

TABLE 5. PROPERTIES OF SATURATED WATER VAPOR WITH AIR AT LOW TEMPERATURES

Temp., F	PRESSURE OF SATURATED VAPOR $\times 10^{-4}$		WEIGHT OF SATURATED VAPOR				VOLUME IN Cu Ft BAROMETER, 29.92 IN. Hg		HEAT CONTENT PER Lb			
	In. of Hg	Lb per Sq In.	per Cu Ft		per lb of Dry Air		of 1 lb of Dry Air + Vapor to Saturate it	of 1 lb of Dry Air	Dry Air 0 F Datum	Vapor 32 F Datum	Dry Air with Vapor to Saturate it	
			Pounds $\times 10^{-4}$	Grains	Pounds $\times 10^{-4}$	Grains						
-130	0.276	0.1356	0.00093	0.00049	0.005738	0.00040	8.31	8.31	-31.71	1000.7	-31.71	
-129	0.306	0.1503	0.000766	0.00054	0.006382	0.00045	8.33	8.33	-31.46	1001.2	-31.46	
-128	0.338	0.1660	0.000628	0.00059	0.007027	0.00049	8.36	8.36	-31.21	1001.6	-31.21	
-127	0.373	0.1832	0.000528	0.00065	0.007755	0.00054	8.38	8.38	-30.96	1002.1	-30.96	
-126	0.411	0.2019	0.000451	0.00071	0.008545	0.00060	8.41	8.41	-30.71	1002.5	-30.71	
-125	0.455	0.2235	0.000385	0.00079	0.009459	0.00066	8.43	8.43	-30.46	1003.0	-30.46	
-124	0.505	0.2481	0.000329	0.00086	0.010517	0.00073	8.46	8.46	-30.21	1003.4	-30.21	
-123	0.562	0.2762	0.000283	0.00093	0.011737	0.00080	8.48	8.48	-29.96	1003.9	-29.96	
-122	0.604	0.2967	0.000246	0.00100	0.013156	0.00085	8.51	8.51	-29.72	1004.3	-29.72	
-121	0.669	0.3256	0.000216	0.00112	0.014811	0.00097	8.53	8.53	-29.47	1004.8	-29.47	
-120	0.735	0.3610	0.000191	0.00123	0.016751	0.00107	8.56	8.56	-29.22	1005.2	-29.22	
-119	0.805	0.3954	0.000166	0.00134	0.018974	0.00117	8.58	8.58	-28.97	1005.7	-28.97	
-118	0.882	0.4382	0.000144	0.00145	0.021501	0.00130	8.61	8.61	-28.72	1006.1	-28.72	
-117	0.969	0.4858	0.000124	0.00157	0.024356	0.00144	8.63	8.63	-28.47	1006.6	-28.47	
-116	1.068	0.5363	0.000109	0.00169	0.027561	0.00160	8.66	8.66	-28.23	1007.0	-28.23	
-115	1.180	0.5934	0.000093	0.00182	0.031131	0.00176	8.68	8.68	-27.98	1007.5	-27.98	
-114	1.317	0.6469	0.000076	0.00196	0.035173	0.00192	8.71	8.71	-27.73	1007.9	-27.73	
-113	1.444	0.7093	0.000062	0.00211	0.039702	0.00210	8.73	8.73	-27.48	1008.4	-27.48	
-112	1.575	0.7736	0.000051	0.00226	0.044749	0.00226	8.76	8.76	-27.23	1008.8	-27.23	
-111	1.728	0.8488	0.000041	0.00242	0.050353	0.00252	8.78	8.78	-26.99	1009.3	-26.99	
-110	1.889	0.9279	0.000031	0.00259	0.056522	0.00275	8.81	8.81	-26.74	1009.7	-26.74	
-109	2.067	1.0251	0.000025	0.00276	0.063289	0.00304	8.83	8.83	-26.49	1010.2	-26.49	
-108	2.262	1.1358	0.000020	0.00293	0.070683	0.00334	8.86	8.86	-26.24	1010.6	-26.24	
-107	2.471	1.2534	0.000016	0.00310	0.078751	0.00365	8.89	8.89	-26.00	1011.1	-26.00	
-106	2.742	1.3869	0.000013	0.00328	0.087551	0.00399	8.91	8.91	-25.75	1011.5	-25.75	
-105	2.983	1.4652	0.000010	0.00346	0.097131	0.00434	8.94	8.94	-25.50	1012.0	-25.50	
-104	3.258	1.6033	0.000008	0.00365	0.107531	0.00474	8.96	8.96	-25.26	1012.4	-25.26	
-103	3.543	1.7403	0.000006	0.00384	0.118801	0.00516	8.99	8.99	-25.01	1012.9	-25.01	
-102	3.872	1.9019	0.000005	0.00403	0.131081	0.00564	9.01	9.01	-24.76	1013.3	-24.76	
-101	4.213	2.0694	0.000004	0.00422	0.144431	0.00613	9.04	9.04	-24.51	1013.8	-24.51	
-100	4.607	2.2630	0.000003	0.00441	0.158901	0.00674	9.06	9.06	-24.27	1014.2	-24.27	
-99	5.018	2.4637	0.000002	0.00461	0.174531	0.00730	9.09	9.09	-24.02	1014.7	-24.02	
-98	5.455	2.6784	0.000002	0.00480	0.191381	0.00794	9.11	9.11	-23.78	1015.1	-23.78	
-97	5.946	2.9196	0.000001	0.00500	0.209501	0.00865	9.14	9.14	-23.53	1015.6	-23.53	
-96	6.470	3.1781	0.000001	0.00521	0.229001	0.00942	9.16	9.16	-23.28	1016.0	-23.28	

*Compiled by W. M. Sawdon, vapor pressures converted from International Critical Tables.

