

R-407C thermodynamic properties (temperature standard)-1

Temperature (°C)	Pressure (kPa)		Density (kg/m ³)		Specific volume (m ³ /kg)		Specific enthalpy (kJ/kg)			Specific entropy (kJ/kg/K)		Constant pressure specific heat (kJ/kgK)	
	Liquid	Steam	Liquid	Steam	Liquid	Steam	Liquid	Steam	Latent heat	Liquid	Steam	Liquid	Steam
-70	23.98	14.34	1460	0.7399	0.00069	1.352	107.5	368.9	261.4	0.6114	1.924	1.257	0.6797
-68	27.17	16.49	1454	0.8433	0.00069	1.186	110	370.1	260.1	0.6237	1.917	1.259	0.6849
-66	30.71	18.9	1448	0.9581	0.00069	1.044	112.5	371.3	258.8	0.6359	1.91	1.262	0.6903
-64	34.61	21.59	1442	1.085	0.00069	0.9213	115	372.5	257.5	0.6481	1.903	1.265	0.6957
-62	38.9	24.59	1437	1.226	0.0007	0.8157	117.6	373.8	256.2	0.6601	1.897	1.268	0.7013
-60	43.62	27.91	1431	1.381	0.0007	0.7242	120.1	375	254.9	0.6721	1.89	1.27	0.707
-58	48.79	31.6	1425	1.551	0.0007	0.6446	122.7	376.2	253.5	0.6839	1.884	1.273	0.7128
-56	54.44	35.68	1419	1.738	0.0007	0.5754	125.2	377.4	252.2	0.6957	1.878	1.276	0.7187
-54	60.61	40.18	1413	1.943	0.00071	0.5148	127.8	378.6	250.8	0.7074	1.873	1.28	0.7248
-52	67.33	45.12	1407	2.166	0.00071	0.4617	130.3	379.8	249.5	0.719	1.867	1.283	0.7309
-50	74.63	50.54	1401	2.409	0.00071	0.4151	132.9	381	248.1	0.7306	1.862	1.286	0.7372
-48	82.55	56.48	1395	2.674	0.00072	0.374	135.5	382.2	246.7	0.7421	1.857	1.289	0.7437
-46	91.13	62.97	1389	2.961	0.00072	0.3377	138.1	383.4	245.3	0.7535	1.852	1.293	0.7503
-44	100.4	70.04	1383	3.272	0.00072	0.3056	140.7	384.6	243.9	0.7648	1.847	1.296	0.757
-43.81	101.3	70.75	1382	3.303	0.00072	0.3028	140.9	384.7	243.8	0.7659	1.847	1.297	0.7576
-42	110.4	77.74	1376	3.609	0.00073	0.2771	143.3	385.8	242.5	0.7761	1.843	1.3	0.7639
-40	121.2	86.09	1370	3.972	0.00073	0.2517	145.9	387	241.1	0.7873	1.838	1.304	0.7709
-38	132.8	95.15	1364	4.364	0.00073	0.2291	148.5	388.2	239.7	0.7984	1.834	1.308	0.778
-36	145.2	104.9	1358	4.786	0.00074	0.2089	151.1	389.3	238.2	0.8095	1.83	1.312	0.7853
-34	158.5	115.5	1352	5.24	0.00074	0.1908	153.7	390.5	236.8	0.8205	1.826	1.316	0.7928
-32	172.8	126.9	1345	5.727	0.00074	0.1746	156.4	391.7	235.3	0.8314	1.822	1.32	0.8004
-30	188.1	139.2	1339	6.249	0.00075	0.16	159	392.8	233.8	0.8423	1.818	1.324	0.8082
-28	204.4	152.4	1332	6.808	0.00075	0.1469	161.7	394	232.3	0.8532	1.815	1.329	0.8162
-26	221.7	166.5	1326	7.405	0.00075	0.135	164.3	395.1	230.8	0.8639	1.811	1.333	0.8243
-24	240.2	181.7	1319	8.044	0.00076	0.1243	167	396.2	229.2	0.8747	1.808	1.338	0.8326
-22	259.9	197.9	1313	8.725	0.00076	0.1146	169.7	397.3	227.6	0.8854	1.805	1.343	0.8411
-20	280.7	215.2	1306	9.451	0.00077	0.1058	172.4	398.4	226	0.896	1.801	1.348	0.8498
-18	302.9	233.7	1300	10.22	0.00077	0.09781	175.1	399.5	224.4	0.9066	1.798	1.353	0.8586
