Table 1A. Properties of saturated steam (SI units)

(°C) θ <sub>s</sub> ple point 0.01 6.98 17.51 24.10 28.98 32.90	(K) T <sub>s</sub> of water 273.16 280.13 290.66	0.0 29.3	(kJ/kg) latent 2501.6	steam	water	(kJ/kg K)		(m <sup>3</sup> /	kg)
0.01 6.98 17.51 24.10 28.98	of water 273.16 280.13 290.66	0.0	7 1872.7.	steam	water	otont			-4
0.01 6.98 17.51 24.10 28.98	273.16 280.13 290.66	0.0	2501.6			latent	steam	water	steam
6.98 17.51 24.10 28.98	280.13 290.66		2501.6	2501 (	0	0.1575	9.1575	0.0010002	206.16
17.51 24.10 28.98	290.66	293		2501.6	0	9.1575			
24.10 28.98			2485.0	2514.4	0.1060	8.8706	8.9767	0.001000	129.21
28.98	207 25	73.5	2460.2	2533.6	0.2606	8.4640	8.7246	0.001001	67.01
	297.25	101.0	2444.6	2545.6	0.3543	8.2242	8.5785	0.001003	45.67
32.90	302.13	121.4	2433.1	2554.5	0.4225	8.0530	8.4755	0.001004	34.80
	306.05	137.8	2423.8	2561.6	0.4763	7.9197	8.3960	0.001005	28.19
36.18	309.33	151.5	2416.0	2567.5	0.5209	7.8103	8.3312	0.001006	23.74
	312.18	163.4	2409.2	2572.6	0.5591	7.7176			20.53
	314.69	173.9	2403.2	2577.1	0.5926	7.6370		0.001008	18.10
			2397.9	2581.1	0.6224	7.5657	8.1881	0.001009	16.20
				2584.8	0.6493	7.5018	8.1511	0.001010	14.67
				2591.2	0.6964	7.3908	8.0872	0.001012	12.36
					0.7367	7.2966	8.0333	0.001013	10.69
							7.9868	0.001015	9.43
								0.001016	8.45
								0.001017	7.65
									6.20
									5.23
									4.53
									3.99
									3.58
									3.24
									2.73
									2.37
									2.09
									1.87
									1.69
100.00									1.673
101.00									1.618
102.32	375.47								1.549
103.59	376.74	434.2	2247.4		1.3472				1.486
104.81	377.96	439.4	2244.1	2683.4	1.3609				1.428
105.99		444.4	2240.9	2685.2	1.3741		7.2846	0.001049	1.375
107.13	380.28	449.2	2237.8	2687.0	1.3868		7.2715	0.001050	1.325
108.24	381.39	453.9	2234.8	2688.7	1.3991		7.2588		1.279
109.32	382.47	458.4	2231.9	2690.3	1.4109	5.8356	7.2465	0.001051	1.236
		462.8	2229.0	2691.8	1.4225	5.8123	7.2347	0.001052	1.196
		467.1	2226.2	2693.4	1.4336	5.7897	7.2234	0.001053	1.159
			2223.5	2694.8	1.4445	5.7679	7.2123	0.001054	1.124
		475.4		2696.2	1.4550	5.7467	7.2017	0.001055	1.091
					1.4652	5.7261	7.1913	0.001056	1.060
							7.1813	0.001056	1.031
								0.001057	1.003
									0.977
									0.952
									0.929
									0.907
									0.885
	39.03 41.54 43.79 45.83 49.45 52.58 55.34 57.83 60.09 64.99 69.13 72.71 75.89 78.74 81.35 85.95 89.96 93.51 99.63 100.00 101.00 102.32 103.59 104.81 105.99 107.13	39.03         312.18           41.54         314.69           43.79         316.94           45.83         318.98           49.45         322.60           52.58         325.73           55.34         328.49           57.83         330.98           60.09         333.24           64.99         338.14           69.13         342.28           72.71         345.86           75.89         349.04           78.74         351.89           81.35         354.50           85.95         359.10           89.96         363.11           93.51         366.66           96.71         369.86           99.63         372.78           100.00         373.15           101.00         374.15           102.32         375.47           103.59         376.74           104.81         377.96           105.99         379.14           107.13         380.28           108.24         381.39           109.32         382.47           110.36         383.51           111.37         384.52 <td>39.03         312.18         163.4           41.54         314.69         173.9           43.79         316.94         183.3           45.83         318.98         191.8           49.45         322.60         206.9           52.58         325.73         220.0           55.34         328.49         231.6           57.83         330.98         242.0           60.09         333.24         251.5           64.99         338.14         272.0           69.13         342.28         289.3           72.71         345.86         304.3           75.89         349.04         317.7           78.74         351.89         329.6           81.35         354.50         340.6           85.95         359.10         359.9           89.96         363.11         376.8           93.51         366.66         