TABLE 5. PROPERTIES OF SATURATED WATER VAPOR WITH AIR AT LOW TEMPERATURES (CONTINUED)

Temp., F	PRESSURE OF SATURATED VAPOR $\times 10^{-4}$		WEIGHT OF SATURATED VAPOR				VOLUME IN Cu Ft BAROMETER, 29.92 IN. Hg		HEAT CONTENT PER Lb			
	In. of Hg	Lb per Sq In.	per Cu Ft		per lb of Dry Air		of 1 lb of Dry Air + Vapor to Saturate it	of 1 lb of Dry Air	Dry Air 0 F Datum	Vapor 32 F Datum	Dry Air with Vapor to Saturate it	
			Pounds $\times 10^{-4}$	Grains	Pounds $\times 10^{-4}$	Grains						
-95	7.047	3.4604	0.015990	0.00112	0.1465	0.01026	9.19	9.19	-23.04	1016.5	-23.04	
-94	7.638	3.7607	0.017284	0.00121	0.1588	0.01112	9.21	9.21	-22.79	1016.9	-22.79	
-93	8.316	4.0837	0.018767	0.00131	0.1729	0.01210	9.23	9.23	-22.56	1017.3	-22.56	
-92	9.017	4.4281	0.020292	0.00142	0.1875	0.01312	9.26	9.26	-22.30	1017.8	-22.30	
-91	9.806	4.8156	0.022009	0.00154	0.2039	0.01427	9.29	9.29	-22.05	1018.3	-22.05	
-90	10.64	5.2684	0.023817	0.00167	0.2212	0.01548	9.31	9.31	-21.81	1018.7	-21.81	
-89	11.53	5.7435	0.025738	0.00180	0.2397	0.01678	9.34	9.34	-21.56	1019.2	-21.56	
-88	12.45	6.2439	0.027783	0.00195	0.2597	0.01813	9.36	9.36	-21.32	1019.6	-21.32	
-87	13.43	6.7659	0.030041	0.00210	0.2813	0.01960	9.39	9.39	-21.07	1020.1	-21.07	
-86	14.46	7.3157	0.032530	0.00228	0.3054	0.02138	9.41	9.41	-20.83	1020.5	-20.83	
-85	15.57	7.7953	0.035049	0.00245	0.3299	0.02309	9.44	9.44	-20.58	1021.0	-20.58	
-84	16.70	8.4486	0.037885	0.00265	0.3576	0.02503	9.46	9.46	-20.34	1021.4	-20.34	
-83	18.68	9.1265	0.040817	0.00286	0.3863	0.02704	9.49	9.49	-20.09	1021.9	-20.09	
-82	20.10	9.8751	0.044037	0.00308	0.4179	0.02925	9.51	9.51	-19.84	1022.3	-19.84	
-81	21.72	10.669	0.047463	0.00332	0.4516	0.03161	9.54	9.54	-19.60	1022.8	-19.60	
-80	23.47	11.517	0.051151	0.00358	0.4879	0.03415	9.56	9.56	-19.36	1023.2	-19.36	
-79	25.34	12.436	0.055082	0.00386	0.5268	0.03688	9.59	9.59	-19.11	1023.7	-19.11	
-78	27.29	13.394	0.059165	0.00414	0.5674	0.03972	9.61	9.61	-18.87	1024.1	-18.87	
-77	29.52	14.489	0.063531	0.00447	0.6107	0.04276	9.64	9.64	-18.62	1024.6	-18.62	
-76	31.81	15.614	0.068605	0.00480	0.6562	0.04599	9.66	9.66	-18.38	1025.0	-18.38	
-75	34.37	16.883	0.073933	0.00518	0.7143	0.05002	9.69	9.69	-18.13	1025.5	-18.13	
-74	37.01	18.179	0.079405	0.00556	0.7768	0.05416	9.72	9.72	-17.88	1025.9	-17.88	
-73	39.96	19.525	0.085181	0.00596	0.8438	0.05846	9.74	9.74	-17.63	1026.4	-17.63	
-72	43.44	21.025	0.091365	0.00643	0.9165	0.06294	9.77	9.77	-17.40	1026.8	-17.40	
-71	46.33	22.757	0.098032	0.00690	0.9932	0.06742	9.79	9.79	-17.16	1027.3	-17.16	
-70	49.87	24.496	0.105190	0.00741	1.0741	0.07259	9.82	9.82	-16.91	1027.7	-16.91	
-69	53.59	26.323	0.112850	0.00795	1.1593	0.07793	9.84	9.84	-16.66	1028.2	-16.66	
-68	57.65	28.318	0.121179	0.00853	1.2499	0.08338	9.87	9.87	-16.41	1028.6	-16.41	
-67	61.81	30.361	0.13024	0.00911	1.3455	0.08895	9.89	9.89	-16.17	1029.1	-16.17	
-66	66.41	32.621	0.13959	0.00977	1.4461	0.09467	9.92	9.92	-15.94	1029.5	-15.94	
-65	71.17	34.959	0.14922	0.01044	1.5517	0.10060	9.94	9.94	-15.69	1030.0	-15.69	
-64	76.64	37.646	0.16028	0.01122	1.6628	0.10677	9.97	9.97	-15.45	1030.4	-15.45	
-63	82.28	40.416	0.17164	0.01201	1.7791	0.11317	9.99	9.99	-15.21	1030.9	-15.21	
-62	88.19	43.319	0.18350	0.01285	1.8997	0.11981	10.02	10.02	-14.96	1031.3	-14.96	
-61	94.62	46.477	0.19638	0.01375	2.0247	0.12669	10.04	10.04	-14.72	1031.8	-14.72	

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