

TABLE 2. THERMODYNAMIC PROPERTIES OF MOIST AIR* (STANDARD ATMOSPHERIC PRESSURE, 29.921 IN. Hg)

TABLE 2. THERMODYNAMIC PROPERTIES OF SATURATED WATER														
FAHR. TEMP. t (°F)	HUMIDITY RATIO W × 10 ³	VOLUME CU FT/LB DRY AIR			ENTHALPY BTU/LB DRY AIR			ENTROPY BTU PER (°F) (LB DRY AIR)			CONDENSED WATER			FAHR. TEMP. t (°F)
		v _g	v _{fg}	v _f	h _g	h _{fg}	h _f	s _g	s _{fg}	s _f	h _f	Enthalpy Btu/Lb h _f	Entropy Btu/(Lb) s _f	
-160	0.0002120	7.520	0.000	0.000	-38.504	0.000	0.00000	-0.10300	0.00000	0.00000	-222.00	-0.4907	0.0001009	-160
-155	0.0003669	7.647	0.000	0.000	-37.296	0.000	0.00000	-0.09901	0.00000	0.00000	-220.40	-0.4853	0.0001842	-155
-150	0.0006322	7.775	0.000	0.000	-36.088	0.000	0.00000	-0.09503	0.00000	0.00000	-218.77	-0.4800	0.0003301	-150
-145	0.001219	7.902	0.000	0.000	-34.881	0.000	0.00000	-0.09121	0.00000	0.00000	-217.12	-0.4747	0.0005807	-145
-140	0.002109	8.029	0.000	0.000	-33.674	0.000	0.00000	-0.08740	0.00000	0.00000	-215.44	-0.4695	0.001004	-140
-135	0.003266	8.156	0.000	0.000	-32.468	0.000	0.00000	-0.08365	0.00000	0.00000	-213.75	-0.4643	0.001707	-135
-130	0.004697	8.283	0.000	0.000	-31.262	0.000	0.00000	-0.07997	0.00000	0.00000	-212.03	-0.4590	0.002353	-130
-125	0.006387	8.411	0.000	0.000	-30.057	0.000	0.00000	-0.07634	0.00000	0.00000	-210.28	-0.4538	0.004710	-125
-120	0.008608	8.537	0.000	0.000	-28.852	0.000	0.00000	-0.07277	0.00000	0.00000	-208.53	-0.4485	0.007633	-120
-115	0.01160	8.664	0.000	0.000	-27.646	0.000	0.00000	-0.06924	0.00000	0.00000	-206.73	-0.4433	0.01228	-115
-110	0.01551	8.792	0.000	0.000	-26.444	0.000	0.00000	-0.06577	0.00000	0.00000	-204.92	-0.4381	0.01939	-110
-105	0.02034	8.919	0.000	0.000	-25.240	0.001	0.00000	-0.06234	0.00000	0.00000	-203.09	-0.4329	0.03026	-105
-100	0.02617	9.046	0.000	0.000	-24.037	0.001	0.00000	-0.05897	0.00000	0.00000	-201.23	-0.4277	0.04666	-100
-95	0.03302	9.173	0.000	0.000	-22.835	0.002	0.00000	-0.05565	0.00000	0.00000	-199.36	-0.4225	0.07111	-95
-90	0.04196	9.300	0.000	0.000	-21.631	0.003	0.00001	-0.05237	0.00001	0.00001	-197.44	-0.4173	0.1071	-90
-85	0.05342	9.428	0.000	0.000	-20.428	0.003	0.00001	-0.04913	0.00001	0.00001	-195.51	-0.4121	0.1587	-85
-80	0.06780	9.553	0.000	0.000	-19.225	0.005	0.00001	-0.04594	0.00001	0.00001	-193.55	-0.4069	0.2356	-80
-75	0.08536	9.680	0.000	0.000	-18.022	0.007	0.00002	-0.04278	0.00002	0.00002	-191.57	-0.4017	0.3441	-75
-70	0.10640	9.806	0.000	0.000	-16.819	0.011	0.00003	-0.03966	0.00003	0.00003	-189.56	-0.3965	0.4978	-70
-65	0.1401	9.932	0.000	0.000	-15.617	0.016	0.00003	-0.03663	0.00003	0.00003	-187.53	-0.3913	0.7130	-65
-60	0.1818	10.059	0.000	0.000	-14.416	0.022	0.00006	-0.03360	0.00006	0.00006	-185.47	-0.3861	1.0127	-60
-55	0.2322	10.186	0.000	0.000	-13.214	0.031	0.00009	-0.03061	0.00009	0.00009	-183.39	-0.3809	1.4268	-55
-50	0.2982	10.313	0.001	0.001	-12.012	0.043	0.00012	-0.02766	0.00012	0.00012	-181.29	-0.3758	1.9010	-50
-45	0.3847	10.441	0.001	0.001	-10.810	0.059	0.00013	-0.02480	0.00013	0.00013	-179.14	-0.3706	2.2702	-45
-40	5.400	10.568	0.001	0.001	-9.608	0.084	0.00019	-0.02201	0.00019	0.00019	-177.01	-0.3656	3.7006	-40
-35	6.888	10.695	0.001	0.001	-8.406	0.121	0.00024	-0.01945	0.00024	0.00024	-175.73	-0.3602	4.4923	-35
-30	8.980	10.822	0.002	0.002	-7.204	0.168	0.00034	-0.01703	0.00034	0.00034	-174.40	-0.3550	4.8622	-30
-25	11.16	10.949	0.002	0.002	-6.002	0.225	0.00044	-0.01473	0.00044	0.00044	-173.02	-0.3498	5.4980	-25
-20	12.98	11.076	0.002	0.002	-4.800	0.292	0.00054	-0.01253	0.00054	0.00054	-171.64	-0.3446	6.2093	-20

