

R-507A



GARANTIERTE WARENSPEZIFIKATION (AHRI 700)

| STANDARDMERKMAL | GRENZWERT |
|---|--|
| Zusammensetzung: R-125: 50 % R-143A: 50 % | 49,5 % ≤ R-32 ≤ 51,5 % 48,5 % ≤ R-1234yf ≤ 50,5 % |
| Garantierte Reinheit | ≥ 99,5 % Gewicht |
| Wassergehalt | ≤ 10 ppm Gewicht |
| Säuregehalt (HCl) | ≤ 1 ppm (Gewicht) |
| Gehalt nicht kondensierbarer Anteile (Gasphase) | ≤ 1,5 Vol. -% |
| Rückstände bei hoher Siedehitze | ≤ 0,01 Vol. -% |

PHYSIKALISCHE EIGENSCHAFTEN

| | |
|--|--|
| Name | Pentafluoroethan 50 Gew. -% 1,1,1-Trifluoroethan 50 Gew. -% |
| Chemische Formel | $\text{CH}_3\text{-CF}_3 / \text{CF}_3\text{-CH}_2\text{F}$ |
| Normalsiedepunkt (1,013 bar) | -46,5 °C |
| Kritische Temperatur | 71 °C |
| Treibhauspotenzial (GWP) | 3 985 |
| Sicherheitsklasse | A1 |
| Ozonabbaupotenzial (ODP) | 0 |
| Entflammbarkeit in Luft [kg/m ³] | Nicht entflammbar |
| Schmiermittel | POE (PolyolEster) |

