

Appendix II.—Density and Viscosity of Water 0°C–40°C

Temperature, in degrees Celsius	Temperature, in degrees Fahrenheit	Density, in grams per cubic centimeter	Density, in pounds-mass per cubic foot ^a	Kinematic viscosity, in square centimeters per second	Kinematic viscosity, in square feet per second $\times 10^5$
0	32	0.9998	62.42	0.0179	1.92
0.6	33	0.9999	62.42	0.0175	1.89
1	33.8	0.9999	62.42	0.0173	1.86
1.1	34	0.9999	62.42	0.0172	1.85
1.7	35	0.9999	62.42	0.0169	1.82
2	35.6	0.9999	62.42	0.0167	1.80
2.2	36	0.9999	62.42	0.0166	1.79
2.8	37	1.0000	62.43	0.0163	1.76
3	37.4	1.0000	62.43	0.0162	1.74
3.3	38	1.0000	62.43	0.0160	1.72
3.9	39	1.0000	62.43	0.0157	1.69
4	39.2	1.0000	62.43	0.0157	1.69
4.4	40	1.0000	62.43	0.0155	1.66
5	41	1.0000	62.43	0.0152	1.64
5.6	42	1.0000	62.43	0.0149	1.61
6	42.8	0.9999	62.42	0.0147	1.58
6.1	43	0.9999	62.42	0.0147	1.58
6.7	44	0.9999	62.42	0.0144	1.55
7	44.6	0.9999	62.42	0.0143	1.54
7.2	45	0.9999	62.42	0.0142	1.53
7.8	46	0.9999	62.42	0.0140	1.50
8	46.4	0.9998	62.42	0.0139	1.49
8.3	47	0.9998	62.42	0.0137	1.48
8.9	48	0.9998	62.41	0.0135	1.45
9	48.2	0.9998	62.41	0.0135	1.45
9.4	49	0.9997	62.41	0.0133	1.43
10	50	0.9997	62.41	0.0131	1.41
10.6	51	0.9996	62.41	0.0129	1.39
11	51.8	0.9996	62.40	0.0127	1.37
11.1	52	0.9996	62.40	0.0127	1.37
11.7	53	0.9995	62.40	0.0125	1.34
12	53.6	0.9995	62.40	0.0124	1.33
12.2	54	0.9995	62.40	0.0123	1.32
12.8	55	0.9994	62.39	0.0121	1.30
13	55.4	0.9994	62.39	0.0120	1.30
13.3	56	0.9993	62.39	0.0119	1.28

Temperature, in degrees Celsius	Temperature, in degrees Fahrenheit	Density, in grams per cubic centimeter	Density, in pounds-mass per cubic foot ^a	Kinematic viscosity, in square centimeters per second	Kinematic viscosity, in square feet per second $\times 10^5$
13.9	57	0.9993	62.38	0.0117	1.26
14	57.2	0.9992	62.38	0.0117	1.26
14.4	58	0.9992	62.38	0.0116	1.25
15	59	0.9991	62.37	0.0114	1.23
15.6	60	0.9990	62.37	0.0112	1.21
16	60.8	0.9989	62.36	0.0111	1.20
16.1	61	0.9989	62.36	0.0111	1.19
16.7	62	0.9988	62.36	0.0109	1.17
17	62.6	0.9988	62.35	0.0108	1.17
17.2	63	0.9987	62.35	0.0108	1.16
17.8	64	0.9986	62.34	0.0106	1.14
18	64.4	0.9986	62.34	0.0105	1.14
18.3	65	0.9985	62.34	0.0105	1.13
18.9	66	0.9984	62.33	0.0103	1.11
19	66.2	0.9984	62.33	0.0103	1.11
19.4	67	0.9983	62.32	0.0102	1.10
20	68	0.9982	62.32	0.0100	1.08
20.6	69	0.9981	62.31	0.00991	1.07
21	69.8	0.9980	62.30	0.00980	1.06
21.1	70	0.9980	62.30	0.00977	1.05
21.7	71	0.9978	62.29	0.00965	1.04
22	71.6	0.9978	62.29	0.00957	1.03
22.2	72	0.9977	62.29	0.00952	1.03
22.8	73	0.9976	62.28	0.00940	1.01
23	73.4	0.9975	62.27	0.00935	1.01
23.3	74	0.9975	62.27	0.00928	0.999
23.9	75	0.9973	62.26	0.00916	0.986
24	75.2	0.9973	62.26	0.00914	0.983
24.4	76	0.9972	62.25	0.00905	0.974
25	77	0.9970	62.24	0.00893	0.961
25.6	78	0.9969	62.23	0.00882	0.949
26	78.8	0.9968	62.23	0.00873	0.940
26.1	79	0.9968	62.23	0.00871	0.938
26.7	80	0.9966	62.22	0.00861	0.926
27	80.6	0.9965	62.21	0.00854	0.920
27.2	81	0.9965	62.21	0.00850	0.915
27.8	82	0.9963	62.20	0.00840	0.904

28	82.4	0.9962	62.19	0.00836	0.900
28.3	83	0.9961	62.19	0.00830	0.893
28.9	84	0.9960	62.18	0.00820	0.883
29	84.2	0.9959	62.17	0.00818	0.881
29.4	85	0.9958	62.17	0.00811	0.873
30	86	0.9956	62.16	0.00801	0.862
30.6	87	0.9955	62.15	0.00792	0.852
31	87.8	0.9954	62.14	0.00785	0.844
31.1	88	0.9953	62.14	0.00783	0.843
31.7	89	0.9951	62.12	0.00774	0.833
32	89.6	0.9950	62.12	0.00769	0.827
32.2	90	0.9950	62.11	0.00765	0.824
32.8	91	0.9948	62.10	0.00756	0.814
33	91.4	0.9947	62.10	0.00753	0.811
33.3	92	0.9946	62.09	0.00748	0.805
33.9	93	0.9944	62.08	0.00740	0.796
34	93.2	0.9944	62.08	0.00738	0.795
34.4	94	0.9942	62.07	0.00732	0.788
35	95	0.9940	62.06	0.00724	0.779
35.6	96	0.9938	62.04	0.00716	0.771
36	96.8	0.9937	62.03	0.00710	0.764
36.1	97	0.9937	62.03	0.00708	0.762
36.7	98	0.9935	62.02	0.00701	0.754
37	98.6	0.9933	62.01	0.00696	0.749
37.2	99	0.9933	62.01	0.00693	0.746
37.8	100	0.9931	61.99	0.00686	0.738
38	100.4	0.9930	61.99	0.00683	0.735
38.3	101	0.9929	61.98	0.00679	0.731
38.9	102	0.9926	61.97	0.00672	0.723
39	102.2	0.9926	61.97	0.00670	0.722
39.4	103	0.9924	61.96	0.00665	0.716
40	104	0.9922	61.94	0.00658	0.708

^aMass in pounds is numerically equal to weight in pounds for $g = 32.17 \text{ ft/sec}^2$.