* Compiled by John A. Goff and S. Gratch.

TABLE 2. THERMODYNAMIC PROPERTIES OF MOIST AIR* (STANDARD ATMOSPHERIC PRESSURE, 29.921 IN. Hg) (Continued)

FAHR. TEMP. t (F)	HUMIDITY RATIO W x 10 ³	VOLUME CU FT/LB DRY AIR		ENTHALPY BTU/LB DRY AIR		ENTROPY BTU PER (°F) (LB DRY AIR)			CONDENSED WATER			FAHR. TEMP. t (F)		
		v _g	v _g x 10 ³	h _g	h _g x 10 ³	h _a	s _a	s _{as}	s _{as}	Enthalpy Btu/Lb h _w	Entropy Btu/Lb s _w		Vap. Pres In Hg P x 10 ²	
-30	1.464	10.820	0.002	-7.207	0.154	-7.053	0.00038	-0.01621	0.00038	-0.01683	-172.64	-0.3552	0.70046	-30
-28	1.624	10.720	0.003	-6.226	0.173	-6.563	0.00043	-0.01569	0.00043	-0.01636	-171.75	-0.3500	0.78928	-28
-26	1.849	10.972	0.004	-5.765	0.196	-6.050	0.00048	-0.01508	0.00048	-0.01586	-170.86	-0.3448	0.86838	-26
-24	2.087	10.976	0.004	-5.439	0.219	-5.646	0.00054	-0.01437	0.00054	-0.01533	-169.97	-0.3400	0.93858	-24
-22	2.344	11.022	0.005	-5.285	0.246	-5.459	0.00061	-0.01377	0.00061	-0.01480	-169.07	-0.3349	1.00878	-22
-20	2.630	11.073	0.006	-4.864	0.277	-5.227	0.00068	-0.01307	0.00068	-0.01410	-168.17	-0.3297	1.07898	-20
-19	2.785	11.084	0.006	-4.764	0.283	-5.171	0.00072	-0.01282	0.00072	-0.01385	-167.72	-0.3277	1.10918	-19
-18	2.948	11.124	0.005	-4.324	0.310	-4.014	0.00078	-0.01167	0.00078	-0.01263	-167.26	-0.3248	1.1407	-18
-17	3.120	11.149	0.006	-4.083	0.328	-3.755	0.00080	-0.01116	0.00080	-0.01216	-166.81	-0.3218	1.1709	-17
-16	3.301	11.174	0.006	-3.843	0.348	-3.495	0.00084	-0.01067	0.00084	-0.01167	-166.36	-0.3188	1.2011	-16
-15	3.491	11.200	0.006	-3.603	0.368	-3.235	0.00088	-0.01019	0.00088	-0.01119	-165.90	-0.3158	1.2313	-15
-14	3.682	11.225	0.007	-3.363	0.389	-2.974	0.00094	-0.00970	0.00094	-0.01070	-165.44	-0.3127	1.2615	-14
-13	3.903	11.250	0.007	-3.123	0.412	-2.711	0.00099	-0.00922	0.00099	-0.01022	-164.98	-0.3097	1.2917	-13
-12	4.125	11.273	0.008	-2.882	0.436	-2.446	0.00104	-0.00873	0.00104	-0.00973	-164.52	-0.3067	1.3219	-12
