322	3.341	11.1737
3.8	0.06164	1.970	1.7843	2.129	2.2576	2.269	2.7559	2.394	3.2745	2.507	3.8100	2.601	4.3495	2.687	4.9020	2.766	5.4660	2.838	6.0402	2.905	6.6234	2.967	7.2146	3.024	7.8130	3.077	8.4179	3.126	9.0286	3.173	9.6446	3.216	10.2655	3.257	10.8907
3.6	0.06000	1.918	1.7367	2.072	2.1974	2.209	2.6824	2.331	3.1872	2.440	3.7084	2.532	4.2334	2.616	4.7712	2.692	5.3202	2.763	5.8791	2.827	6.4467	2.887	7.0221	2.943	7.6046	2.995	8.1934	3.043	8.7878	3.088	9.3874	3.130	9.9917	3.170	10.6003
3.5	0.05916	1.891	1.7124	2.043	2.1667	2.178	2.6449	2.298	3.1426	2.406	3.6566	2.497	4.1742	2.579	4.7045	2.655	5.2458	2.724	5.7968	2.788	6.3565	2.847	6.9239	2.902	7.4982	2.953	8.0788	3.000	8.6649	3.045	9.2561	3.086	9.8520	3.126	10.4520
3.2	0.05657	1.808	1.6374	1.954	2.0718	2.082	2.5290	2.197	3.0049	2.300	3.4963	2.387	3.9913	2.466	4.4984	2.538	5.0159	2.605	5.5428	2.666	6.0780	2.722	6.6205	2.775	7.1697	2.823	7.7248	2.869	8.2852	2.911	8.8505	2.951	9.4203	2.989	9.9940
3.0	0.05477	1.751	1.5854	1.892	2.0060	2.016	2.4487	2.127	2.9095	2.227	3.3853	2.311	3.8646	2.388	4.3555	2.458	4.8567	2.522	5.3668	2.581	5.8850	2.636	6.4103	2.687	6.9420	2.734	7.4795	2.778	8.0221	2.819	8.5695	2.857	9.1211	2.894	9.6767
2.8	0.05292	1.691	1.5316	1.828	1.9380	1.948	2.3656	2.055	2.8109	2.152	3.2705	2.233	3.7336	2.307	4.2078	2.374	4.6920	2.436	5.1849	2.494	5.6855	2.546	6.1929	2.595	6.7066	2.641	7.2259	2.684	7.7501	2.723	8.2789	2.761	8.8119	2.796	9.3486
2.6	0.05099	1.630	1.4759	1.761	1.8675	1.877	2.2796	1.981	2.7086	2.073	3.1516	2.152	3.5977	2.223	4.0548	2.288	4.5213	2.348	4.9963	2.403	5.4786	2.454	5.9677	2.501	6.4627	2.545	6.9630	2.586	7.4682	2.624	7.9778	2.660	8.4913	2.694	9.0085
2.5	0.05000	1.598	1.4472	1.727	1.8312	1.841	2.2353	1.942	2.6560	2.033	3.0904	2.110	3.5279	2.180	3.9760	2.244	4.4335	2.302	4.8992	2.356	5.3722	2.406	5.8518	2.452	6.3372	2.496	6.8278	2.536	7.3232	2.573	7.8228	2.609	8.3264	2.642	8.8336
2.4	0.04899	1.566	1.4180	1.692	1.7942	1.803	2.1902	1.903	2.6023	1.992	3.0279	2.067	3.4566	2.136	3.8957	2.198	4.3439	2.256	4.8002	2.309	5.2637	2.358	5.7336	2.403	6.2091	2.445	6.6898	2.484	7.1752	2.521	7.6648	2.556	8.1582	2.588	8.6551
2.2	0.04690	1.499	1.3576	1.620	1.7178	1.727	2.0969	1.822	2.4916	1.907	2.8990	1.979	3.3094	2.045	3.7298	2.105	4.1590	2.160	4.5959	2.210	5.0396	2.257	5.4895	2.301	5.9448	2.341	6.4050	2.379	6.8697	2.414	7.3385	2.447	7.8109	2.478	8.2866
2.0	0.04472	1.429	1.2945	1.545	1.6379	1.646	1.9993	1.737	2.3756	1.818	2.7641	1.887	3.1554	1.950	3.5563	2.007	3.9655	2.059	4.3820	2.107	4.8051	2.152	5.2340	2.194	5.6681	2.232	6.1070	2.268	6.5500	2.302	6.9970	2.333	7.4474	2.363	7.9010