391.7           96.71         369.86         405.2           99.63         372.78         417.5           100.00         373.15         419.1           101.00         374.15         423.3           102.32         375.47         428.8</td> <td>39.03         312.18         163.4         2409.2           41.54         314.69         173.9         2403.2           43.79         316.94         183.3         2397.9           45.83         318.98         191.8         2392.9           49.45         322.60         206.9         2384.2           52.58         325.73         220.0         2376.7           55.34         328.49         231.6         2370.0           57.83         330.98         242.0         2363.9           60.09         333.24         251.5         2358.4           64.99         338.14         272.0         2346.4           69.13         342.28         289.3         2336.1           72.71         345.86         304.3         2327.2           75.89         349.04         317.7         2319.2           78.74         351.89         329.6         2312.0           81.35         354.50         340.6         2305.4           85.95         359.10         359.9         2293.6           89.96         363.11         376.8         2283.3           93.51         366.66         391.7         2274.0</td> <td>39,03         312,18         163,4         2409,2         2572,6           41,54         314,69         173,9         2403,2         2577,1           43,79         316,94         183,3         2397,9         2581,1           45,83         318,98         191,8         2392,9         2584,8           49,45         322,60         206,9         2384,2         2591,2           52,58         325,73         220,0         2376,7         2596,7           55,34         328,49         231,6         2370,0         2601,6           57,83         330,98         242,0         2363,9         2605,9           60,09         333,14         272,0         2346,4         2618,3           69,13         342,28         289,3         2336,1         2625,4           72,71         345,86         304,3         2327,2         2631,5           75,89         349,04         317,7         2319,2         2636,9           78,74         351,89         329,6         2312,0         2641,7           81,35         354,50         340,6         2305,4         2646,0           85,95         359,10         359,9         2293,6         2653,6</td> <td>39,03 312.18 163.4 2409.2 2572.6 0.5591 41.54 314.69 173.9 2403.2 2577.1 0.5926 43.79 316.94 183.3 2397.9 2581.1 0.6224 45.83 318.98 191.8 2392.9 2584.8 0.6493 49.45 322.60 206.9 2384.2 2591.2 0.6964 52.58 325.73 220.0 2376.7 2596.7 0.7367 55.34 328.49 231.6 2370.0 2601.6 0.7721 57.83 330.98 242.0 2363.9 2605.9 0.8036 60.09 333.24 251.5 2358.4 2609.9 0.8321 64.99 338.14 272.0 2346.4 2618.3 0.8933 69.13 342.28 289.3 2336.1 2625.4 0.9441 72.71 345.86 304.3 2327.2 2631.5 0.9878 75.89 349.04 317.7 2319.2 2636.9 1.0261 78.74 351.89 329.6 2312.0 2641.7 1.0603 81.35 354.50 340.6 2305.4 2646.0 1.0912 85.95 359.10 359.9 2293.6 2653.6 1.1455 89.96 363.11 376.8 2283.3 2660.1 1.1921 93.51 366.66 391.7 2274.0 2665.8 1.2330 96.71 369.86 405.2 2265.6 2670.9 1.2696 99.63 372.78 417.5 2257.9 2675.4 1.3027 100.00 373.15 419.1 2256.9 2676.0 1.3069 101.00 374.15 423.3 2254.3 2677.6 1.3182 102.32 375.47 428.8 2250.8 2679.6 1.3330 103.59 376.74 434.2 2247.4 2681.6 1.3472 104.81 377.96 439.4 2244.4 2688.4 1.3609 105.99 379.14 444.4 2240.9 2685.2 1.3741 107.13 380.28 449.2 2237.8 2687.0 1.3868 108.24 381.39 453.9 2234.8 2687.0 1.3868 108.24 381.39 453.9 2234.8 2687.0 1.3868 108.24 381.39 453.9 2234.8 2687.0 1.3868 108.24 381.39 453.9 2234.8 2687.0 1.3868 108.24 381.39 453.9 2234.8 2687.0 1.3868 108.24 381.39 453.9 2234.8 2688.7 1.3991 109.32 382.47 458.4 2231.9 2690.3 1.4109 110.36 383.51 462.8 2229.0 2691.8 1.4225 111.37 384.52 467.1 2226.2 2693.4 1.4336 112.36 385.51 471.3 2223.5 2694.8 1.4445 113.32 386.47 475.4 2220.9 2696.2 1.4550 114.26 387.41 479.4 2218.3 2697.6 1.4752 115.17 388.32 483.2 2215.7 2699.0 1.4752 116.06 389.21 487.0 2213.3 2700.3 1.4849 116.93 390.08 490.7 2210.8 2701.5 1.4944 117.79 390.94 494.3 2208.5 2702.8 1.5036 118.62 391.77 497.9 2206.1 