-16	326.4	253.4	1293	11.05	0.00077	0.09053	177.8	400.6	222.8	0.9171	1.795	1.358	0.8677
-14	351.2	274.4	1286	11.92	0.00078	0.0839	180.6	401.7	221.1	0.9276	1.792	1.364	0.877
-12	377.4	296.6	1279	12.85	0.00078	0.07784	183.3	402.7	219.4	0.9381	1.79	1.37	0.8865
-10	405.2	320.3	1272	13.83	0.00079	0.0723	186.1	403.8	217.7	0.9485	1.787	1.376	0.8962
-8	434.4	345.3	1265	14.88	0.00079	0.06722	188.8	404.8	216	0.9588	1.784	1.382	0.9062
-6	465.3	371.9	1258	15.98	0.00079	0.06257	191.6	405.9	214.3	0.9692	1.781	1.388	0.9164
-4	497.7	400	1251	17.15	0.0008	0.0583	194.4	406.9	212.5	0.9795	1.779	1.395	0.9269
-2	531.9	429.7	1244	18.39	0.0008	0.05437	197.2	407.9	210.7	0.9898	1.776	1.402	0.9377
0	567.8	461	1237	19.7	0.00081	0.05075	200	408.9	208.9	1	1.774	1.409	0.9488
2	605.5	494.1	1229	21.09	0.00081	0.04742	202.8	409.8	207	1.01	1.772	1.416	0.9602
4	645.1	529	1222	22.55	0.00082	0.04434	205.7	410.8	205.1	1.02	1.769	1.424	0.9719
6	686.6	565.7	1214	24.1	0.00082	0.0415	208.5	411.7	203.2	1.031	1.767	1.432	0.984
8	730.1	604.3	1207	25.73	0.00083	0.03887	211.4	412.6	201.2	1.041	1.765	1.44	0.9965

R-407C thermodynamic properties (temperature standard)-2

Temperature (°C)	Pressure (kPa)		Density (kg/m ³)		Specific volume (m ³ /kg)		Specific enthalpy (kJ/kg)			Specific entropy (kJ/kg/K)		Constant pressure specific heat (kJ/kgK)	
	Liquid	Steam	Liquid	Steam	Liquid	Steam	Liquid	Steam	Latent heat	Liquid	Steam	Liquid	Steam
	10	775.6	644.9	1199	27.45	0.00083	0.03643	214.3	413.5	199.2	1.051	1.762	1.449
12	823.2	687.5	1191	29.27	0.00084	0.03417	217.2	414.4	197.2	1.061	1.76	1.458	1.023
14	872.9	732.3	1183	31.19	0.00085	0.03207	220.1	415.3	195.2	1.071	1.758	1.468	1.037
16	924.9	779.2	1175	33.21	0.00085	0.03011	223.1	416.1	193	1.081	1.756	1.477	1.051
18	979.1	828.3	1167	35.34	0.00086	0.0283	226	416.9	190.9	1.091	1.754	1.488	1.066
20	1036	879.8	1159	37.59	0.00086	0.0266	229	417.7	188.7	1.101	1.752	1.499	1.082
22	1095	933.7	1151	39.96	0.00087	0.02503	232	418.5	186.5	1.111	1.75	1.51	1.098
24	1156	990.1	1142	42.46	0.00088	0.02355	235.1	419.2	184.1	1.121	1.747	1.523	1.115
26	1220	1049	1133	45.09	0.00088	0.02218	238.1	419.9	181.8	1.131	1.745	1.535	1.133
28	1287	1110	1124	47.87	0.00089	0.02089	241.2	420.6	179.4	1.141	1.743	1.549	1.151
30	1356	1175	1116	50.8	0.0009	0.01968	244.3	421.3	177	1.151	1.741	1.563	1.171
32	1428	1242	1106	53.9	0.0009	0.01855	247.4	421.9	174.5	1.161	1.739	1.579	1.192
34	1503	1312	1097	57.16	0.00091	0.01749	250.5	422.5	172	1.171	1.737	1.595	1.214
36	1580	1384	1087	60.61	0.00092	0.0165	253.7	423	169.3	1.181	1.734	1.612	1.237
38	1661	1460	1078	64.25	0.00093	0.01556	256.9	423.5	166.6	1.192	1.732	1.631	1.262
40	1745	1539	1068	68.11	0.00094	0.01468	260.1	424	163.9	1.202	1.73	1.651	1.289