ERSATZ

- SUVA 507
- AZ 50

R-507A

THEMODYNAMISCHE TABELLE

| Temperatur (°C) | Flüssigkeit | Dampf | Flüssigkeit | Dampf | Flüssigkeit | Dampf | Flüssigkeit | Dampf |
|--------------------|--------------------|--------------------|-------------------|-------------------|----------------------|----------------------|-----------------------|-----------------------|
| | Druck (bar abs) | Druck (bar abs) | Dichte (kg/m³) | Dichte (kg/m³) | Enthalpie (kJ/kg) | Enthalpie (kJ/kg) | Entropie (kJ/kg-K) | Entropie (kJ/kg-K) |
| -70 | 0,28367 | 0,28358 | 1387,5 | 1,6951 | 110,57 | 321,8 | 0,62493 | 1,6648 |
| -69 | 0,30177 | 0,30169 | 1384,5 | 1,7961 | 111,78 | 322,41 | 0,63087 | 1,6627 |
| -68 | 0,3208 | 0,32072 | 1381,5 | 1,9017 | 113 | 323,02 | 0,63678 | 1,6606 |
| -67 | 0,34078 | 0,34071 | 1378,5 | 2,0123 | 114,21 | 323,63 | 0,64266 | 1,6586 |
| -66 | 0,36176 | 0,36169 | 1375,6 | 2,128 | 115,42 | 324,23 | 0,64852 | 1,6566 |
| -65 | 0,38376 | 0,3837 | 1372,6 | 2,2488 | 116,63 | 324,84 | 0,65436 | 1,6547 |
| -64 | 0,40683 | 0,40678 | 1369,6 | 2,375 | 117,85 | 325,45 | 0,66017 | 1,6528 |
| -63 | 0,43101 | 0,43096 | 1366,5 | 2,5068 | 119,06 | 326,06 | 0,66596 | 1,651 |
| -62 | 0,45633 | 0,45628 | 1363,5 | 2,6444 | 120,28 | 326,67 | 0,67173 | 1,6492 |
| -61 | 0,48282 | 0,48278 | 1360,5 | 2,7878 | 121,5 | 327,28 | 0,67748 | 1,6475 |
| -60 | 0,51054 | 0,5105 | 1357,5 | 2,9373 | 122,72 | 327,88 | 0,6832 | 1,6458 |
| -59 | 0,53951 | 0,53947 | 1354,5 | 3,0931 | 123,94 | 328,49 | 0,68891 | 1,6441 |
| -58 | 0,56978 | 0,56975 | 1351,4 | 3,2553 | 125,16 | 329,1 | 0,6946 | 1,6425 |
| -57 | 0,60139 | 0,60136 | 1348,4 | 3,4241 | 126,39 | 329,71 | 0,70026 | 1,641 |
| -56 | 0,63438 | 0,63436 | 1345,4 | 3,5998 | 127,61 | 330,31 | 0,70591 | 1,6394 |
| -55 | 0,6688 | 0,66877 | 1342,3 | 3,7825 | 128,84 | 330,92 | 0,71153 | 1,6379 |
| -54 | 0,70468 | 0,70466 | 1339,3 | 3,9725 | 130,07 | 331,53 | 0,71714 | 1,6365 |
| -53 | 0,74208 | 0,74205 | 1336,2 | 4,1698 | 131,3 | 332,13 | 0,72273 | 1,635 |
| -52 | 0,78103 | 0,781 | 1333,1 | 4,3748 | 132,53 | 332,74 | 0,72831 | 1,6337 |
| -51 | 0,82158 | 0,82154 | 1330 | 4,5877 | 133,77 | 333,34 | 0,73386 | 1,6323 |
| -50 | 0,86378 | 0,86373 | 1326,9 | 4,8085 | 135 | 333,94 | 0,7394 | 1,631 |
| -49 | 0,90767 | 0,90762 | 1323,8 | 5,0377 | 136,24 | 334,55 | 0,74492 | 1,6297 |
| -48 | 0,95329 | 0,95324 | 1320,7 | 5,2753 | 137,48 | 335,15 | 0,75042 | 1,6284 |
| -47 | 1,0007 | 1,0006 | 1317,6 | 5,5217 | 138,72 | 335,75 | 0,75591 | 1,6272 |
| -46 | 1,05 | 1,0499 | 1314,5 | 5,777 | 139,97 | 336,35 | 0,76138 | 1,626 |
| -45 | 1,1011 | 1,101 | 1311,4 | 6,0415 | 141,21 | 336,95 | 0,76683 | 1,6248 |
| -44 | 1,1542 | 1,154 | 1308,2 | 6,3153 | 142,46 | 337,55 | 0,77227 | 1,6237 |
| -43 | 1,2092 | 1,2091 | 1305,1 | 6,5988 | 143,71 | 338,15 | 0,7777 | 1,6226 |
| -42 | 1,2663 | 1,2661 | 1301,9 | 6,8922 | 144,96 | 338,75 | 0,78311 | 1,6215 |
| -41 | 1,3255 | 1,3253 | 1298,8 | 7,1958 | 146,21 | 339,34 | 0,7885 | 1,6205 |
| -40 | 1,3868 | 1,3866 | 1295,6 | 7,5097 | 147,47 | 339,94 | 0,79388 | 1,6194 |
| -39 | 1,4502 | 1,45 | 1292,4 | 7,8343 | 148,73 | 340,53 | 0,79925 | 1,6184 |
| -38 | 1,516 | 1,5157 | 1289,2 | 8,1698 | 149,99 | 341,12 | 0,8046 | 1,6175 |
| -37 | 1,584 | 1,5837 | 1286 | 8,5165 | 151,25 | 341,72 | 0,80994 | 1,6165 |
| -36 | 1,6544 | 1,654 | 1282,7 | 8,8746 | 152,52 | 342,31 | 0,81526 | 1,6156 |
| -35 | 1,7271 | 1,7268 | 1279,5 | 9,2444 | 153,79 | 342,89 | 0,82057 | 1,6147 |