2704.0 1.5127 119.43 392.58 501.3 2203.8 2705.1 1.5215</td> <td>39.03         312.18         163.4         2409.2         2572.6         0.5591         7.7176           41.54         314.69         173.9         2403.2         2577.1         0.5926         7.6370           43.79         316.94         183.3         2397.9         2581.1         0.6224         7.5657           45.83         318.98         191.8         2392.9         2584.8         0.6493         7.5018           49.45         322.60         206.9         2384.2         2591.2         0.6964         7.3908           52.58         325.73         220.0         2376.7         2596.7         0.7367         7.2966           55.34         328.49         231.6         2370.0         2601.6         0.7721         7.2148           57.83         330.98         242.0         2363.9         2605.9         0.8036         7.1423           60.09         333.14         272.0         2346.4         2618.3         0.8933         6.9390           69.13         342.28         289.3         2336.1         2625.4         0.9441         6.8254           72.71         345.86         304.3         2327.2         2631.5         0.9878         6.7288</td> <td>39.03 312.18 163.4 2409.2 2572.6 0.5591 7.7176 8.2767 41.54 314.69 173.9 2403.2 2577.1 0.5926 7.6370 8.2295 43.79 316.94 183.3 2397.9 2581.1 0.6224 7.5657 8.1881 45.83 318.98 191.8 2392.9 2584.8 0.6493 7.5018 8.1511 49.45 322.60 206.9 2384.2 2591.2 0.6964 7.3908 8.0872 52.58 325.73 220.0 2376.7 2596.7 0.7367 7.2966 8.0333 55.34 328.49 231.6 2370.0 2601.6 0.7721 7.2148 7.9868 57.83 330.98 242.0 2363.9 2605.9 0.8036 7.1423 7.9459 60.09 333.24 251.5 2358.4 2609.9 0.8321 7.0773 7.9094 64.99 338.14 272.0 2346.4 2618.3 0.8933 6.9390 7.8323 69.13 342.28 289.3 2336.1 2625.4 0.9441 6.8254 7.7695 72.71 345.86 304.3 2327.2 2631.5 0.9878 6.7288 7.7166 75.89 349.04 317.7 2319.2 2636.9 1.0261 6.6448 7.6709 78.74 351.89 329.6 2312.0 2641.7 1.0603 6.5703 7.6306 81.35 354.50 340.6 2305.4 2646.0 1.0912 6.5035 7.5947 85.95 359.10 359.9 2293.6 2653.6 1.1455 6.3872 7.5327 89.96 363.11 376.8 2283.3 2660.1 1.1921 6.2883 7.4804 99.63 372.78 417.5 2257.9 2675.4 1.3027 6.0571 7.3598 100.00 373.15 419.1 2256.9 2676.0 1.3069 6.0485 7.3554 101.00 374.15 423.3 2254.3 2677.6 1.3182 6.0252 7.3434 102.32 375.47 428.8 2250.8 2679.6 1.3330 5.9947 7.3277 103.59 376.74 434.2 2247.4 2681.6 1.3472 5.9655 7.3127 104.81 377.96 439.4 2244.1 2683.4 1.3609 5.9375 7.2984 105.99 379.14 444.4 2240.9 2685.2 1.3741 5.9106 7.2846 107.13 380.28 449.2 2237.8 2687.0 1.3868 5.8847 7.2715 108.24 381.39 453.9 2234.8 2688.7 1.3991 5.8597 7.2284 107.13 380.28 449.2 2237.8 2688.7 1.3991 5.8597 7.2284 107.13 380.28 449.2 2237.8 2688.7 1.3991 5.8597 7.2284 107.13 380.28 449.2 2237.8 2690.3 1.4109 5.8356 7.2246 107.13 380.28 449.2 2237.8 2690.3 1.4109 5.8356 7.2246 107.13 380.28 449.2 2237.8 2690.4 1.4336 5.7897 7.2234 111.37 384.52 467.1 2226.2 2693.4 1.4336 5.7897 7.2234 111.37 384.52 467.1 2226.2 2693.4 1.4336 5.7897 7.2234 111.37 384.52 467.1 2226.2 2693.4 1.4336 5.7897 7.2234 111.37 384.52 467.1 2226.2 2699.0 1.4755 5.7661 7.1813 116.06 389.21 487.0 2213.3 2700.3 1.4849 5.6867 7.1716 116.93 390.08 490.7 2210.8 2701.5 1.5215 5.6313 7.1440 119.43 392.58 501.3 2203.8 27</td> <td>39.03 312.18 163.4 2499.2 2572.6 0.5591 7.7176 8.2767 0.001007 41.54 314.69 173.9 2403.2 2577.1 0.5926 7.6370 8.2295 0.001008 43.79 316.94 183.3 2397.9 2581.1 0.6224 7.5657 8.1881 0.001009 445.83 318.98 191.8 2392.9 2584.8 0.6493 7.5018 8.1511 0.001010 49.45 322.60 206.9 2384.2 2591.2 0.6964 7.3908 8.0872 0.001012 52.58 325.73 220.0 2376.7 2596.7 0.7367 7.2966 8.0333 0.001013 553.4 328.49 231.6 2370.0 2601.6 0.7721 7.2148 7.9868 0.001015 57.83 330.98 242.0 2363.9 2605.9 0.8036 7.1423 7.9459 0.001016 60.09 333.24 251.5 2358.4 2609.9 0.8321 7.0773 7.9094 0.001016 60.09 333.24 251.5 2358.4 2609.9 0.8321 7.0773 7.9094 0.001016 60.09 338.14 272.0 2346.4 2618.3 0.8933 6.9390 7.8323 0.001020 69.13 342.28 289.3 2336.1 2625.4 0.9441 6.8254 7.7695 0.001025 75.89 349.04 317.7 2319.2 2631.5 0.9878 6.7288 7.7166 0.001025 75.89 349.04 317.7 2319.2 2636.9 1.0261 6.6448 7.6709 0.001027 78.74 351.89 329.6 2312.0 2641.7 1.0603 6.5703 