

Properties of Superheated Steam

□ = specific volume, cubic feet per pound

h_g = total heat of steam, BTU per pound

Pressure Lbs. per Sq. In.		Sat. Temp <i>t</i>		Total Temperature--Degrees Fahrenheit (<i>t</i>)										
Abs. <i>P'</i>	Gage <i>P</i>			350°	400°	500°	600°	700°	800°	900°	1000°	1100°	1300°	1500°
15.0	0.3	213.0 3	□	31.93	33.96	37.98	41.98	45.97	49.96	53.94	57.92	61.90	69.85	77.80
			g	1216. 2	1239. 9	1287. 3	1335. 2	1383. 8	1433. 2	1483. 4	1534. 5	1586. 5	1693. 2	1803. 4
20.0	5.3	227.9 6	□	23.90	25.42	28.45	31.46	34.46	37.45	40.44	43.43	46.42	52.38	58.35
			g	1215. 4	1239. 2	1286. 9	1334. 9	1383. 5	1432. 9	1483. 2	1534. 3	1586. 3	1693. 1	1803. 3
30.0	15.3	250.3 4	□	15.85	16.89	18.92	20.94	22.95	24.95	26.94	28.94	30.93	34.91	38.89
			g	1213. 6	1237. 8	1286. 0	1334. 2	1383. 0	1432. 5	1482. 8	1534. 0	1586. 1	1692. 9	1803. 2
40.0	25.3	267.2 5	□	11.83	12.62	14.16	15.68	17.19	18.69	20.19	21.69	23.19	26.18	29.16
			g	1211. 7	1236. 4	1285. 0	1333. 6	1382. 5	1432. 1	1482. 5	1533. 7	1585. 8	1692. 7	1803. 0
50.0	35.3	281.0 2	□	9.424	10.06	11.30	12.52	13.74	14.94	16.15	17.35	18.54	20.94	23.33
			g	1209. 9	1234. 9	1284. 1	1332. 9	1382. 0	1431. 7	1482. 2	1533. 4	1585. 6	1692. 5	1802. 9
60.0	45.3	292.7 1	□	7.815	8.354	9.400	10.42	11.43	12.44	13.45	14.45	15.45	17.44	19.44
			g	1208. 0	1233. 5	1283. 2	1332. 3	1381. 5	1431. 3	1481. 8	1533. 2	1585. 3	1692. 4	1802. 8
70.0	55.3	302.9 3	□	6.664	7.133	8.039	8.922	9.793	10.65	11.52	12.38	13.24	14.95	16.66
			g	1206. 0	1232. 0	1282. 2	1331. 6	1381. 0	1430. 9	1481. 5	1532. 9	1585. 1	1692. 2	1802. 6
80.0	65.3	312.0 4	□	5.801	6.218	7.018	7.794	8.560	9.319	10.07	10.82	11.58	13.08	14.57
			g	1204. 0	1230. 5	1281. 3	1330. 9	1380. 5	1430. 5	1481. 1	1532. 6	1584. 9	1692. 0	1802. 5
90.0	75.3	320.2 8	□	5.128	5.505	6.223	6.917	7.600	8.277	8.950	9.621	10.29	11.62	12.95
			g	1202. 0	1228. 9	1280. 3	1330. 2	1380. 0	1430. 1	1480. 8	1532. 3	1584. 6	1691. 8	1802. 4
100. 0	85.3	327.8 2	□	4.590	4.935	5.588	6.216	6.833	7.443	8.050	8.655	9.258	10.46	11.65
			g	1199. 9	1227. 4	1279. 3	1329. 6	1379. 5	1429. 7	1480. 4	1532. 0	1584. 4	1691. 6	1802. 2