1.8	0.04243	1.356	1.2280	1.465	1.5538	1.562	1.8967	1.648	2.2537	1.725	2.6222	1.790	2.9935	1.850	3.3738	1.904	3.7620	1.954	4.1571	1.999	4.5585	2.042	4.9654	2.081	5.3773	2.118	5.7936	2.152	6.2139	2.184	6.6379	2.213	7.0652	2.241	7.4955
1.6	0.04000	1.278	1.1578	1.382	1.4650	1.473	1.7883	1.554	2.1248	1.627	2.4723	1.688	2.8223	1.744	3.1808	1.795	3.5468	1.842	3.9194	1.885	4.2978	1.925	4.6814	1.962	5.0697	1.996	5.4622	2.029	5.8585	2.059	6.2583	2.087	6.6611	2.113	7.0669
1.5	0.03873	1.238	1.1210	1.338	1.4184	1.426	1.7315	1.504	2.0573	1.575	2.3938	1.634	2.7327	1.688	3.0798	1.738	3.4342	1.783	3.7949	1.825	4.1613	1.864	4.5328	1.900	4.9087	1.933	5.2888	1.964	5.6725	1.993	6.0595	2.021	6.4496	2.046	6.8424
1.4	0.03742	1.196	1.0830	1.292	1.3703	1.377	1.6728	1.453	1.9876	1.521	2.3126	1.579	2.6400	1.631	2.9754	1.679	3.3177	1.723	3.6662	1.763	4.0202	1.801	4.3791	1.835	4.7423	1.867	5.1095	1.898	5.4802	1.926	5.8541	1.952	6.2309	1.977	6.6104
1.2	0.03464	1.107	1.0027	1.196	1.2687	1.275	1.5487	1.346	1.8401	1.409	2.1411	1.462	2.4442	1.510	2.7547	1.554	3.0716	1.595	3.3943	1.632	3.7220	1.667	4.0542	1.699	4.3905	1.729	4.7304	1.757	5.0736	1.783	5.4198	1.807	5.7687	1.830	6.1201
1.0	0.03162	1.011	0.9153	1.092	1.1581	1.164	1.4137	1.228	1.6798	1.286	1.9545	1.334	2.2312	1.379	2.5147	1.419	2.8040	1.456	3.0985	1.490	3.3977	1.522	3.7010	1.551	4.0080	1.578	4.3183	1.604	4.6316	1.627	4.9476	1.650	5.2661	1.671	5.5868
0.8	0.02828	0.904	0.8187	0.977	1.0359	1.041	1.2645	1.099	1.5025	1.150	1.7482	1.194	1.9957	1.233	2.2492	1.269	2.5080	1.302	2.7714	1.333	3.0390	1.361	3.3103	1.387	3.5848	1.412	3.8624	1.434	4.1426	1.456	4.4253	1.476	4.7101	1.494	4.9970
0.6	0.02449	0.783	0.7090	0.846	0.8971	0.902	1.0951	0.951	1.3012	0.996	1.5140	1.034	1.7283	1.068	1.9478	1.099	2.1720	1.128	2.4001	1.154	2.6319	1.179	2.8668	1.201	3.1046	1.223	3.3449	1.242	3.5876	1.261	3.8324	1.278	4.0791	1.294	4.3275
0.5	0.02236	0.715	0.6472	0.772	0.8189	0.823	0.9997	0.869	1.1878	0.909	1.3820	0.944	1.5777	0.975	1.7781	1.003	1.9827	1.030	2.1910	1.054	2.4025	1.076	2.6170	1.097	2.8341	1.116	3.0535	1.134	3.2750	1.151	3.4985	1.167	3.7237	1.181	3.9505
0.4	0.02000	0.639	0.5789	0.691	0.7325	0.736	0.8941	0.777	1.0624	0.813	1.2361	0.844	1.4111	0.872	1.5904	0.897	1.7734	0.921	1.9597	0.942	2.1489	0.962	2.3407	0.981	2.5349	0.998	2.7311	1.014	2.9293	1.029	3.1291	1.043	3.3306	1.057	3.5334
0.2	0.01414	0.452	0.4093	0.488	0.5179	0.521	0.6322	0.549	0.7512	0.575	0.8741	0.597	0.9978	0.617	1.1246	0.635	1.2540	0.651	1.3857	0.666	1.5195	0.681	1.6551	0.694	1.7924	0.706	1.9312	0.717	2.0713	0.728	2.2126	0.738	2.3551	0.747	2.4985
0.1	0.01000	0.320	0.2894	0.345	0.3662	0.368	0.4471	0.388	0.5312	0.407	0.6181	0.422	0.7056	0.436	0.7952	0.449	0.8867	0.460	0.9798	0.471	1.0744	0.481	1.1704	0.490	1.2674	0.499	1.3656	0.507	1.4646	0.515	1.5646	0.522	1.6653	0.528	1.7667