7.6306 0.001028 81.35 354.50 340.6 2305.4 2646.0 1.0912 6.5035 7.5947 0.001030 85.95 359.10 359.9 2293.6 2653.6 1.1455 6.3872 7.5327 0.001033 89.96 33.11 376.8 2283.3 2660.1 1.1921 6.2883 7.4804 0.001036 93.51 366.66 391.7 2274.0 2665.8 1.2330 6.2022 7.4352 0.001039 96.71 369.86 405.2 2265.6 2670.9 1.2696 6.1258 7.3954 0.001041 99.63 372.78 417.5 2257.9 2675.4 1.3027 6.0571 7.3598 0.001043 100.00 373.15 419.1 2256.9 2676.0 1.3069 6.0485 7.3554 0.001043 100.00 374.15 423.3 2254.3 2677.6 1.3182 6.0252 7.3434 0.001045 102.32 375.47 428.8 2250.8 2679.6 1.3330 5.9947 7.3277 0.001043 105.99 370.14 444.4 2240.9 2685.2 1.3741 5.9106 7.2846 0.001049 107.13 380.28 449.2 2237.8 2687.0 1.3868 5.8847 7.2715 0.001050 108.24 381.39 453.9 2234.8 2687.0 1.3868 5.8847 7.2715 0.001050 108.24 381.39 453.9 2234.8 2687.0 1.3868 5.8847 7.2715 0.001051 110.36 383.51 462.8 2229.0 2691.8 1.4225 5.8123 7.2347 0.001052 111.37 384.52 467.1 2226.2 2693.4 1.4455 5.7667 7.1210 0.001055 111.26 3390.8 490.7 2212.3 2699.0 1.4752 5.7661 7.1913 0.001055 111.26 3390.8 490.7 2210.8 2209.5 2694.8 1.4445 5.6667 7.1162 0.001055 111.26 3390.</td>	39.03         312.18         163.4           41.54         314.69         173.9           43.79         316.94         183.3           45.83         318.98         191.8           49.45         322.60         206.9           52.58         325.73         220.0           55.34         328.49         231.6           57.83         330.98         242.0           60.09         333.24         251.5           64.99         338.14         272.0           69.13         342.28         289.3           72.71         345.86         304.3           75.89         349.04         317.7           78.74         351.89         329.6           81.35         354.50         340.6           85.95         359.10         359.9           89.96         363.11         376.8           93.51         366.66         391.7           96.71         369.86         405.2           99.63         372.78         417.5           100.00         373.15         419.1           101.00         374.15         423.3           102.32         375.47         428.8	39.03         312.18         163.4         2409.2           41.54         314.69         173.9         2403.2           43.79         316.94         183.3         2397.9           45.83         318.98         191.8         2392.9           49.45         322.60         206.9         2384.2           52.58         325.73         220.0         2376.7           55.34         328.49         231.6         2370.0           57.83         330.98         242.0         2363.9           60.09         333.24         251.5         2358.4           64.99         338.14         272.0         2346.4           69.13         342.28         289.3         2336.1           72.71         345.86         304.3         2327.2           75.89         349.04         317.7         2319.2           78.74         351.89         329.6         2312.0           81.35         354.50         340.6         2305.4           85.95         359.10         359.9         2293.6           89.96         363.11         376.8         2283.3           93.51         366.66         391.7         2274.0	39,03         312,18         163,4         2409,2         2572,6           41,54         314,69         173,9         2403,2         2577,1           43,79         316,94         183,3         2397,9         2581,1           45,83         318,98         191,8         2392,9         2584,8           49,45         322,60         206,9         2384,2         2591,2           52,58         325,73         220,0         2376,7         2596,7           55,34         328,49         231,6         2370,0         2601,6           57,83         330,98         242,0         2363,9         2605,9           60,09         333,14         272,0         2346,4         2618,3           69,13         342,28         289,3         2336,1         2625,4           72,71         345,86         304,3         2327,2         2631,5           75,89         349,04         317,7         2319,2         2636,9           78,74         351,89         329,6         2312,0         2641,7           81,35         