42	1831	1621	1058	72.18	0.00095	0.01385	263.4	424.4	161	1.212	1.728	1.672	1.317
44	1921	1707	1047	76.5	0.00095	0.01307	266.7	424.8	158.1	1.222	1.725	1.696	1.348
46	2014	1796	1036	81.07	0.00096	0.01233	270.1	425.2	155.1	1.232	1.723	1.721	1.382
48	2111	1888	1025	85.93	0.00098	0.01164	273.4	425.4	152	1.242	1.72	1.749	1.418
50	2210	1985	1014	91.09	0.00099	0.01098	276.9	425.7	148.8	1.253	1.717	1.779	1.457
52	2314	2084	1002	96.58	0.001	0.01035	280.3	425.8	145.5	1.263	1.715	1.813	1.501
54	2420	2188	990.3	102.4	0.00101	0.00976	283.9	425.9	142	1.274	1.712	1.85	1.549
56	2531	2296	977.8	108.7	0.00102	0.0092	287.4	425.9	138.5	1.284	1.709	1.892	1.602
58	2645	2408	964.9	115.4	0.00104	0.00867	291.1	425.9	134.8	1.295	1.705	1.939	1.662
60	2763	2524	951.4	122.6	0.00105	0.00816	294.8	425.7	130.9	1.306	1.702	1.993	1.73
62	2885	2645	937.3	130.3	0.00107	0.00767	298.6	425.4	126.8	1.317	1.698	2.055	1.808
64	3010	2770	922.5	138.7	0.00108	0.00721	302.4	425	122.6	1.328	1.694	2.127	1.898
66	3140	2901	907	147.8	0.0011	0.00677	306.4	424.5	118.1	1.339	1.69	2.214	2.003
68	3274	3036	890.5	157.7	0.00112	0.00634	310.4	423.9	113.5	1.351	1.686	2.318	2.128
70	3412	3177	873	168.6	0.00115	0.00593	314.6	423	108.4	1.362	1.681	2.447	2.281
72	3554	3323	854.2	180.6	0.00117	0.00554	319	422	103	1.374	1.675	2.61	2.469
74	3701	3475	833.8	194.2	0.0012	0.00515	323.5	420.7	97.2	1.387	1.669	2.826	2.711
76	3852	3634	811.3	209.5	0.00123	0.00477	328.3	419	90.7	1.4	1.662	3.123	3.031
78	4008	3799	786	227.2	0.00127	0.0044	333.4	417	83.6	1.414	1.654	3.562	3.478
80	4168	3973	756.8	248.3	0.00132	0.00403	338.9	414.3	75.4	1.429	1.644	4.273	4.148
82	4331	4155	721.3	274.6	0.00139	0.00364	345.2	410.8	65.6	1.446	1.632	5.631	5.275

R-407C thermodynamic properties (pressure standard)

Pressure (kPa)	Temperature (°C)		Density (kg/m ³)		Specific volume (m ³ /kg)		Specific enthalpy (kJ/kg)			Specific entropy (kJ/kg/K)		Constant pressure specific heat (kJ/kgK)	
	Liquid	Steam	Liquid	Steam	Liquid	Steam	Liquid	Steam	Latent heat	Liquid	Steam	Liquid	Steam
20	-72.82	-65.15	1468	1.01	0.00068	0.9898	103.9	371.8	267.9	0.5938	1.907	1.253	0.6926
40	-61.52	-54.07	1435	1.935	0.0007	0.5169	118.2	378.6	260.4	0.663	1.873	1.268	0.7245
60	-54.19	-46.89	1413	2.83	0.00071	0.3534	127.5	382.9	255.4	0.7063	1.854	1.279	0.7473
80	-48.63	-41.44	1397	3.707	0.00072	0.2697	134.7	386.1	251.4	0.7385	1.841	1.288	0.7658
100	-44.08	-36.99	1383	4.574	0.00072	0.2186	140.6	388.8	248.2	0.7643	1.832	1.296	0.7817
101.325	-43.81	-36.72	1382	4.631	0.00072	0.216	140.9	388.9	248	0.7659	1.831	1.297	0.7827
150	-35.26	-28.35	1356	6.707	0.00074	0.1491	152.1	393.8	241.7	0.8135	1.815	1.313	0.8148
200	-28.52	-21.75	1334	8.812	0.00075	0.1135	161	397.5	236.5	0.8503	1.804	1.327	0.8422