流速.流量表 (8割水深)

流速・流量計算式(マニング公式)



全断面積 $A_0=a\cdot c-s^2$ (m²)

$f \geq s$ のとき

通水断面積 $A=a(c-f)$ (m²)

潤　辺 プレキャスト部 $P_1=2(c-f)$ (m)

現場打ち部 $P_2=a$ (m)

$f<s$ のとき

通水断面積 $A=a(c-s)+(s-f)(a-s+f)$ (m²)

潤　辺 プレキャスト部 $P_1=2(c-s)+2\sqrt{2}(s-f)$ (m)

現場打ち部 $P_2=a$ (m)

潤　辺 $P=P_1+P_2$ (m)

粗度係数 $n=\left[\frac{1}{P}(P_1\cdot n_1^{1.5}+P_2\cdot n_2^{1.5})\right]^{0.5}$

プレキャスト部 $n_1=$

現場打ち部 $n_2=$

径　深 $R=A/P$ (m)

流　速 $V=1/n\cdot R^{2/3}\cdot I^{1/2}$ (m/s)

流　量 $Q=A\cdot V$ (m³/s)

サイズ		2000×600		2000×700		2000×800		2000×900		2000×1000		2000×1100		2000×1200		2000×1300		2000×1400		2000×1500		2000×1600		2000×1700		2000×1800		2000×1900		2000×2000		2000×2100		2000×2200	
a = P_2		2.000		2.000		2.000		2.000		2.000		2.000		2.000		2.000		2.000		2.000		2.000		2.000		2.000		2.000		2.000		2.000		2.000	
c		0.600		0.700		0.800		0.900		1.000		1.100		1.200		1.300		1.400		1.500		1.600		1.700		1.800		1.900		2.000		2.100		2.200	
s		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200		0.200	
f = c (1 − 0.8)		0.120		0.140		0.160		0.180		0.200		0.220		0.240		0.260		0.280		0.300		0.320		0.340		0.360		0.380		0.400		0.420		0.440	
p_1= 2 (c − f) or …		1.026		1.170		1.313		1.457		1.600		1.760		1.920		2.080		2.240		2.400		2.560		2.720		2.880		3.040		3.200		3.360		3.520	
n_1		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013		0.013	
n_2		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015		0.015	
全断面積 A_0(m²)		1.1600		1.3600		1.5600		1.7600		1.9600		2.1600		2.3600		2.5600		2.7600		2.9600		3.1600		3.3600		3.5600		3.7600		3.9600		4.1600		4.3600	
通水断面積 $A(m_3)$		0.9536		1.1164		1.2784		1.4396		1.6000		1.7600		1.9200		2.0800		2.2400		2.4000		2.5600		2.7200		2.8800		3.0400		3.2000		3.3600		3.5200	
潤　辺 P(m)		3.0263		3.1697		3.3131		3.4566		3.6000		3.7600		3.9200		4.0800		4.2400		4.4000		4.5600		4.7200		4.8800		5.0400		5.2000		5.3600		5.5200	
径　深 R(m)		0.3151		0.3522		0.3859		0.4165		0.4444		0.4681		0.4898		0.5098		0.5283		0.5455		0.5614		0.5763		0.5902		0.6032		0.6154		0.6269		0.6377	
粗度係数 n		0.0143		0.0143		0.0142		0.0142		0.0141		0.0141		0.0140		0.0140		0.0140		0.0139		0.0139		0.0139		0.0138		0.0138		0.0138		0.0138		0.0137	
$R^{2/3}$		0.4631		0.4987		0.5300		0.5577		0.5824		0.6029		0.6214		0.6382		0.6535		0.6676		0.6805		0.6925		0.7036		0.7139		0.7235		0.7325		0.7409	
I(‰)	$I^{1/2}$	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q