354,50         340,6         2305,4         2646,0           85,95         359,10         359,9         2293,6         2653,6	39,03 312.18 163.4 2409.2 2572.6 0.5591 41.54 314.69 173.9 2403.2 2577.1 0.5926 43.79 316.94 183.3 2397.9 2581.1 0.6224 45.83 318.98 191.8 2392.9 2584.8 0.6493 49.45 322.60 206.9 2384.2 2591.2 0.6964 52.58 325.73 220.0 2376.7 2596.7 0.7367 55.34 328.49 231.6 2370.0 2601.6 0.7721 57.83 330.98 242.0 2363.9 2605.9 0.8036 60.09 333.24 251.5 2358.4 2609.9 0.8321 64.99 338.14 272.0 2346.4 2618.3 0.8933 69.13 342.28 289.3 2336.1 2625.4 0.9441 72.71 345.86 304.3 2327.2 2631.5 0.9878 75.89 349.04 317.7 2319.2 2636.9 1.0261 78.74 351.89 329.6 2312.0 2641.7 1.0603 81.35 354.50 340.6 2305.4 2646.0 1.0912 85.95 359.10 359.9 2293.6 2653.6 1.1455 89.96 363.11 376.8 2283.3 2660.1 1.1921 93.51 366.66 391.7 2274.0 2665.8 1.2330 96.71 369.86 405.2 2265.6 2670.9 1.2696 99.63 372.78 417.5 2257.9 2675.4 1.3027 100.00 373.15 419.1 2256.9 2676.0 1.3069 101.00 374.15 423.3 2254.3 2677.6 1.3182 102.32 375.47 428.8 2250.8 2679.6 1.3330 103.59 376.74 434.2 2247.4 2681.6 1.3472 104.81 377.96 439.4 2244.4 2688.4 1.3609 105.99 379.14 444.4 2240.9 2685.2 1.3741 107.13 380.28 449.2 2237.8 2687.0 1.3868 108.24 381.39 453.9 2234.8 2687.0 1.3868 108.24 381.39 453.9 2234.8 2687.0 1.3868 108.24 381.39 453.9 2234.8 2687.0 1.3868 108.24 381.39 453.9 2234.8 2687.0 1.3868 108.24 381.39 453.9 2234.8 2687.0 1.3868 108.24 381.39 453.9 2234.8 2688.7 1.3991 109.32 382.47 458.4 2231.9 2690.3 1.4109 110.36 383.51 462.8 2229.0 2691.8 1.4225 111.37 384.52 467.1 2226.2 2693.4 1.4336 112.36 385.51 471.3 2223.5 2694.8 1.4445 113.32 386.47 475.4 2220.9 2696.2 1.4550 114.26 387.41 479.4 2218.3 2697.6 1.4752 115.17 388.32 483.2 2215.7 2699.0 1.4752 116.06 389.21 487.0 2213.3 2700.3 1.4849 116.93 390.08 490.7 2210.8 2701.5 1.4944 117.79 390.94 494.3 2208.5 2702.8 1.5036 118.62 391.77 497.9 2206.1 2704.0 1.5127 119.43 392.58 501.3 2203.8 2705.1 1.5215	39.03         312.18         163.4         2409.2         2572.6         0.5591         7.7176           41.54         314.69         173.9         2403.2         2577.1         0.5926         7.6370           43.79         316.94         183.3         2397.9         2581.1         0.6224         7.5657           45.83         318.98         191.8         2392.9         2584.8         0.6493         7.5018           49.45         322.60         206.9         2384.2         2591.2         0.6964         7.3908           52.58         325.73         220.0         2376.7         2596.7         0.7367         7.2966           55.34         328.49         231.6         2370.0         2601.6         0.7721         7.2148           57.83         330.98         242.0         2363.9         2605.9         0.8036         7.1423           60.09         333.14         272.0         2346.4         2618.3         0.8933         6.9390           69.13         342.28         289.3         2336.1         2625.4         0.9441         6.8254           72.71         345.86         304.3         2327.2         2631.5         0.9878         6.7288	39.03 312.18 163.4 2409.2 2572.6 0.5591 7.7176 8.2767 41.54 314.69 173.9 2403.2 2577.1 0.5926 7.6370 8.2295 43.79 316.94 183.3 2397.9 2581.1 0.6224 7.5657 8.1881 45.83 318.98 191.8 2392.9 2584.8 0.6493 7.5018 8.1511 49.45 322.60 206.9 2384.2 2591.2 0.6964 7.3908 8.0872 52.58 325.73 220.0 2376.7 2596.7 0.7367 7.2966 8.0333 55.34 328.49 231.6 2370.0 2601.6 0.7721 7.2148 7.9868 57.83 330.98 242.0 2363.9 2605.9 0.8036 7.1423 7.9459 60.09 333.24 251.5 2358.4 2609.9 0.8321 7.0773 7.9094 64.99 338.14 272.0 2346.4 2618.3 0.8933 6.9390 7.8323 69.13 342.28 289.3 2336.1 2625.4 0.9441 6.8254 7.7695 72.71 345.86 304.3 2327.2 2631.5 0.9878 6.7288 7.7166 75.89 349.04 317.7 2319.2 2636.9 1.0261 6.6448 7.6709 78.74 351.89 329.6 2312.0 2641.7 1.0603 6.5703 7.6306 81.35 354.50 340.6 2305.4 2646.0 1.0912 6.5035 7.5947 85.95 359.10 359.9 2293.6 2653.6 1.1455 6.3872 7.5327 89.96 363.11 376.8 2283.3 2660.1 1.1921 6.2883 7.4804 99.63 372.78 417.5 2257.9 2675.4 1.3027 6.0571 7.3598 100.00 373.15 419.1 2256.9 2676.0 1.3069 6.0485 7.3554 101.00 374.15 423.3 2254.3 2677.6 1.3182 6.0252 7.3434 102.32 375.47 428.8 2250.8 