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Properties of saturated water

Temp. T, °C	Saturation Pressure P_{sat}, kPa	Density ρ, kg/m³		Enthalpy of Vaporization h_{fg}, kJ/kg	Specific Heat c_p, J/kg·K		Thermal Conductivity k, W/m·K		Dynamic Viscosity μ, kg/m·s		Prandtl Number Pr		Volume Expansion Coefficient β, 1/K
		Liquid	Vapor		Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid
0.01	0.6113	999.8	0.0048	2501	4217	1854	0.561	0.0171	1.792×10^{-3}	0.922×10^{-5}	13.5	1.00	-0.068×10^{-3}
5	0.8721	999.9	0.0068	2490	4205	1857	0.571	0.0173	1.519×10^{-3}	0.934×10^{-5}	11.2	1.00	0.015×10^{-3}
10	1.2276	999.7	0.0094	2478	4194	1862	0.580	0.0176	1.307×10^{-3}	0.946×10^{-5}	9.45	1.00	0.733×10^{-3}
15	1.7051	999.1	0.0128	2466	4185	1863	0.589	0.0179	1.138×10^{-3}	0.959×10^{-5}	8.09	1.00	0.138×10^{-3}
20	2.339	998.0	0.0173	2454	4182	1867	0.598	0.0182	1.002×10^{-3}	0.973×10^{-5}	7.01	1.00	0.195×10^{-3}
25	3.169	997.0	0.0231	2442	4180	1870	0.607	0.0186	0.891×10^{-3}	0.987×10^{-5}	6.14	1.00	0.247×10^{-3}
30	4.246	996.0	0.0304	2431	4178	1875	0.615	0.0189	0.798×10^{-3}	1.001×10^{-5}	5.42	1.00	0.294×10^{-3}
35	5.628	994.0	0.0397	2419	4178	1880	0.623	0.0192	0.720×10^{-3}	1.016×10^{-5}	4.83	1.00	0.337×10^{-3}
40	7.384	992.1	0.0512	2407	4179	1885	0.631	0.0196	0.653×10^{-3}	1.031×10^{-5}	4.32	1.00	0.377×10^{-3}
45	9.593	990.1	0.0655	2395	4180	1892	0.637	0.0200	0.596×10^{-3}	1.046×10^{-5}	3.91	1.00	0.415×10^{-3}
50	12.35	988.1	0.0831	2383	4181	1900	0.644	0.0204	0.547×10^{-3}	1.062×10^{-5}	3.55	1.00	0.451×10^{-3}
55	15.76	985.2	0.1045	2371	4183	1908	0.649	0.0208	0.504×10^{-3}	1.077×10^{-5}	3.25	1.00	0.484×10^{-3}
60	19.94	983.3	0.1304	2359	4185	1916	0.654	0.0212	0.467×10^{-3}	1.093×10^{-5}	2.99	1.00	0.517×10^{-3}
65	25.03	980.4	0.1614	2346	4187	1926	0.659	0.0216	0.433×10^{-3}	1.110×10^{-5}	2.75	1.00	0.548×10^{-3}
70	31.19	977.5	0.1983	2334	4190	1936	0.663	0.0221	0.404×10^{-3}	1.126×10^{-5}	2.55	1.00	0.578×10^{-3}
75	38.58	974.7	0.2421	2321	4193	1948	0.667	0.0225	0.378×10^{-3}	1.142×10^{-5}	2.38	1.00	0.607×10^{-3}
80	47.39	971.8	0.2935	2309	4197	1962	0.670	0.0230	0.355×10^{-3}	1.159×10^{-5}	2.22	1.00	0.653×10^{-3}
85	57.83	968.1	0.3536	2296	4201	1977	0.673	0.0235	0.333×10^{-3}	1.176×10^{-5}	2.08	1.00	0.670×10^{-3}
90	70.14	965.3	0.4235	2283	4206	1993	0.675	0.0240	0.315×10^{-3}	1.193×10^{-5}	1.96	1.00	0.702×10^{-3}

Material: Copper Alloys - Copper Nickel Alloys

Property	Minimum Value (S.I.)	Maximum Value (S.I.)	Units (S.I.)	Minimum Value (Imp.)	Maximum Value (Imp.)	Units (Imp.)
Atomic Volume (average)	0.0071	0.0073	m^3/kmol	433.268	445.473	in^3/kmol
Density	8.5	8.95	Mg/m^3	530.638	558.731	lb/ft^3
Energy Content	140	180	MJ/kg	15167.4	19501	kcal/lb
Bulk Modulus	130	170	GPa	18.8549	24.6564	10^6 psi
Compressive Strength	85	550	MPa	12.3282	79.7708	ksi
Ductility	0.03	0.44		0.03	0.44	
Elastic Limit	85	550	MPa	12.3282	79.7708	ksi
Endurance Limit	138	240	MPa	20.0152	34.809	ksi
Fracture Toughness	26	79	$MPa.m^{1/2}$	23.6612	71.8937	$ksi.in^{1/2}$
Hardness	580	1650	MPa	84.1219	239.312	ksi
Loss Coefficient	1.5e-005	0.00056		1.5e-005	0.00056	
Modulus of Rupture	85	550	MPa	12.3282	79.7708	ksi
Poisson's Ratio	0.34	0.35		0.34	0.35	
Shear Modulus	45	58	GPa	6.5267	8.41219	10^6 psi
Tensile Strength	267	624	MPa	38.7251	90.5036	ksi
Young's Modulus	120	156	GPa	17.4045	22.6259	10^6 psi
Glass Temperature			K			°F
Latent Heat of Fusion	220	240	kJ/kg	94.5825	103.181	BTU/lb
Maximum Service Temperature	425	480	K	305.33	404.33	°F
Melting Point	1384	1508	K	2031.53	2254.73	°F
Minimum Service Temperature	0	0	K	-459.67	-459.67	°F
Specific Heat	384	386	J/kg.K	0.297162	0.298709	BTU/lb.F
Thermal Conductivity	19	66	W/m.K	35.5686	123.554	$BTU.ft/h.ft^2.F$
Thermal Expansion	16	17	10^{-6}/K	28.8	30.6	10^{-6}/°F
Breakdown Potential			MV/m			V/mil
Dielectric Constant						
Resistivity	11.7	36.3	10^{-8} ohm.m	11.7	36.3	10^{-8} ohm.m

Geometri	Persamaan	Batasan
Aliran tabung	$Nu_d = 0{,}023\ Re_d^{0.8}\ Pr^n$	Aliran turbulen berkembang penuh $n = 0{,}4$ pemanasan $n = 0{,}3$ pendinginan $0{,}6 < Pr < 100$
Aliran tabung	$Nu_d = 0{,}027\ Re_d^{0.8}\ Pr^{1/3} \left(\frac{\mu}{\mu_w}\right)^{0.14}$	Aliran turbulen berkembang penuh
Aliran tabung, daerah pintu masuk	$Nu_d = 0{,}036\ Re_d^{0.8}\ Pr^{1/3} \left(\frac{d}{L}\right)^{0{,}055}$	Aliran turbulen $10 < \frac{L}{d} < 400$

Sumber: google