20.0	0.14142	4.568	4.3556	4.940	5.5147	5.270	6.7366	5.564	8.0103	5.829	9.3271	6.055	10.6560	6.260	12.0184	6.447	13.4103	6.620	14.8284	6.779	16.2696	6.926	17.7317	7.063	19.2124	7.191	20.7099	7.310	22.2226	7.422	23.7491	7.526	25.2882	7.625	26.8388
10.0	0.10000	3.230	3.0799	3.493	3.8995	3.726	4.7635	3.935	5.6641	4.122	6.5952	4.281	7.5349	4.426	8.4983	4.559	9.4825	4.681	10.4852	4.793	11.5044	4.898	12.5382	4.995	13.5852	5.085	14.6441	5.169	15.7137	5.248	16.7932	5.322	17.8815	5.391	18.9779
9.5	0.09747	3.148	3.0019	3.404	3.8008	3.632	4.6428	3.835	5.5207	4.018	6.4282	4.173	7.3441	4.314	8.2831	4.443	9.2424	4.562	10.2198	4.672	11.2131	4.774	12.2207	4.868	13.2412	4.956	14.2733	5.038	15.3159	5.115	16.3680	5.187	17.4287	5.255	18.4974
9.0	0.09487	3.064	2.9218	3.314	3.6994	3.535	4.5190	3.733	5.3734	3.910	6.2568	4.062	7.1482	4.199	8.0622	4.325	8.9959	4.441	9.9472	4.548	10.9140	4.646	11.8948	4.738	12.8881	4.824	13.8926	4.904	14.9074	4.979	15.9314	5.049	16.9639	5.115	18.0040
8.5	0.09220	2.978	2.8395	3.220	3.5952	3.435	4.3917	3.627	5.2221	3.800	6.0805	3.947	6.9468	4.081	7.8350	4.203	8.7425	4.316	9.6669	4.419	10.6065	4.515	11.5598	4.605	12.5249	4.688	13.5012	4.766	14.4874	4.838	15.4825	4.907	16.4859	4.971	17.4968
8.0	0.08944	2.889	2.7547	3.124	3.4878	3.333	4.2606	3.519	5.0661	3.687	5.8990	3.829	6.7394	3.959	7.6011	4.078	8.4814	4.187	9.3783	4.287	10.2898	4.381	11.2145	4.467	12.1510	4.548	13.0981	4.623	14.0548	4.694	15.0203	4.760	15.9937	4.822	16.9744
7.5	0.08660	2.797	2.6672	3.025	3.3771	3.227	4.1253	3.407	4.9053	3.570	5.7116	3.708	6.5254	3.833	7.3597	3.948	8.2121	4.054	9.0805	4.151	9.9631	4.242	10.8584	4.325	11.7651	4.404	12.6822	4.476	13.6085	4.545	14.5433	4.609	15.4858	4.669	16.4354
7.0	0.08367	2.702	2.5768	2.922	3.2626	3.117	3.9854	3.292	4.7389	3.449	5.5180	3.582	6.3042	3.703	7.1102	3.814	7.9337	3.916	8.7726	4.011	9.6253	4.098	10.4902	4.179	11.3662	4.254	12.2521	4.325	13.1471	4.391	14.0502	4.453	14.9607	4.511	15.8781
6.5	0.08062	2.604	2.4831	2.816	3.1439	3.004	3.8404	3.172	4.5666	3.323	5.3173	3.452	6.0748	3.569	6.8515	3.676	7.6451	3.774	8.4535	3.865	9.2751	3.949	10.1086	4.027	10.9527	4.099	11.8064	4.167	12.6688	4.231	13.5391	4.291	14.4165	4.347	15.3005
6.0	0.07746	2.502	2.3856	2.706	3.0205	2.886	3.6898	3.048	4.3874	3.193	5.1087	3.316	5.8365	3.429	6.5828	3.531	7.3451	3.626	8.1218	3.713	8.9113	3.794	9.7120	3.869	10.5231	3.939	11.3433	4.004	12.1718	4.065	13.0079	4.122	13.8509	4.176	14.7002