2679.6 1.3330 5.9947 7.3277 103.59 376.74 434.2 2247.4 2681.6 1.3472 5.9655 7.3127 104.81 377.96 439.4 2244.1 2683.4 1.3609 5.9375 7.2984 105.99 379.14 444.4 2240.9 2685.2 1.3741 5.9106 7.2846 107.13 380.28 449.2 2237.8 2687.0 1.3868 5.8847 7.2715 108.24 381.39 453.9 2234.8 2688.7 1.3991 5.8597 7.2284 107.13 380.28 449.2 2237.8 2688.7 1.3991 5.8597 7.2284 107.13 380.28 449.2 2237.8 2688.7 1.3991 5.8597 7.2284 107.13 380.28 449.2 2237.8 2690.3 1.4109 5.8356 7.2246 107.13 380.28 449.2 2237.8 2690.3 1.4109 5.8356 7.2246 107.13 380.28 449.2 2237.8 2690.4 1.4336 5.7897 7.2234 111.37 384.52 467.1 2226.2 2693.4 1.4336 5.7897 7.2234 111.37 384.52 467.1 2226.2 2693.4 1.4336 5.7897 7.2234 111.37 384.52 467.1 2226.2 2693.4 1.4336 5.7897 7.2234 111.37 384.52 467.1 2226.2 2699.0 1.4755 5.7661 7.1813 116.06 389.21 487.0 2213.3 2700.3 1.4849 5.6867 7.1716 116.93 390.08 490.7 2210.8 2701.5 1.5215 5.6313 7.1440 119.43 392.58 501.3 2203.8 27	39.03 312.18 163.4 2499.2 2572.6 0.5591 7.7176 8.2767 0.001007 41.54 314.69 173.9 2403.2 2577.1 0.5926 7.6370 8.2295 0.001008 43.79 316.94 183.3 2397.9 2581.1 0.6224 7.5657 8.1881 0.001009 445.83 318.98 191.8 2392.9 2584.8 0.6493 7.5018 8.1511 0.001010 49.45 322.60 206.9 2384.2 2591.2 0.6964 7.3908 8.0872 0.001012 52.58 325.73 220.0 2376.7 2596.7 0.7367 7.2966 8.0333 0.001013 553.4 328.49 231.6 2370.0 2601.6 0.7721 7.2148 7.9868 0.001015 57.83 330.98 242.0 2363.9 2605.9 0.8036 7.1423 7.9459 0.001016 60.09 333.24 251.5 2358.4 2609.9 0.8321 7.0773 7.9094 0.001016 60.09 333.24 251.5 2358.4 2609.9 0.8321 7.0773 7.9094 0.001016 60.09 338.14 272.0 2346.4 2618.3 0.8933 6.9390 7.8323 0.001020 69.13 342.28 289.3 2336.1 2625.4 0.9441 6.8254 7.7695 0.001025 75.89 349.04 317.7 2319.2 2631.5 0.9878 6.7288 7.7166 0.001025 75.89 349.04 317.7 2319.2 2636.9 1.0261 6.6448 7.6709 0.001027 78.74 351.89 329.6 2312.0 2641.7 1.0603 6.5703 7.6306 0.001028 81.35 354.50 340.6 2305.4 2646.0 1.0912 6.5035 7.5947 0.001030 85.95 359.10 359.9 2293.6 2653.6 1.1455 6.3872 7.5327 0.001033 89.96 33.11 376.8 2283.3 2660.1 1.1921 6.2883 7.4804 0.001036 93.51 366.66 391.7 2274.0 2665.8 1.2330 6.2022 7.4352 0.001039 96.71 369.86 405.2 2265.6 2670.9 1.2696 6.1258 7.3954 0.001041 99.63 372.78 417.5 2257.9 2675.4 1.3027 6.0571 7.3598 0.001043 100.00 373.15 419.1 2256.9 2676.0 1.3069 6.0485 7.3554 0.001043 100.00 374.15 423.3 2254.3 2677.6 1.3182 6.0252 7.3434 0.001045 102.32 375.47 428.8 2250.8 2679.6 1.3330 5.9947 7.3277 0.001043 105.99 370.14 444.4 2240.9 2685.2 1.3741 5.9106 7.2846 0.001049 107.13 380.28 449.2 2237.8 2687.0 1.3868 5.8847 7.2715 0.001050 108.24 381.39 453.9 2234.8 2687.0 1.3868 5.8847 7.2715 0.001050 108.24 381.39 453.9 2234.8 2687.0 1.3868 5.8847 7.2715 0.001051 110.36 383.51 462.8 2229.0 2691.8 1.4225 5.8123 7.2347 0.001052 111.37 384.52 467.1 2226.2 2693.4 1.4455 5.7667 7.1210 0.001055 111.26 3390.8 490.7 2212.3 2699.0 1.4752 5.7661 7.1913 0.001055 111.26 3390.8 490.7 2210.8 2209.5 2694.8 1.4445 5.6667 7.1162 0.001055 111.26 3390.

(continued overleaf)

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Absolute pressure (kN/m²)		erature	Enthalpy per unit mass $(H_s)$			Entropy per unit mass $(S_s)$			Specific volume (v	
	(°C) (K)		(kJ/kg)			(kJ/kg K)			(m <sup>3</sup> /kg)	
in total	$\theta_{s}$	$T_{\mathcal{S}}$	water	latent	steam	water	latent	steam	water	steam
210	121.78	394.93	511.3	2197.2	2708.5	1.5468	5.5637	7.1105	0.001062	0.846
220	123.27	396.42	517.6	2193.0	2710.6	1.5628	5.5321	7.0949	0.001064	0.810
230	124.71	397.86	523.7	2188.9	2712.6	1.5781	5.5018	7.0800	0.001065	0.777
240	126.09	399.24	529.6	2184.9)	2714.5	1.5929	5.4728	7.0657	0.001066	0.746
250	127.43	400.58	535.4	2181.0	2716.4	1.6072	5.4448	7.0520	0.001068	0.718
260	128.73	401.88	540.9	2177.3	2718.2	1.6209	5.4179	7.0389	0.001069	0.692
270	129.99	403.14	546.2	2173.6	2719.9	1.6342	5.3920	7.0262	0.001070	0.668
280	131.21	404.36	551.5	2170.1	2721.5	1.6471	5.3669	7.0140	0.001071	0.646
290	132.39	405.54	556.5	2166.6	2723.1	1.6596	5.3427	7.0022	0.001072	0.625
300	133.54	406.69	561.4	2163.2	2724.7	1.6717	5.3192	6.9909	0.001074	0.606
320	135.76	408.91	570.9	2156.7	2727.6	1.6948	5.2744	6.9692	0.001076	0.570
340	137.86	411.01	579.9	2150.4	2730.3	1.7168	5.2321	6.9489	0.001078	0.538