120. 0	105. 3	341.2 7	h g	3.781 5 1195. 6	4.078 6 1224. 1	4.634 1 1277. 4	5.163 7 1328. 2	5.681 3 1378. 4	6.192 8 1428. 8	6.700 6 1479. 8	7.206 0 1531. 4	7.709 6 1583. 9	8.713 0 1691. 3	9.713 0 1802. 0
140. 0	125. 3	353.0 4	h g		3.466 1 1220. 8	3.952 6 1275. 3	4.411 9 1326. 8	4.858 8 1377. 4	5.299 5 1428. 0	5.736 4 1479. 1	6.170 9 1530. 8	6.603 6 1583. 4	7.465 2 1690. 9	8.323 3 1801. 7
160. 0	145. 3	363.5 5	h g		3.006 0 1217. 4	3.441 3 1273. 3	3.848 0 1325. 4	4.242 0 1376. 4	4.629 5 1427. 2	5.013 2 1478. 4	5.394 5 1530. 3	5.774 1 1582. 9	6.529 3 1690. 5	7.281 1 1801. 4
180. 0	165. 3	373.0 8	h g		2.647 4 1213. 8	3.043 3 1271. 2	3.409 3 1324. 0	3.762 1 1375. 3	4.108 4 1426. 3	4.450 8 1477. 7	4.790 7 1529. 7	5.128 9 1582. 4	5.801 4 1690. 2	6.470 4 1801. 2
200. 0	185. 3	381.8 0	h g		2.359 8 1210. 1	2.724 7 1269. 0	3.058 3 1322. 6	3.378 3 1374. 3	3.691 5 1425. 5	4.000 8 1477. 0	4.307 7 1529. 1	4.612 8 1581. 9	5.219 1 1689. 8	5.821 9 1800. 9
220. 0	205. 3	389.8 8	h g		2.124 0 1206. 3	2.463 8 1266. 9	2.771 0 1321. 2	3.064 2 1373. 2	3.350 4 1424. 7	3.632 7 1476. 3	3.912 5 1528. 5	4.190 5 1581. 4	4.742 6 1689. 4	5.291 3 1800. 6
240. 0	225. 3	397.3 9	h g		1.926 8 1202. 4	2.246 2 1264. 6	2.531 6 1319. 7	2.802 4 1372. 1	3.066 1 1423. 8	3.325 9 1475. 6	3.583 1 1527. 9	3.838 5 1580. 9	4.345 6 1689. 1	4.849 2 1800. 4
260. 0	245. 3	404.4 4	h g			2.061 9 1262. 4	2.328 9 1318. 2	2.580 8 1371. 1	2.825 6 1423. 0	3.066 3 1474. 9	3.304 4 1527. 3	3.540 8 1580. 4	4.009 7 1688. 7	4.475 0 1800. 1
280. 0	265. 3	411.0 7	h g			1.903 7 1260. 0	2.155 1 1316. 8	2.390 9 1370. 0	2.619 4 1422. 1	2.843 7 1474. 2	3.065 5 1526. 8	3.285 5 1579. 9	3.721 7 1688. 4	4.154 3 1799. 8
300. 0	285. 3	417.3 5	h g			1.766 5 1257. 7	2.004 4 1315. 2	2.226 3 1368. 9	2.440 7 1421. 3	2.650 9 1473. 6	2.858 5 1526. 2	3.064 3 1579. 4	3.472 1 1688. 0	3.876 4 1799. 6
320. 0	305. 3	423.3 1	h g			1.646 2 1255. 2	1.872 5 1313. 7	2.082 3 1367. 8	2.284 3 1420. 5	2.482 1 1472. 9	2.677 4 1525. 6	2.870 8 1578. 9	3.253 8 1687. 6	3.633 2 1799. 3
340. 0	325. 3	428.9 9	h g			1.539 9 1252. 8	1.756 1 1312. 2	1.955 2 1366. 7	2.146 3 1419. 6	2.333 3 1472. 2	2.517 5 1525. 0	2.700 0 1578. 4	3.061 1 1687. 3	3.418 6 1799. 3
360. 0	345. 3	434.4 1	h g			1.445 4 1250.	1.652 5 1310.	1.842 1 1365.	2.023 7 1418.	2.200 9 1471.	2.375 5 1542.	2.548 2 1577.	2.889 8 1686.	3.227 9 1798.