5.5	0.07416	2.395	2.2841	2.590	2.8919	2.763	3.5327	2.918	4.2006	3.057	4.8912	3.175	5.5880	3.283	6.3025	3.381	7.0324	3.471	7.7761	3.555	8.5319	3.632	9.2986	3.704	10.0751	3.771	10.8604	3.833	11.6536	3.892	12.4541	3.947	13.2613	3.998	14.0744
5.0	0.07071	2.284	2.1778	2.470	2.7574	2.635	3.3683	2.782	4.0051	2.915	4.6635	3.027	5.3280	3.130	6.0092	3.224	6.7052	3.310	7.4142	3.390	8.1348	3.463	8.8658	3.532	9.6062	3.595	10.3549	3.655	11.1113	3.711	11.8746	3.763	12.6441	3.812	13.4194
4.8	0.06928	2.238	2.1338	2.420	2.7016	2.582	3.3002	2.726	3.9242	2.856	4.5693	2.966	5.2203	3.067	5.8878	3.159	6.5697	3.243	7.2644	3.321	7.9705	3.393	8.6867	3.460	9.4121	3.523	10.1457	3.581	10.8868	3.636	11.6346	3.687	12.3887	3.735	13.1483
4.6	0.06782	2.191	2.0889	2.369	2.6448	2.527	3.2307	2.669	3.8416	2.796	4.4731	2.904	5.1104	3.002	5.7638	3.092	6.4314	3.175	7.1114	3.251	7.8026	3.322	8.5038	3.387	9.2139	3.449	9.9321	3.506	10.6576	3.559	11.3897	3.609	12.1278	3.657	12.8715
4.5	0.06708	2.167	2.0660	2.343	2.6159	2.500	3.1954	2.639	3.7996	2.765	4.4242	2.872	5.0546	2.969	5.7008	3.058	6.3611	3.140	7.0337	3.216	7.7174	3.285	8.4109	3.350	9.1132	3.411	9.8236	3.467	10.5411	3.520	11.2652	3.570	11.9953	3.617	12.7308
4.4	0.06633	2.142	2.0429	2.317	2.5866	2.472	3.1597	2.610	3.7571	2.734	4.3748	2.840	4.9981	2.936	5.6371	3.024	6.2900	3.105	6.9551	3.180	7.6311	3.249	8.3169	3.313	9.0114	3.373	9.7138	3.429	10.4233	3.481	11.1393	3.530	11.8612	3.576	12.5885
4.2	0.06481	2.093	1.9960	2.264	2.5272	2.415	3.0871	2.550	3.6708	2.671	4.2742	2.775	4.8832	2.869	5.5075	2.955	6.1454	3.034	6.7952	3.107	7.4557	3.174	8.1257	3.237	8.8042	3.295	9.4905	3.350	10.1837	3.401	10.8832	3.449	11.5885	3.494	12.2991
4.0	0.06325	2.043	1.9479	2.209	2.4663	2.357	3.0127	2.488	3.5823	2.607	4.1712	2.708	4.7655	2.799	5.3748	2.883	5.9973	2.960	6.6315	3.032	7.2760	3.098	7.9299	3.159	8.5920	3.216	9.2617	3.269	9.9382	3.319	10.6209	3.366	11.3092	3.410	12.0027
3.8	0.06164	1.991	1.8986	2.153	2.4038	2.297	2.9364	2.425	3.4916	2.541	4.0656	2.639	4.6448	2.728	5.2387	2.810	5.8454	2.886	6.4635	2.955	7.0918	3.019	7.7291	3.079	8.3745	3.134	9.0272	3.186	9.6866	3.235	10.3520	3.281	11.0229	3.324	11.6988
3.6	0.06000	1.938	1.8479	2.096	2.3397	2.236	2.8581	2.361	3.3985	2.473	3.9571	2.569	4.5209	2.656	5.0990	2.735	5.6895	2.809	6.2911	2.876	6.9026	2.939	7.5229	2.997	8.1511	3.051	8.7865	3.101	9.4282	3.149	10.0759	3.193	10.7289	3.235	11.3868
