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TREATISE ON HYDRAULICS

CHAPTER 1

FUNDAMENTAL DATA

ARTICLE 1. UNITS OF MEASURE

The unit of linear measure universally used in English and American hydraulic literature is the foot, which is defined as one-third of the standard yard. For some minor purposes, such as the designation of the diameters of orifices and pipes, the inch is employed, but inches should always be reduced to feet for use in hydraulic formulas. The unit of superficial measure is usually the square foot, except for the expression of the intensity of pressures, when the square inch is more commonly employed.

TABLE 1*a*. INCHES REDUCED TO FEET

Inches	Feet	Inches	Feet	Square Inches	Square Feet	Cubic Inches	Cubic Feet
1/8	0.0104	3	0.2500	10	0.6944	1000	0.5787
1/4	.0208	4	.3333	20	1.3889	2000	1.1574
3/8	.0313	5	.4167	30	2.0833	3000	1.7361
1/2	.0417	6	.5000	40	2.6777	4000	2.3148
5/8	.0521	7	.5833	50	3.4722	5000	2.8935
3/4	.0625	8	.6667	60	4.1667	6000	3.4722
7/8	.0729	9	.7500	70	4.5500	7000	4.0509
1	.0833	10	.8333	80	5.3555	8000	4.6296
2	.1667	11	.9167	90	6.2500	9000	5.2083

The units of volume employed in measuring water are the cubic foot and the gallon, but the latter must always be reduced to cubic feet for use in hydraulic formulas. In Great Britain and its colonies the Imperial gallon is used, but in the United States