R-507A

THEMODYNAMISCHE TABELLE

| Temperatur (°C) | Flüssigkeit | Dampf | Flüssigkeit | Dampf | Flüssigkeit | Dampf | Flüssigkeit | Dampf |
|--------------------|--------------------|--------------------|-------------------|-------------------|----------------------|----------------------|-----------------------|-----------------------|
| | Druck (bar abs) | Druck (bar abs) | Dichte (kg/m³) | Dichte (kg/m³) | Enthalpie (kJ/kg) | Enthalpie (kJ/kg) | Entropie (kJ/kg-K) | Entropie (kJ/kg-K) |
| -34 | 1,8023 | 1,8019 | 1276,3 | 9,6263 | 155,06 | 343,48 | 0,82587 | 1,6138 |
| -33 | 1,8801 | 1,8796 | 1273 | 10,02 | 156,33 | 344,07 | 0,83116 | 1,613 |
| -32 | 1,9604 | 1,9599 | 1269,7 | 10,427 | 157,61 | 344,65 | 0,83643 | 1,6121 |
| -31 | 2,0433 | 2,0428 | 1266,4 | 10,847 | 158,88 | 345,23 | 0,84169 | 1,6113 |
| -30 | 2,1289 | 2,1283 | 1263,1 | 11,28 | 160,17 | 345,81 | 0,84694 | 1,6105 |
| -29 | 2,2173 | 2,2166 | 1259,8 | 11,726 | 161,45 | 346,39 | 0,85218 | 1,6097 |
| -28 | 2,3084 | 2,3077 | 1256,5 | 12,186 | 162,73 | 346,97 | 0,85741 | 1,609 |
| -27 | 2,4024 | 2,4016 | 1253,2 | 12,66 | 164,02 | 347,54 | 0,86262 | 1,6082 |
| -26 | 2,4993 | 2,4984 | 1249,8 | 13,149 | 165,31 | 348,11 | 0,86783 | 1,6075 |
| -25 | 2,5992 | 2,5982 | 1246,4 | 13,653 | 166,61 | 348,68 | 0,87302 | 1,6068 |
| -24 | 2,7021 | 2,701 | 1243,1 | 14,172 | 167,9 | 349,25 | 0,8782 | 1,6061 |
| -23 | 2,808 | 2,8069 | 1239,7 | 14,706 | 169,2 | 349,82 | 0,88337 | 1,6055 |
| -22 | 2,9172 | 2,916 | 1236,3 | 15,256 | 170,51 | 350,38 | 0,88854 | 1,6048 |
| -21 | 3,0295 | 3,0283 | 1232,8 | 15,823 | 171,81 | 350,95 | 0,89369 | 1,6042 |
| -20 | 3,1452 | 3,1438 | 1229,4 | 16,406 | 173,12 | 351,5 | 0,89883 | 1,6035 |
| -19 | 3,2641 | 3,2627 | 1225,9 | 17,006 | 174,43 | 352,06 | 0,90396 | 1,6029 |
| -18 | 3,3865 | 3,3849 | 1222,4 | 17,623 | 175,75 | 352,62 | 0,90909 | 1,6023 |
| -17 | 3,5123 | 3,5106 | 1218,9 | 18,259 | 177,07 | 353,17 | 0,9142 | 1,6017 |
| -16 | 3,6417 | 3,6399 | 1215,4 | 18,912 | 178,39 | 353,72 | 0,91931 | 1,6012 |
| -15 | 3,7746 | 3,7727 | 1211,9 | 19,585 | 179,71 | 354,26 | 0,9244 | 1,6006 |
| -14 | 3,9112 | 3,9091 | 1208,3 | 20,276 | 181,04 | 354,81 | 0,92949 | 1,6001 |
| -13 | 4,0515 | 4,0493 | 1204,7 | 20,987 | 182,37 | 355,35 | 0,93457 | 1,5995 |
| -12 | 4,1956 | 4,1933 | 1201,1 | 21,718 | 183,7 | 355,88 | 0,93965 | 1,599 |
| -11 | 4,3435 | 4,3411 | 1197,5 | 22,47 | 185,04 | 356,42 | 0,94471 | 1,5985 |
| -10 | 4,4954 | 4,4928 | 1193,9 | 23,242 | 186,38 | 356,95 | 0,94977 | 1,598 |
| -9 | 4,6512 | 4,6485 | 1190,2 | 24,037 | 187,73 | 357,48 | 0,95482 | 1,5975 |
| -8 | 4,8111 | 4,8082 | 1186,6 | 24,853 | 189,08 | 358 | 0,95986 | 1,597 |
| -7 | 4,975 | 4,972 | 1182,9 | 25,692 | 190,43 | 358,52 | 0,9649 | 1,5965 |
| -6 | 5,1432 | 5,14 | 1179,1 | 26,553 | 191,78 | 359,04 | 0,96993 | 1,596 |
| -5 | 5,3156 | 5,3123 | 1175,4 | 27,439 | 193,14 | 359,55 | 0,97496 | 1,5956 |
| -4 | 5,4924 | 5,4889 | 1171,6 | 28,349 | 194,51 | 360,06 | 0,97998 | 1,5951 |
| -3 | 5,6735 | 5,6698 | 1167,8 | 29,284 | 195,87 | 360,57 | 0,98499 | 1,5947 |
| -2 | 5,8591 | 5,8552 | 1164 | 30,244 | 197,24 | 361,07 | 0,99 | 1,5942 |
| -1 | 6,0492 | 6,0452 | 1160,1 | 31,23 | 198,62 | 361,56 | 0,995 | 1,5938 |
| 0 | 6,2439 | 6,2397 | 1156,3 | 32,243 | 200 | 362,06 | 1 | 1,5933 |
| 1 | 6,4433 | 6,4389 | 1152,3 | 33,284 | 201,38 | 362,55 | 1,005 | 1,5929 |