3.5	0.05916	1.911	1.8221	2.066	2.3070	2.204	2.8181	2.328	3.3509	2.439	3.9018	2.533	4.4577	2.619	5.0277	2.697	5.6099	2.769	6.2032	2.836	6.8061	2.898	7.4177	2.955	8.0371	3.008	8.6636	3.058	9.2964	3.105	9.9350	3.148	10.5788	3.190	11.2275
3.2	0.05657	1.827	1.7422	1.976	2.2059	2.108	2.6946	2.226	3.2041	2.332	3.7308	2.422	4.2624	2.504	4.8074	2.579	5.3641	2.648	5.9314	2.712	6.5079	2.771	7.0927	2.825	7.6850	2.876	8.2840	2.924	8.8890	2.969	9.4996	3.011	10.1153	3.050	10.7355
3.0	0.05477	1.769	1.6869	1.913	2.1358	2.041	2.6091	2.155	3.1024	2.258	3.6124	2.345	4.1270	2.424	4.6547	2.497	5.1938	2.564	5.7430	2.626	6.3012	2.683	6.8675	2.736	7.4409	2.785	8.0209	2.831	8.6068	2.874	9.1980	2.915	9.7941	2.953	10.3946
2.8	0.05292	1.709	1.6297	1.848	2.0634	1.972	2.5206	2.082	2.9972	2.181	3.4899	2.265	3.9871	2.342	4.4969	2.412	5.0177	2.477	5.5483	2.536	6.0875	2.592	6.6346	2.643	7.1886	2.691	7.7489	2.735	8.3149	2.777	8.8861	2.816	9.4620	2.853	10.0422
2.6	0.05099	1.647	1.5704	1.781	1.9884	1.900	2.4289	2.006	2.8881	2.102	3.3629	2.183	3.8421	2.257	4.3333	2.325	4.8352	2.387	5.3464	2.444	5.8661	2.497	6.3933	2.547	6.9271	2.593	7.4671	2.636	8.0125	2.676	8.5629	2.714	9.1178	2.749	9.6769
2.5	0.05000	1.615	1.5399	1.746	1.9497	1.863	2.3817	1.967	2.8321	2.061	3.2976	2.141	3.7675	2.213	4.2491	2.279	4.7413	2.340	5.2426	2.397	5.7522	2.449	6.2691	2.497	6.7926	2.542	7.3220	2.584	7.8569	2.624	8.3966	2.661	8.9407	2.696	9.4890
2.4	0.04899	1.582	1.5088	1.711	1.9104	1.825	2.3336	1.928	2.7748	2.019	3.2310	2.097	3.6913	2.168	4.1633	2.233	4.6455	2.293	5.1367	2.348	5.6360	2.399	6.1424	2.447	6.6554	2.491	7.1741	2.532	7.6981	2.571	8.2269	2.607	8.7601	2.641	9.2972
2.2	0.04690	1.515	1.4446	1.638	1.8290	1.748	2.2343	1.845	2.6567	1.933	3.0934	2.008	3.5342	2.076	3.9861	2.138	4.4477	2.196	4.9180	2.248	5.3960	2.297	5.8809	2.343	6.3720	2.385	6.8687	2.424	7.3704	2.461	7.8767	2.496	8.3872	2.529	8.9014
2.0	0.04472	1.444	1.3774	1.562	1.7439	1.666	2.1303	1.760	2.5331	1.843	2.9495	1.915	3.3697	1.979	3.8006	2.039	4.2407	2.093	4.6891	2.144	5.1449	2.190	5.6073	2.234	6.0755	2.274	6.5490	2.312	7.0274	2.347	7.5101	2.380	7.9968	2.411	8.4872
1.8	0.04243	1.370	1.3067	1.482	1.6544	1.581	2.0210	1.669	2.4031	1.749	2.7981	1.816	3.1968	1.878	3.6055	1.934	4.0231	1.986	4.4485	2.034	4.8809	2.078	5.3195	2.119	5.7637	2.157	6.2130	2.193	6.6668	2.226	7.1247	2.258	7.5865	2.287	8.0517
1.6	0.04000	1.292	1.2319	1.397	1.5598	1.490	1.9054	1.574	2.2656	1.649	2.6381	1.712	3.0140	1.770	3.3993	1.824	3.7930	1.872	4.1941	1.917	4.6018	1.959	5.0153	1.998	5.4341	2.034	5.8576	2.068	6.2855	2.099	6.7173	2.129	7.1526	2.157	7.5912