-11	4.359	11.301	0.008	-2.642	0.461	-2.181	0.00109	-0.00825	0.00109	-0.00925	-164.06	-0.3037	1.3521	-11
-10	4.606	11.326	0.008	-2.402	0.487	-1.915	0.00115	-0.00777	0.00115	-0.00877	-163.60	-0.3006	1.3823	-10
-9	4.865	11.351	0.008	-2.162	0.514	-1.648	0.00121	-0.00729	0.00121	-0.00829	-163.14	-0.2976	1.4125	-9
-8	5.137	11.376	0.009	-1.922	0.543	-1.381	0.00128	-0.00681	0.00128	-0.00781	-162.67	-0.2946	1.4427	-8
-7	5.423	11.401	0.010	-1.681	0.574	-1.117	0.00136	-0.00633	0.00136	-0.00733	-162.21	-0.2916	1.4729	-7
-6	5.724	11.427	0.010	-1.441	0.606	-0.855	0.00142	-0.00585	0.00142	-0.00685	-161.74	-0.2886	1.5031	-6
-5	6.040	11.452	0.011	-1.201	0.639	-0.592	0.00149	-0.00537	0.00149	-0.00637	-161.28	-0.2856	1.5333	-5
-4	6.371	11.477	0.012	-0.961	0.675	-0.328	0.00157	-0.00489	0.00157	-0.00589	-160.81	-0.2826	1.5635	-4
-3	6.720	11.502	0.013	-0.718	0.712	-0.069	0.00165	-0.00441	0.00165	-0.00541	-160.34	-0.2796	1.5937	-3
-2	7.085	11.528	0.013	-0.480	0.751	0.271	0.00174	-0.00393	0.00174	-0.00493	-159.87	-0.2766	1.6239	-2
-1	7.469	11.553	0.014	-0.240	0.792	0.552	0.00183	-0.00345	0.00183	-0.00445	-159.40	-0.2736	1.6541	-1
0	7.872	11.578	0.015	0.000	0.835	0.835	0.00192	-0.00297	0.00192	-0.00397	-158.93	-0.2706	1.6843	0
1	8.295	11.604	0.016	0.240	0.880	1.120	0.00202	-0.00249	0.00202	-0.00349	-158.46	-0.2676	1.7145	1
2	8.739	11.629	0.016	0.480	0.928	1.408	0.00212	-0.00201	0.00212	-0.00301	-157.99	-0.2646	1.7447	2
3	9.204	11.654	0.017	0.721	0.977	1.698	0.00223	-0.00153	0.00223	-0.00253	-157.52	-0.2616	1.7749	3
4	9.692	11.679	0.018	0.961	1.030	1.988	0.00234	-0.00105	0.00234	-0.00205	-157.04	-0.2586	1.8051	4
5	10.200	11.705	0.019	1.201	1.085	2.256	0.00246	-0.00057	0.00246	-0.00157	-156.57	-0.2556	1.8353	5
6	10.74	11.730	0.020	1.441	1.142	2.533	0.00258	-0.00009	0.00258	-0.00109	-156.09	-0.2526	1.8655	6

* Compiled by John A. Goff and S. Gratch.