						3	6	6	7	5	4	9	9	8
--	--	--	--	--	--	---	---	---	---	---	---	---	---	---

Properties of Superheated Steam -- Continued

Pressure Lbs. per Sq. In.		Sat. Temp <i>t</i>		Total Temperature--Degrees Fahrenheit (<i>t</i>)										
Abs. <i>P'</i>	Gage <i>P</i>			500°	600°	700°	800°	900°	1000°	1100°	1200°	1300°	1400°	1500°
380.0	365.3	439.6 1	h g	1.360	1.559	1.741	1.913	2.082	2.248	2.412	2.575	2.736	2.897	3.0572 1798.5
				6	8	0	9	5	4	4	0	6	3	
				1247.	1309.	1364.	1417.	1470.	1523.	1577.	1631.	1686.	1742.	
400.0	385.3	444.6 0	h g	1.284	1.476	1.649	1.815	1.975	2.133	2.290	2.445	2.598	2.751	2.9037 1798.2
				1	3	9	1	9	9	1	0	7	5	
				1245.	1307.	1363.	1417.	1470.	1523.	1576.	1631.	1686.	1741.	
420.0	405.3	449.4 0	h g	1.214	1.400	1.567	1.725	1.879	2.030	2.179	2.327	2.473	2.619	2.7647 1798.0
				8	7	6	8	5	4	5	3	9	6	
				1242.	1305.	1362.	1416.	1469.	1522.	1576.	1630.	1685.	1741.	
440.0	425.3	454.0 3	h g	1.151	1.331	1.492	1.644	1.791	1.936	2.079	2.220	2.360	2.499	2.6384 1797.7
				7	9	6	5	8	3	0	3	5	8	
				1239.	1304.	1361.	1415.	1468.	1522.	1575.	1630.	1685.	1741.	
460.0	445.3	458.5 0	h g	1.093	1.269	1.424	1.570	1.711	1.850	1.987	2.122	2.256	2.390	2.5230 1797.2
				9	1	2	3	7	4	2	6	9	3	
				1236.	1302.	1360.	1414.	1468.	1521.	1575.	1629.	1685.	1740.	
480.0	465.3	462.8 2	h g	1.040	1.211	1.361	1.502	1.638	1.771	1.903	2.033	2.161	2.290	2.4173 1797.2
				9	5	5	3	4	6	0	0	9	0	
				1234.	1300.	1358.	1413.	1467.	1520.	1574.	1629.	1684.	1740.	
500.0	485.3	467.0 1	h g	0.991	1.158	1.303	1.439	1.570	1.699	1.825	1.950	2.074	2.197	2.3200 1796.9
				9	4	7	7	8	2	6	7	6	7	
				1231.	1299.	1357.	1412.	1466.	1520.	1574.	1629.	1684.	1740.	
520.0	505.3	471.0 7	h g	0.946	1.109	1.250	1.381	1.508	1.632	1.754	1.874	1.994	2.112	2.2302 1796.7
				6	4	4	9	5	3	2	6	0	5	
				1228.	1297.	1356.	1411.	1465.	1519.	1573.	1628.	1684.	1740.	
540.0	525.3	475.0 1	h g	0.904	1.064	1.201	1.328	1.450	1.570	1.688	1.804	1.919	2.033	2.1471 1796.4
				5	0	0	4	8	4	0	2	3	6	
				1225.	1295.	1355.	1410.	1465.	1519.	1573.	1628.	1683.	1739.	
560.0	545.3	478.8 4	h g	0.865	1.021	1.155	1.278	1.397	1.512	1.626	1.738	1.850	1.960	2.0699 1796.1
				3	7	2	7	2	9	6	8	0	3	
				1222.	1293.	1354.	1410.	1464.	1518.	1572.	1627.	1683.	1739.	
580.0	565.3	482.5		0.828	0.982	1.112	1.232	1.347	1.459	1.569	1.678	1.785	1.892	1.9980

