

TABLE 6. PROPERTIES OF SATURATED WATER VAPOR WITH AIR AT LOW TEMPERATURES* (PART I, CONTINUED)

Temp. °F	PRESSURE OF SATURATED VAPOR $\times 10^4$		WEIGHT OF SATURATED VAPOR				VOLUME IN CU FT BAROMETER, 29.92 IN. Hg.		ENTHALPY PER LB			
	In. of Hg.	Lb per Sq In.	per Cu Ft		per lb of Dry Air		of 1 lb of Dry Air	of 1 lb of Vapor to Saturate it	Dry Air °F Datum	Vapor 32°F Datum	Dry Air with Vapor to Saturate it	
			Pounds $\times 10^4$	Grains	Pounds $\times 10^4$	Grains						
-60	101.4	49.808	0.20983	0.01470	2.108	0.14766	10.07	10.07	-14.48	1032.2	-14.46	
-50	108.8	53.443	0.22469	0.01673	2.262	0.16384	10.09	10.09	-14.23	1032.7	-14.21	
-40	116.3	57.127	0.23958	0.01877	2.423	0.17165	10.11	10.11	-13.99	1033.1	-13.97	
-30	124.8	61.802	0.25445	0.02081	2.595	0.18165	10.12	10.12	-13.69	1033.6	-13.72	
-20	133.4	66.526	0.27344	0.02329	2.773	0.19411	10.17	10.17	-13.50	1034.0	-13.47	
-10	143.0	70.242	0.29239	0.02647	2.973	0.20811	10.19	10.19	-13.26	1034.5	-13.23	
0	153.0	74.154	0.31207	0.03184	3.181	0.22267	10.22	10.22	-13.02	1034.9	-12.99	
10	163.5	80.311	0.33267	0.03299	3.389	0.23763	10.24	10.24	-12.78	1035.4	-12.74	
20	174.9	85.911	0.35499	0.03485	3.636	0.25452	10.27	10.27	-12.53	1035.8	-12.49	
30	187.0	91.854	0.37862	0.03850	3.888	0.27216	10.29	10.29	-12.29	1036.3	-12.25	
40	199.9	98.191	0.40376	0.04286	4.156	0.29092	10.32	10.32	-12.05	1036.7	-12.01	
50	213.0	104.63	0.42917	0.04804	4.428	0.30966	10.34	10.34	-11.81	1037.2	-11.76	
60	227.9	111.94	0.45508	0.05372	4.695	0.32838	10.37	10.37	-11.57	1037.6	-11.52	
70	243.1	119.41	0.48144	0.05983	4.954	0.34708	10.40	10.40	-11.32	1038.1	-11.27	
80	259.5	127.47	0.50805	0.06633	5.205	0.36578	10.42	10.42	-11.08	1038.5	-11.02	
90	276.7	135.92	0.53523	0.07322	5.453	0.38445	10.45	10.45	-10.84	1039.0	-10.78	
100	295.0	144.90	0.56298	0.08063	5.693	0.40309	10.47	10.47	-10.60	1039.4	-10.54	
110	314.7	154.58	0.59122	0.08853	5.925	0.42169	10.50	10.50	-10.35	1039.9	-10.28	
120	335.3	164.70	0.61995	0.09695	6.149	0.44025	10.52	10.52	-10.11	1040.3	-10.04	
130	357.6	175.65	0.64917	0.10587	6.365	0.45877	10.55	10.55	-9.872	1040.8	-9.795	
140	380.3	186.80	0.67888	0.11530	6.573	0.47725	10.57	10.57	-9.629	1041.2	-9.547	
150	405.5	199.18	0.70908	0.12524	6.773	0.49569	10.60	10.60	-9.388	1041.7	-9.307	
160	431.2	211.81	0.73978	0.13570	6.965	0.51408	10.62	10.62	-9.148	1042.1	-9.065	
170	458.2	225.66	0.77098	0.14668	7.149	0.53242	10.65	10.65	-8.905	1042.6	-8.820	
180	486.4	239.90	0.80268	0.15813	7.325	0.55071	10.67	10.67	-8.663	1043.0	-8.577	
190	515.5	255.18	0.83488	0.17013	7.493	0.56895	10.69	10.69	-8.422	1043.5	-8.339	
200	545.5	271.34	0.86758	0.18268	7.653	0.58714	10.72	10.72	-8.180	1043.9	-8.096	
210	576.5	288.00	0.89978	0.19578	7.805	0.60528	10.75	10.75	-7.939	1044.4	-7.852	
220	608.5	306.38	0.93248	0.20943	7.949	0.62337	10.77	10.77	-7.698	1044.8	-7.612	
230	632.7	325.08	0.96568	0.22363	8.085	0.64141	10.80	10.80	-7.457	1045.3	-7.371	
240	661.8	344.33	0.99928	0.23838	8.213	0.65940	10.82	10.82	-7.216	1045.7	-7.034	