250	-22.99	-16.34	1316	10.9	0.00076	0.09171	168.4	400.4	232	0.8801	1.796	1.34	0.8662
300	-18.25	-11.71	1300	12.99	0.00077	0.077	174.8	402.9	228.1	0.9052	1.789	1.352	0.8879
350	-14.09	-7.64	1286	15.07	0.00078	0.06636	180.4	405	224.6	0.9271	1.784	1.364	0.908
400	-10.37	-4	1274	17.15	0.00079	0.0583	185.6	406.9	221.3	0.9466	1.779	1.375	0.9269
450	-6.98	-0.69	1262	19.24	0.00079	0.05197	190.2	408.5	218.3	0.9641	1.775	1.385	0.9449
500	-3.87	2.35	1251	21.34	0.0008	0.04687	194.6	410	215.4	0.9802	1.771	1.395	0.9622
550	-0.98	5.16	1240	23.44	0.00081	0.04267	198.6	411.3	212.7	0.995	1.768	1.405	0.9789
600	1.71	7.78	1230	25.55	0.00081	0.03914	202.4	412.5	210.1	1.009	1.765	1.415	0.9951
650	4.24	10.25	1221	27.67	0.00082	0.03614	206	413.6	207.6	1.022	1.762	1.425	1.011
700	6.63	12.57	1212	29.8	0.00083	0.03355	209.4	414.6	205.2	1.034	1.76	1.434	1.027
750	8.89	14.77	1203	31.95	0.00083	0.0313	212.7	415.6	202.9	1.045	1.757	1.444	1.042
800	11.04	16.86	1195	34.11	0.00084	0.02932	215.8	416.4	200.6	1.056	1.755	1.454	1.057
850	13.09	18.85	1187	36.28	0.00084	0.02756	218.8	417.2	198.4	1.066	1.753	1.463	1.073
900	15.05	20.76	1179	38.47	0.00085	0.02599	221.7	418	196.3	1.076	1.751	1.473	1.088
950	16.94	22.59	1172	40.68	0.00085	0.02458	224.5	418.7	194.2	1.086	1.749	1.482	1.103
1000	18.75	24.34	1164	42.9	0.00086	0.02331	227.2	419.3	192.1	1.095	1.747	1.492	1.118
1200	25.38	30.77	1136	51.97	0.00088	0.01924	237.1	421.5	184.4	1.128	1.74	1.531	1.179
1400	31.23	36.42	1110	61.36	0.0009	0.0163	246.2	423.1	176.9	1.157	1.734	1.573	1.242
1600	36.49	41.49	1085	71.11	0.00092	0.01406	254.5	424.3	169.8	1.184	1.728	1.617	1.31
1800	41.28	46.09	1061	81.29	0.00094	0.0123	262.2	425.2	163	1.208	1.722	1.664	1.383
2000	45.7	50.31	1038	91.93	0.00096	0.01088	269.5	425.7	156.2	1.231	1.717	1.717	1.464
2200	49.79	54.22	1015	103.1	0.00098	0.0097	276.5	425.9	149.4	1.252	1.711	1.776	1.554
2400	53.62	57.86	992.6	114.9	0.00101	0.0087	283.2	425.9	142.7	1.272	1.706	1.843	1.658
2600	57.22	61.26	970	127.4	0.00103	0.00785	289.7	425.5	135.8	1.291	1.7	1.92	1.778
2800	60.62	64.46	947.1	140.7	0.00106	0.00711	295.9	424.9	129	1.309	1.693	2.011	1.92
3000	63.84	67.48	923.7	155	0.00108	0.00645	302.1	424.1	122	1.327	1.687	2.121	2.093
3200	66.9	70.33	899.7	170.5	0.00111	0.00587	308.2	422.9	114.7	1.344	1.68	2.258	2.309
3400	69.83	73.03	874.6	187.4	0.00114	0.00534	314.3	421.3	107	1.361	1.672	2.434	2.585
3600	72.63	75.58	848	206.1	0.00118	0.00485	320.4	419.4	99	1.378	1.663	2.671	2.956
3800	75.31	78.01	819.2	227.3	0.00122	0.0044	326.6	416.9	90.3	1.396	1.654	3.009	3.48
4000	77.9	80.31	787.3	251.9	0.00127	0.00397	333.1	413.8	80.7	1.413	1.643	3.535	4.282
4200	80.4	82.47	750.3	282	0.00133	0.00355	340.1	409.7	69.6	1.433	1.629	4.472	5.665