1.5	0.03873	1.251	1.1928	1.353	1.5103	1.443	1.8449	1.524	2.1937	1.596	2.5543	1.658	2.9183	1.714	3.2914	1.766	3.6726	1.813	4.0609	1.857	4.4556	1.897	4.8560	1.934	5.2615	1.969	5.6716	2.002	6.0859	2.032	6.5040	2.061	6.9255	2.088	7.3501
1.4	0.03742	1.208	1.1524	1.307	1.4591	1.394	1.7823	1.472	2.1193	1.542	2.4677	1.602	2.8193	1.656	3.1798	1.706	3.5480	1.751	3.9232	1.794	4.3045	1.833	4.6914	1.869	5.0831	1.903	5.4793	1.934	5.8795	1.964	6.2834	1.991	6.6906	2.017	7.1009
1.2	0.03464	1.119	1.0669	1.210	1.3508	1.291	1.6501	1.363	1.9621	1.428	2.2847	1.483	2.6102	1.533	2.9439	1.579	3.2848	1.622	3.6322	1.661	3.9852	1.697	4.3434	1.730	4.7061	1.761	5.0729	1.791	5.4434	1.818	5.8173	1.844	6.1943	1.868	6.5741
1.0	0.03162	1.021	0.9739	1.105	1.2331	1.178	1.5063	1.244	1.7911	1.303	2.0856	1.354	2.3827	1.400	2.6874	1.442	2.9986	1.480	3.3157	1.516	3.6380	1.549	3.9649	1.579	4.2960	1.608	4.6309	1.635	4.9691	1.660	5.3105	1.683	5.6546	1.705	6.0013
0.8	0.02828	0.914	0.8711	0.988	1.1029	1.054	1.3473	1.113	1.6021	1.166	1.8654	1.211	2.1312	1.252	2.4037	1.289	2.6821	1.324	2.9657	1.356	3.2539	1.385	3.5463	1.413	3.8425	1.438	4.1420	1.462	4.4445	1.484	4.7498	1.505	5.0576	1.525	5.3678
0.6	0.02449	0.791	0.7544	0.856	0.9552	0.913	1.1668	0.964	1.3874	1.010	1.6155	1.049	1.8457	1.084	2.0816	1.117	2.3227	1.147	2.5684	1.174	2.8180	1.200	3.0712	1.223	3.3277	1.246	3.5871	1.266	3.8491	1.285	4.1135	1.304	4.3800	1.321	4.6486
0.5	0.02236	0.722	0.6887	0.781	0.8720	0.833	1.0651	0.880	1.2665	0.922	1.4747	0.957	1.6849	0.990	1.9003	1.019	2.1204	1.047	2.3446	1.072	2.5725	1.095	2.8036	1.117	3.0377	1.137	3.2745	1.156	3.5137	1.173	3.7551	1.190	3.9984	1.206	4.2436
0.4	0.02000	0.646	0.6160	0.699	0.7799	0.745	0.9527	0.787	1.1328	0.824	1.3190	0.856	1.5070	0.885	1.6997	0.912	1.8965	0.936	2.0970	0.959	2.3009	0.980	2.5076	0.999	2.7170	1.017	2.9288	1.034	3.1427	1.050	3.3586	1.064	3.5763	1.078	3.7956
0.2	0.01414	0.457	0.4356	0.494	0.5515	0.527	0.6737	0.556	0.8010	0.583	0.9327	0.605	1.0656	0.626	1.2018	0.645	1.3410	0.662	1.4828	0.678	1.6270	0.693	1.7732	0.706	1.9212	0.719	2.0710	0.731	2.2223	0.742	2.3749	0.753	2.5288	0.762	2.6839
0.1	0.01000	0.323	0.3080	0.349	0.3899	0.373	0.4763	0.393	0.5664	0.412	0.6595	0.428	0.7535	0.443	0.8498	0.456	0.9483	0.468	1.0485	0.479	1.1504	0.490	1.2538	0.499	1.3585	0.508	1.4644	0.517	1.5714	0.525	1.6793	0.532	1.7881	0.539	1.8978