		7	h g	7 1219. 1	4 1292. 1	5 1353. 0	4 1409. 2	3 1463. 7	3 1518. 0	3 1572. 4	0 1627. 4	5 1682. 9	1 1739. 1	1795.9
600.0	585.3	486.2 0	h g	0.794 4 1215. 9	0.945 6 1290. 3	1.072 6 1351. 8	1.189 2 1408. 3	1.300 8 1463. 0	1.409 3 1517. 4	1.516 0 1571. 9	1.621 1 1627. 0	1.725 2 1682. 6	1.828 4 1738. 8	1.9309 1795.6
650.0	635.3	494.8 9	h g	0.717 3 1207. 6	0.863 4 1285. 7	0.983 5 1348. 7	1.092 9 1406. 0	1.196 9 1461. 2	1.297 9 1515. 9	1.396 9 1570. 7	1.494 4 1625. 9	1.590 9 1681. 6	1.686 4 1738. 0	1.7813 1794.9
700.0	685.3	503.0 8	h g		0.792 8 1281. 0	0.907 2 1345. 6	1.010 2 1403. 7	1.107 8 1459. 4	1.202 3 1514. 4	1.294 8 1569. 4	1.385 8 1624. 8	1.475 7 1680. 7	1.564 7 1737. 2	1.6530 1794.3
750.0	735.3	510.8 4	h g		0.731 3 1276. 1	0.840 9 1342. 5	0.938 6 1401. 5	1.030 6 1457. 6	1.119 5 1512. 9	1.206 3 1568. 2	1.291 6 1623. 8	1.375 9 1679. 8	1.459 2 1736. 4	1.5419 1793.6
800.0	785.3	518.2 1	h g		0.677 4 1271. 1	0.782 8 1339. 3	0.875 9 1399. 1	0.963 1 1455. 8	1.047 0 1511. 4	1.128 9 1566. 9	1.209 3 1622. 7	1.288 5 1678. 9	1.366 9 1735. 7	1.4446 1792.9
850.0	835.3	525.2 4	h g		0.629 6 1265. 9	0.731 5 1336. 0	0.820 5 1396. 8	0.903 4 1454. 0	0.983 0 1510. 0	1.060 6 1565. 7	1.136 6 1621. 6	1.211 5 1678. 0	1.285 5 1734. 9	1.3588 1792.3
900.0	885.3	531.9 5	h g		0.586 9 1260. 6	0.685 8 1332. 7	0.771 3 1394. 4	0.850 4 1452. 2	0.926 2 1508. 5	0.999 8 1564. 4	1.072 0 1620. 6	1.143 0 1677. 1	1.213 1 1734. 1	1.2825 1791.6
950.0	935.3	538.3 9	h g		0.548 5 1255. 1	0.644 9 1329. 3	0.727 2 1392. 0	0.803 0 1450. 3	0.875 3 1507. 0	0.945 5 1563. 2	1.014 2 1619. 5	1.081 7 1676. 2	1.148 4 1733. 3	1.2143 1791.0
1000. 0	985.3	544.5 8	h g		0.513 7 1249. 3	0.608 0 1325. 9	0.687 5 1389. 6	0.760 3 1448. 5	0.829 5 1505. 4	0.896 6 1561. 9	0.962 2 1618. 4	1.026 6 1675. 3	1.090 1 1732. 5	1.1529 1790.3
1050. 0	1035. 3	550.5 3	h g		0.482 1 1243. 4	0.574 5 1322. 4	0.651 5 1387. 2	0.721 6 1446. 6	0.788 1 1503. 9	0.852 4 1560. 7	0.915 1 1617. 4	0.976 7 1674. 4	1.037 3 1731. 8	1.0973 1789.6
1100. 0	1085. 3	556.2 8	h g		0.453 1 1237. 3	0.544 0 1318. 8	0.618 8 1384. 7	0.686 5 1444. 7	0.750 5 1502. 4	0.812 1 1559. 4	0.872 3 1616. 3	0.931 3 1673. 5	0.989 4 1731. 0	1.0468 1789.0
1150. 0	1135. 3	561.8 2	h g		0.426 3 1230. 9	0.516 2 1315. 2	0.588 9 1382. 2	0.654 4 1442. 8	0.716 1 1500. 9	0.775 4 1558. 1	0.833 2 1615. 2	0.889 9 1672. 6	0.945 6 1730. 2	1.0007 1788.3