250	701.0	364.57	1.03328	0.25368	8.333	0.67734	10.85	10.85	-6.975	1046.2	-6.891	
260	742.2	384.57	1.06768	0.26953	8.445	0.69522	10.87	10.87	-6.734	1046.6	-6.650	
270	784.0	404.84	1.10248	0.28593	8.549	0.71305	10.90	10.90	-6.493	1047.1	-6.409	
280	827.0	425.84	1.13768	0.30288	8.645	0.73082	10.92	10.92	-6.251	1047.5	-6.167	
290	871.0	447.10	1.17328	0.32038	8.733	0.74853	10.95	10.95	-6.010	1048.0	-5.926	
300	916.0	468.20	1.20928	0.33843	8.813	0.76618	10.97	10.97	-5.769	1048.4	-5.682	
310	962.0	489.20	1.24568	0.35703	8.885	0.78378	11.00	11.00	-5.528	1048.8	-5.497	
320	1009.0	510.20	1.28248	0.37618	8.949	0.80133	11.02	11.02	-5.287	1049.2	-5.253	
330	1057.0	531.20	1.31968	0.39588	9.005	0.81883	11.05	11.05	-5.046	1049.6	-5.012	
340	1106.0	552.20	1.35728	0.41613	9.053	0.83628	11.07	11.07	-4.805	1050.0	-4.771	
350	1156.0	573.20	1.39528	0.43693	9.093	0.85368	11.10	11.10	-4.564	1050.4	-4.530	
360	1207.0	594.20	1.43368	0.45828	9.125	0.87103	11.13	11.13	-4.323	1050.8	-4.286	
370	1259.0	615.20	1.47248	0.47918	9.159	0.88833	11.15	11.15	-4.082	1051.2	-4.045	
380	1312.0	636.20	1.51168	0.50063	9.185	0.90558	11.18	11.18	-3.841	1051.6	-3.758	
390	1366.0	657.20	1.55128	0.52263	9.211	0.92278	11.21	11.21	-3.600	1052.0	-3.467	
400	1421.0	678.20	1.59128	0.54518	9.237	0.94003	11.24	11.24	-3.359	1052.4	-3.274	
410	1477.0	699.20	1.63168	0.56828	9.263	0.95723	11.27	11.27	-3.118	1052.8	-3.081	
420	1534.0	720.20	1.67248	0.59193	9.289	0.97438	11.30	11.30	-2.877	1053.2	-2.884	
430	1592.0	741.20	1.71368	0.61613	9.315	0.99148	11.33	11.33	-2.636	1053.6	-2.643	
440	1651.0	762.20	1.75528	0.64088	9.341	1.00853	11.36	11.36	-2.395	1054.0	-2.402	
450	1711.0	783.20	1.79728	0.66618	9.367	1.02553	11.39	11.39	-2.154	1054.4	-2.161	
460	1772.0	804.20	1.83968	0.69203	9.393	1.04248	11.42	11.42	-1.913	1054.8	-1.920	
470	1834.0	825.20	1.88248	0.71843	9.419	1.05938	11.45	11.45	-1.672	1055.2	-1.679	
480	1897.0	846.20	1.92568	0.74538	9.445	1.07623	11.48	11.48	-1.431	1055.6	-1.438	
490	1961.0	867.20	1.96928	0.77288	9.471	1.09303	11.51	11.51	-1.190	1056.0	-1.197	
500	2026.0	888.20	2.01328	0.80093	9.497	1.10978	11.54	11.54	-0.949	1056.4	-0.956	
510	2092.0	909.20	2.05768	0.82953	9.523	1.12648	11.57	11.57	-0.708	1056.8	-0.715	
520	2159.0	930.20	2.10248	0.85868	9.549	1.14313	11.60	11.60	-0.467	1057.2	-0.474	
530	2227.0	951.20	2.14768	0.88838	9.575	1.15973	11.63	11.63	-0.226	1057.6	-0.233	
540	2296.0	972.20	2.19328	0.91863	9.601	1.17628	11.66	11.66	0.015	1058.0	0.022	
550	2366.0	993.20	2.23928	0.94943	9.627	1.19278	11.69	11.69	0.274	1058.4	0.281	
560	2437.0	1014.20	2.28568	0.98078	9.653	1.20923	11.72	11.72	0.533	1058.8	0.540	
570	2509.0	1035.20	2.33248	0.10163	9.679	1.22563	11.75	11.75	0.792	1059.2	0.799	
580	2582.0	1056.20	2.37968	0.10313	9.705	1.24198	11.78	11.78	1.051	1059.6	1.058	
590	2656.0	1077.20	2.42728	0.10463	9.731	1.25828	11.81	11.81	1.310	1060.0	1.317	
600	2731.0	1098.20	2.47528	0.10613	9.757	1.27453	11.84	11.84	1.569	1060.4	1.576	