360	139.87	413.02	588.5	2144.4	2732.9	1.7376	5.1921	6.9297	0.001080	0.510
380	141.79	414.94	596.8	2138.6	2735.3	1.7575	5.1541	6.9115	0.001082	0.485
400	143.63	416.78	604.7	2132.9	2737.6	1.7764	5.1179	6.8943	0.001084	0.462
420	145.39	418.54	612.3	2127.5	2739.8	1.7946	5.0833	6.8779	0.001086	0.442
440	147.09	420.24	619.6	2122.3	2741.9	1.8120	5.0503	6.8622	0.001088	0.423
460	148.73	421.88	626.7	2117.2	2743.9	1.8287	5.0186	6.8473	0.001089	0.405
	150.31	423.46	633.5	2117.2	2745.7	1.8448	4.9881	6.8329	0.001009	0.389
480	151.85	425.40	640.1	2107.4	2747.5	1.8604	4.9588	6.8192	0.001091	0.375
500				2107.4		1.8754	4.9305	6.8059	0.001095	0.361
520	153.33	426.48	646.5		2749.3					0.348
540	154.77	427.92	652.8	2098.1	2750.9	1.8899	4.9033	6.7932	0.001096	0.346
560	156.16	429.31	658.8	2093.7	2752.5	1.9040	4.8769	6.7809	0.001098	
580	157.52	430.67	664.7	2089.3	2754.0	1.9176	4.8514	6.7690	0.001100	0.326
600	158.84	431.99	670.4	2085.0	2755.5	1.9308	4.8267	6.7575	0.001101	0.316
620	160.12	433.27	676.0	2080.8	2756.9	1.9437	4.8027	6.7464	0.001102	0.306
640	161.38	434.53	681.5	2076.7	2758.2	1.9562	4.7794	6.7356	0.001104	0.297
660	162.60	435.75	686.8	2072.7	2759.5	1.9684	4.7568	6.7252	0.001105	0.288
680	163.79	436.94	692.0	2068.8	2760.8	1.9803	4.7348	6.7150	0.001107	0.280
700	164.96	438.11	697.1	2064.9	2762.0	1.9918	4.7134	6.7052	0.001108	0.272
720	166.10	439.25	702.0	2061.1	2763.2	2.0031	4.6925	6.6956	0.001109	0.266
740	167.21	440.36	706.9	2057.4	2764.3	2.0141	4.6721	6.6862	0.001110	0.258
760	168.30	441.45	711.7	2053.7	2765.4	2.0249	4.6522	6.6771	0.001112	0.252
780	169.37	442.52	716.3	2050.1	2766.4	2.0354	4.6328	6.6683	0.001114	0.246
800	170.41	443.56	720.9	2046.5	2767.5	2.0457	4.6139	6.6596	0.001115	0.240
820	171.44	444.59	725.4	2043.0	2768.5	2.0558	4.5953	6.6511	0.001116	0.235
840	172.45	445.60	729.9	2039.6	2769.4	2.0657	4.5772	6.6429	0.001118	0.229
860	173.43	446.58	734.2	2036.2	2770.4	2.0753	4.5595	6.6348	0.001119	0.224
880	174.40	447.55	738.5	2032.8	2771.3	2.0848	4.5421	6.6269	0.001120	0.220
900	175.36	448.51	742.6	2029.5	2772.1	2.0941	4.5251	6.6192	0.001121	0.215
920	176.29	449.44	746.8	2026.2	2773.0	2.1033	4.5084	6.6116	0.001123	0.210
940	177.21	450.36	750.8	2023.0	2773.8	2.1122	4.4920	6.6042	0.001124	0.206
960	178.12	451.27	754.8	2019.8	2774.6	2.1210	4.4759	6.5969	0.001125	0.202
980	179.01	452.16	758.7	2016.7	2775.4	2.1297	4.4602	6.5898	0.001126	0.198
1000	179.88	453.03	762.6	2013.6	2776.2	2.1382	4.4447	6.5828	0.001127	0.194
1100	184.06	457.21	781.1	1998.6	2779.7	2.1786	4.3712	6.5498	0.001133	0.177
1200	187.96	461.11	798.4	1984.3	2782.7	2.2160	4.3034	6.5194	0.001139	0.163
1300	191.60	464.75	814.7	1970.7	2785.4	2.2509	4.2404	6.4913	0.001133	0.151
1400	195.04	468.19	830.1	1957.7	2787.8	2.2836	4.1815	6.4651	0.001149	0.141
1500	198.28	471.43	844.6	1945.3	2789.9	2.3144	4.1262	6.4406	0.001154	0.132
1600	201.37	474.52	858.5	1933.2	2791.7	2.3436	4.0740	6.4176	0.001154	0.134
1000	201.57	+1+.32	0.00.5	1933.4	2171.1	2.5450	7.0770	0.4170	0.001137	0.127

Absolute pressure (kN/m²)	Temperature		Enthalm	v ner unit	mass (H <sub>-</sub> )	Entropy	per unit n	$nass(S_n)$	Specific vo	olume (v)
	(°C)	(K)	Enthalpy per unit mass $(H_s)$ $(kJ/kg)$			(kJ/kg K)			(m <sup>3</sup> /kg)	
	$\theta_s$		water	latent	steam	water	latent	steam	water	steam
1700	204.30	477.45	871.8	1921.6	-2793.4	2.3712	4.0246	6.3958	0.001163	0.117
1800	207.11	480.26	884.5	1910.3	2794.8	2.3976	3.9776	6.3751	0.001168	0.110
1900	209.79	482.94	896.8	1899.3	2796.1	2.4227	3.9327	6.3555	0.001172	0.105
2000	212.37	485.52	908.6	1888.7	2797.2	2.4468	3.8899	6.3367	0.001177	0.0996
2200	217.24	490.39	930.9	1868.1	2799.1	2.4921	3.8094	6.3015	0.001185	0.0907
2400	221.78	494.93	951.9	1848.5	2800.4	2.5342	3.7348	6.2690	0.001193	0.0832
2600	226.03	499.18	971.7	1829.7	2801.4	2.5736	3.6652	6.2388	0.001201	0.0769
3000	233.84	506.99	1008.3	1794.0	2802.3	2.6455	3.5383	6.1838	0.001216	0.0666
3500	242.54	515.69	1049.7	1752.2	2802.0	2.7252	3.3976	6.1229	0.001235	0.0570
4000	250.33	523.48	1087.4	1712.9	2800.3	2.7965	3.2720	6.0685	0.001252	0.0498
4500	257.41	530.56	1122.1	1675.6	2797.7	2.8612	3.1579	6.0191	0.001269	0.0440
5000	263.92	537.07	1154.5	1639.7	2794.2	2.9207	3.0528	5.9735	0.001286	0.0394