Properties of Superheated Steam -- Concluded

Pressure Lbs. per Sq. In.		Sat. Temp <i>t</i>		Total Temperature--Degrees Fahrenheit (<i>t</i>)										
Abs. <i>P'</i>	Gage <i>P</i>			650°	700°	750°	800°	900°	1000°	1100°	1200°	1300°	1400°	1500°
1200. 0	1185. 3	567.1 9	h g	0.449	0.490	0.527	0.561	0.625	0.684	0.741	0.797	0.851	0.905	0.958
				7 1271. 8	5 1311. 5	3 1346. 9	5 1379. 7	0 1440. 9	5 1499. 4	8 1556. 9	4 1614. 2	9 1671. 6	5 1729. 4	4 1787. 6
1300. 0	1285. 3	577.4 2	h g	0.405	0.445	0.480	0.512	0.572	0.628	0.682	0.734	0.784	0.834	0.883
				2 1261. 9	1 1303. 9	4 1340. 8	9 1374. 6	9 1437. 1	7 1496. 3	7 1554. 3	1 1612. 0	7 1669. 8	5 1727. 9	6 1786. 3
1400. 0	1385. 3	587.0 7	h g	0.366	0.405	0.440	0.471	0.528	0.580	0.631	0.679	0.727	0.773	0.819
				7 1251. 4	9 1296. 1	0 1334. 5	2 1369. 3	2 1433. 2	9 1493. 2	1 1551. 8	8 1609. 9	2 1668. 0	7 1726. 3	5 1785. 0
1500. 0	1485. 3	596.2 0	h g	0.332	0.371	0.404	0.435	0.489	0.539	0.586	0.632	0.677	0.721	0.763
				8 1240. 2	7 1287. 9	9 1328. 0	0 1364. 0	4 1429. 2	4 1490. 1	9 1549. 2	7 1607. 7	3 1666. 2	0 1724. 8	9 1783. 7
1600. 0	1585. 3	604.8 7	h g	0.302	0.341	0.374	0.403	0.455	0.503	0.548	0.591	0.633	0.647	0.715
				6 1228. 3	5 1279. 4	1 1321. 4	2 1358. 5	5 1425. 2	1 1486. 9	2 1546. 6	5 1605. 6	6 1664. 3	8 1723. 2	3 1782. 3
1700. 0	1685. 3	613.1 3	h g	0.275	0.314	0.346	0.375	0.425	0.471	0.514	0.555	0.595	0.634	0.672
				4 1215. 3	7 1270. 5	8 1314. 5	1 1352. 9	5 1421. 2	1 1483. 8	0 1544. 0	2 1603. 4	1 1662. 5	1 1721. 7	4 1781. 0
1800. 0	1785. 3	621.0 2	h g	0.250	0.290	0.322	0.350	0.398	0.442	0.483	0.522	0.560	0.598	0.634
				5 1201. 2	6 1261. 1	3 1307. 4	0 1347. 2	8 1417. 1	6 1480. 6	6 1541. 4	9 1601. 2	9 1660. 7	0 1720. 1	3 1779. 7
1900. 0	1885. 3	628.5 6	h g	0.227	0.268	0.300	0.327	0.374	0.417	0.456	0.494	0.530	0.565	0.600
				4 1185. 7	7 1251. 3	4 1300. 2	5 1341. 4	9 1412. 9	1 1477. 4	5 1538. 8	0 1599. 1	3 1658. 8	6 1718. 6	2 1778. 4
2000. 0	1985. 3	635.8 0	h g	0.205	0.248	0.280	0.307	0.353	0.394	0.432	0.468	0.502	0.536	0.569
				6 1168. 3	8 1240. 9	5 1292. 6	2 1335. 4	4 1408. 7	2 1474. 1	0 1536. 2	0 1596. 9	7 1657. 0	5 1717. 0	5 1777. 1
2100. 0	2085. 3	642.7 6	h g	0.184	0.230	0.262	0.288	0.333	0.373	0.409	0.444	0.477	0.510	0.541
				7 1148. 5	4 1229. 8	4 1284. 9	8 1329. 3	9 1404. 4	4 1470. 9	9 1533. 6	5 1594. 7	8 1655. 2	1 1715. 4	8 1775. 7
2200. 0	2185. 3	649.4 5	h g	0.163	0.213	0.245	0.272	0.316	0.354	0.389	0.423	0.455	0.486	0.516
				6 1123. 9	4 1218. 0	8 1276. 8	0 1323. 1	1 1400. 0	5 1467. 6	7 1530. 9	1 1592. 5	1 1653. 3	2 1713. 9	5 1774. 4