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

TABLE 6. PROPERTIES OF SATURATED WATER VAPOR WITH AIR AT LOW TEMPERATURES* (PART I, CONCLUDED)

Temp. ° F	PRESSURE OF SATURATED VAPOR $\times 10^4$		WEIGHT OF SATURATED VAPOR				VOLUME IN CU FT BAROMETER, 29.92 IN. Hg.		ENTHALPY PER LB			
	In. of Hg.	Lb per Sq In.	per Cu Ft		per lb of Dry Air		of 1 lb of Dry Air	of 1 lb of Dry Air + Vapor to Saturate it	Dry Air ° F Datum	Vapor 32° F Datum	Dry Air with Vapor to Saturate it	
			Pounds $\times 10^4$	Grains	Pounds $\times 10^4$	Grains						
-25	946.4	464.87	1.8016	0.12611	19.08	1.3776	10.95	10.95	-6.011	1048.0	-5.905	
-24	1003.	492.67	1.9049	0.13334	20.80	1.4702	10.97	10.97	-5.770	1048.4	-5.661	
-23	1064.	522.64	2.0162	0.14113	22.13	1.5491	11.00	11.00	-5.529	1048.8	-5.417	
-22	1126.	553.09	2.1287	0.14901	23.42	1.6394	11.02	11.02	-5.288	1049.2	-5.172	
-21	1192.	585.51	2.2484	0.15739	24.79	1.7363	11.05	11.05	-5.047	1049.6	-4.927	
-20	1262.0	619.89	2.3750	0.16625	26.25	1.8375	11.07	11.07	-4.807	1050.0	-4.682	
-19	1337.	656.73	2.5105	0.17574	27.81	1.9467	11.10	11.10	-4.566	1050.4	-4.437	
-18	1408.	695.84	2.6527	0.18569	29.45	2.0615	11.13	11.13	-4.325	1050.8	-4.191	
-17	1484.	737.54	2.7993	0.19574	31.12	2.1784	11.15	11.15	-4.085	1051.2	-3.945	
-16	1564.	781.06	2.9542	0.20679	32.85	2.3065	11.18	11.18	-3.844	1051.6	-3.697	
-15	1647.0	827.76	3.1168	0.21818	34.84	2.4388	11.20	11.21	-3.604	1052.0	-3.457	
-14	1732.	870.41	3.2899	0.23029	36.86	2.5802	11.23	11.24	-3.363	1052.4	-3.216	
-13	1819.	920.51	3.4714	0.24300	38.98	2.7268	11.25	11.26	-3.123	1052.8	-2.975	
-12	1908.	972.58	3.6596	0.25617	41.19	2.8833	11.28	11.29	-2.883	1053.2	-2.734	
-11	2093.	1028.1	3.8599	0.27019	43.54	3.0478	11.30	11.31	-2.642	1054.3	-2.493	
-10	2310.0	1085.6	4.0896	0.28468	45.98	3.2180	11.33	11.34	-2.402	1054.7	-2.252	
-9	2435.	1147.3	4.3469	0.29993	48.53	3.3959	11.35	11.36	-2.162	1055.2	-2.011	
-8	2593.	1209.8	4.6270	0.31584	51.23	3.5821	11.38	11.39	-1.921	1055.6	-1.770	
-7	2802.	1229.0	4.9734	0.33044	53.06	3.7742	11.40	11.41	-1.681	1056.1	-1.529	
-6	2745.	1348.3	5.0066	0.35046	57.12	3.9934	11.43	11.44	-1.441	1056.5	-1.288	
-5	2898.0	1423.5	5.2738	0.36917	60.30	4.2210	11.45	11.46	-1.201	1057.0	-1.047	
-4	3055.	1500.6	5.5473	0.38631	63.57	4.4499	11.48	11.49	-0.9604	1057.4	-0.806	
-3	3222.	1582.6	5.8379	0.40865	67.05	4.6935	11.50	11.51	-0.7203	1057.9	-0.565	
-2	3397.	1668.6	6.1314	0.42990	70.69	4.9483	11.53	11.54	-0.4802	1058.3	-0.324	
-1	3586.	1758.5	6.4583	0.45208	74.50	5.2150	11.55	11.57	-0.2401	1058.8	-0.083	
0	3773.0	1853.3	6.7914	0.47500	78.52	5.5000	11.58	11.59	0	1059.2	+0.8317	