6000	275.56	548.71	1213.7	1571.3	2785.0	3.0274	2.8633	5.8907	0.001319	0.0324
7000	285.80	558.95	1267.5	1506.0	2773.4	3.1220	2.6541	5.8161	0.001351	0.0274
8000	294.98	568.13	1317.2	1442.7	2759.9	3.2077	2.5393	5.7470	0.001384	0.0235
9000	303.31	576.46	1363.8	1380.8	2744.6	3.2867	2.3952	5.6820	0.001418	0.0205
10000	310.96	584.11	1408.1	1319.7	2727.7	3.3606	2.2592	5.6198	0.001453	0.0180
11000	318.04	591.19	1450.6	1258.8	2709.3	3.4304	2.1292	5.5596	0.001489	0.0160
12000	324.64	597.79	1491.7	1197.5	2698.2	3.4971	2.0032	5.5003	0.001527	0.0143
14000	336.63	609.78	1571.5	1070.9	2642.4	3.6241	1.7564	5.3804	0.0016105	0.01150
16000	347.32	620.47	1650.4	934.5	2584.9	3.7470	1.5063	5.2533	0.0017102	0.00931
18000	356.96	630.11	1734.8	779.0	2513.9	3.8766	1.2362	5.1127	0.0018399	0.00749
20000	365.71	638.86	1826.6	591.6	2418.2	4.0151	0.9259	4.9410	0.0020374	0.00587
22000	373.68	646.83	2010.3	186.3	2196.6	4.2934	0.2881	4.5814	0.0026675	0.00373
22120	374.15	647.30	2107.4	0	2107.4	4.4429	0	4.4429	0.0031700	0.00317

Temperature	Vapor	Specific ve	olume, ft <sup>3</sup> /lb		Enthalpy, Btu/lb				
T, °F	pressure $p_A$ , $lb_f/in.^2$	$\begin{array}{c} \textbf{Liquid} \\ \textbf{\textit{v}}_{x} \end{array}$	Saturated vapor v <sub>y</sub>	Liquid $H_x$	Vaporization λ	Saturated vapor $H_y$			
32	0.08859	0.016022	3,305	0	1,075.4	1,075.4			
35	0.09992	0.016021	2,948	3.00	1,073.7	1,076.7			
40	0.12166	0.016020	2,445	8.02	1,070.9	1,078.9			
45	0.14748	0.016021	2,037	13.04	1,068.1	1,081.1			
50	0.17803	0.016024	1,704.2	18.06	1,065.2	1,083.3			
55	0.2140	0.016029	1,431.4	23.07	1,062.4	1,085.5			
60	0.2563	0.016035	1,206.9	28.08	1,059.6	1,087.7			
65	0.3057	0.016042	1,021.5	33.09	1,056.8	1,089.9			
70	0.3632	0.016051	867.7	38.09	1,054.0	1,092.0			
75	0.4300	0.016061	739.7	43.09	1,051.1	1,094.2			
80	0.5073	0.016073	632.8	48.09	1,048.3	1,096.4			
85	0.5964	0.016085	543.1	53.08	1,045.5	1,098.6			
90	0.6988	0.016099	467.7	58.07	1,042.7	1,100.7			
95	0.8162	0.016114	404.0	63.06	1,039.8	1,102.9			
100	0.9503	0.016130	350.0	68.05	1,037.0	1,105.0			
110	1.2763	0.016166	265.1	78.02	1,031.4	1,109.3			
120	1.6945	0.016205	203.0	88.00	1,025.5	1,113.5			
130	2.225	0.016247	157.17	97.98	1,019.8	1,117.8			
140	2.892	0.016293	122.88	107.96	1,014.0	1,121.9			
150	3.722	0.016343	96.99	117.96	1,008.1	1,126.1			
160	4.745	0.016395	77.23	127.96	1,002.2	1,130.1			
170	5.996	0.016450	62.02	137.97	996.2	1,134.2			
180	7.515	0.016509	50.20	147.99	990.2	1,138.2			
190	9.343	0.016570	40.95	158.03	984.1	1,142.1			
200	11.529	0.016634	33.63	168.07	977.9	1,145.9			
210	14.125	0.016702	27.82	178.14	971.6	1,149.7			
212	14.698	0.016716	26.80	180.16	970.3	1,150.5			

(Continued)

Temperature	Vapor	Specific ve	olume, ft <sup>3</sup> /lb	Enthalpy, Btu/lb			
T, °F	pressure $p_A$ , $lb_f/in.^2$	$\begin{array}{c} \textbf{Liquid} \\ \textbf{\textit{v}}_{x} \end{array}$	Saturated vapor v <sub>y</sub>	Liquid $H_x$	Vaporization λ	Saturated vapor $H_y$	
220	17.188	0.016772	23.15	188.22	965.3	1,153.5	
230	20.78	0.016845	19.386	198.32	958.8	1,157.1	
240	24.97	0.016922	16.327	208.44	952.3	1,160.7	
250	29.82	0.017001	13.826	218.59	945.6	1,164.2	
260	35.42	0.017084	11.768	228.76	938.8	1,167.6	
270	41.85	0.017170	10.066	238.95	932.0	1,170.9	
280	49.18	0.017259	8.650	249.18	924.9	1,174.1	
290	57.53	0.017352	7.467	259.44	917.8	1,177.2	
300	66.98	0.017448	6.472	269.73	910.4	1,180.2	
310	77.64	0.017548	5.632	280.06	903.0	1,183.0	
320	89.60	0.017652	4.919	290.43	895.3	1,185.8	
340	117.93	0.017872	3.792	311.30	879.5	1,190.8	
350	134.53	0.017988	3.346	321.80	871.3	1,193.1	
360	152.92	0.018108	2.961	332.35	862.9	1,195.2	
370	173.23	0.018233	2.628	342.96	854.2	1,197.2	
380	195.60	0.018363	2.339	353.62	845.4	1,199.0	
390	220.2	0.018498	2.087	364.34	836.2	1,200.6	
400	247.1	0.018638	1.8661	375.12	826.8	1,202.0	
410	276.5	0.018784	1.6726	385.97	817.2	1,203.1	
420	308.5	0.018936	1.5024	396.89	807.2	1,204.1	
430	343.3	0.019094	1.3521	407.89	796.9	1,204.8	
440	381.2	0.019260	1.2192	418.98	786.3	1,205.3	
450	422.1	0.019433	1.1011	430.2	775,4	1,205.6	

<sup>&</sup>lt;sup>†</sup>Abstracted from *Steam Tables*, by Joseph H. Keenan, Frederick G. Keyes, Philip G. Hill, and Joan G. Moore, John Wiley & Sons, New York, 1969, with the permission of the publisher.