2300. 0	2285. 3	655.8 9	h g		0.197 5 1205. 3	0.230 5 1268. 4	0.256 6 1316. 7	0.299 9 1395. 7	0.337 2 1464. 2	0.371 4 1528. 3	0.403 5 1590. 3	0.434 4 1651. 5	0.464 3 1712. 3	0.493 5 1773. 1
2400. 0	2385. 3	662.1 1	h g		0.182 4 1191. 6	0.216 4 1259. 7	0.242 4 1310. 1	0.285 0 1391. 2	0.321 4 1460. 9	0.354 5 1525. 6	0.385 6 1588. 1	0.415 5 1649. 6	0.444 3 1710. 8	0.472 4 1771. 8
2500. 0	2485. 3	668.1 1	h g		0.168 1 1176. 7	0.203 2 1250. 6	0.229 3 1303. 4	0.271 2 1386. 7	0.306 8 1457. 5	0.339 0 1522. 9	0.369 2 1585. 9	0.398 0 1647. 8	0.425 9 1709. 2	0.452 9 1770. 4
2600. 0	2585. 3	673.9 1	h g		0.154 4 1160. 2	0.190 9 1241. 1	0.217 1 1296. 5	0.258 5 1382. 1	0.293 3 1454. 1	0.324 7 1520. 2	0.354 0 1583. 7	0.381 9 1646. 0	0.408 8 1707. 7	0.435 0 1769. 1
2700. 0	2685. 3	679.5 3	h g		0.141 1 1142. 0	0.179 4 1231. 1	0.205 8 1289. 5	0.246 8 1377. 5	0.280 9 1450. 7	0.311 4 1517. 5	0.339 9 1581. 5	0.367 0 1644. 1	0.393 1 1706. 1	0.418 4 1767. 8
2800. 0	2785. 3	684.9 6	h g		0.127 8 1121. 2	0.168 5 1220. 6	0.195 2 1282. 2	0.235 8 1372. 8	0.269 3 1447. 2	0.299 1 1514. 8	0.326 8 1579. 3	0.353 2 1642. 2	0.378 5 1704. 5	0.403 0 1766. 5
2900. 0	2885. 3	690.2 2	h g		0.113 8 1095. 3	0.158 1 1209. 6	0.185 3 1274. 7	0.225 6 1368. 0	0.258 5 1443. 7	0.287 7 1512. 1	0.314 7 1577. 0	0.340 3 1640. 4	0.364 9 1703. 0	0.388 7 1765. 2
3000. 0	2985. 3	695.3 3	h g		0.098 2 1060. 5	0.148 3 1197. 9	0.175 9 1267. 0	0.216 1 1363. 2	0.248 4 1440. 2	0.277 0 1509. 4	0.303 3 1574. 8	0.328 2 1638. 5	0.352 2 1701. 4	0.375 3 1763. 8
3100. 0	3085. 3	700.2 8	h g			0.138 9 1185. 4	0.167 1 1259. 1	0.207 1 1358. 4	0.239 0 1436. 7	0.267 0 1506. 6	0.292 7 1572. 6	0.317 0 1636. 7	0.340 3 1699. 8	0.362 8 1762. 5
3200. 0	3185. 3	705.0 8	h g			0.130 0 1172. 3	0.158 8 1250. 9	0.198 7 1353. 4	0.230 1 1433. 1	0.257 6 1503. 8	0.282 7 1570. 3	0.306 5 1634. 8	0.329 1 1698. 3	0.351 0 1761. 2
3300. 0	3285. 3		h g			0.121 3 1158. 2	0.151 0 1242. 5	0.190 8 1348. 4	0.221 8 1429. 5	0.248 8 1501. 0	0.273 4 1568. 1	0.296 6 1623. 9	0.318 7 1696. 7	0.340 0 1759. 9
3400. 0	3385. 3		h g			0.112 9 1143. 2	0.143 5 1233. 7	0.183 4 1343. 4	0.214 0 1425. 9	0.240 5 1498. 3	0.264 6 1565. 8	0.287 2 1631. 1	0.308 8 1695. 1	0.329 6 1758. 5