R-507A

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|--------------------|--------------------|--------------------|-------------------|-------------------|----------------------|----------------------|-----------------------|-----------------------|
| | Druck (bar abs) | Druck (bar abs) | Dichte (kg/m³) | Dichte (kg/m³) | Enthalpie (kJ/kg) | Enthalpie (kJ/kg) | Entropie (kJ/kg-K) | Entropie (kJ/kg-K) |
| 2 | 6,6475 | 6,6428 | 1148,4 | 34,353 | 202,77 | 363,03 | 1,01 | 1,5925 |
| 3 | 6,8564 | 6,8516 | 1144,5 | 35,451 | 204,16 | 363,51 | 1,015 | 1,592 |
| 4 | 7,0702 | 7,0652 | 1140,5 | 36,579 | 205,56 | 363,99 | 1,02 | 1,5916 |
| 5 | 7,289 | 7,2838 | 1136,4 | 37,737 | 206,96 | 364,46 | 1,0249 | 1,5912 |
| 6 | 7,5129 | 7,5074 | 1132,4 | 38,926 | 208,37 | 364,92 | 1,0299 | 1,5908 |
| 7 | 7,7418 | 7,7361 | 1128,3 | 40,148 | 209,78 | 365,38 | 1,0349 | 1,5903 |
| 8 | 7,9759 | 7,97 | 1124,2 | 41,403 | 211,2 | 365,84 | 1,0399 | 1,5899 |
| 9 | 8,2153 | 8,2091 | 1120 | 42,691 | 212,62 | 366,29 | 1,0448 | 1,5895 |
| 10 | 8,4601 | 8,4536 | 1115,8 | 44,015 | 214,04 | 366,73 | 1,0498 | 1,5891 |
| 11 | 8,7102 | 8,7035 | 1111,6 | 45,375 | 215,47 | 367,17 | 1,0548 | 1,5886 |
| 12 | 8,9658 | 8,9589 | 1107,3 | 46,771 | 216,91 | 367,6 | 1,0597 | 1,5882 |
| 13 | 9,2271 | 9,2199 | 1103 | 48,206 | 218,35 | 368,03 | 1,0647 | 1,5878 |
| 14 | 9,4939 | 9,4864 | 1098,7 | 49,68 | 219,8 | 368,45 | 1,0696 | 1,5873 |
| 15 | 9,7665 | 9,7588 | 1094,3 | 51,194 | 221,25 | 368,86 | 1,0746 | 1,5869 |
| 16 | 10,045 | 10,037 | 1089,9 | 52,75 | 222,71 | 369,26 | 1,0796 | 1,5864 |
| 17 | 10,329 | 10,321 | 1085,4 | 54,349 | 224,18 | 369,66 | 1,0845 | 1,586 |
| 18 | 10,619 | 10,611 | 1080,9 | 55,993 | 225,65 | 370,06 | 1,0895 | 1,5855 |
| 19 | 10,916 | 10,907 | 1076,3 | 57,681 | 227,12 | 370,44 | 1,0945 | 1,5851 |
| 20 | 11,218 | 11,209 | 1071,7 | 59,418 | 228,61 | 370,82 | 1,0995 | 1,5846 |
| 21 | 11,527 | 11,517 | 1067 | 61,202 | 230,1 | 371,19 | 1,1044 | 1,5841 |
| 22 | 11,842 | 11,832 | 1062,3 | 63,038 | 231,59 | 371,55 | 1,1094 | 1,5836 |
| 23 | 12,163 | 12,153 | 1057,6 | 64,925 | 233,1 | 371,9 | 1,1144 | 1,5831 |
| 24 | 12,491 | 12,481 | 1052,7 | 66,867 | 234,61 | 372,25 | 1,1194 | 1,5826 |
| 25 | 12,826 | 12,815 | 1047,9 | 68,864 | 236,13 | 372,58 | 1,1244 | 1,5821 |
| 26 | 13,167 | 13,156 | 1042,9 | 70,919 | 237,65 | 372,91 | 1,1294 | 1,5815 |
| 27 | 13,515 | 13,503 | 1037,9 | 73,034 | 239,18 | 373,22 | 1,1344 | 1,581 |
| 28 | 13,869 | 13,857 | 1032,9 | 75,212 | 240,73 | 373,53 | 1,1394 | 1,5804 |
| 29 | 14,231 | 14,219 | 1027,7 | 77,455 | 242,27 | 373,82 | 1,1444 | 1,5798 |
| 30 | 14,6 | 14,587 | 1022,5 | 79,765 | 243,83 | 374,11 | 1,1494 | 1,5792 |
| 31 | 14,975 | 14,962 | 1017,3 | 82,145 | 245,4 | 374,38 | 1,1545 | 1,5786 |
| 32 | 15,358 | 15,345 | 1011,9 | 84,598 | 246,97 | 374,64 | 1,1595 | 1,5779 |
| 33 | 15,749 | 15,735 | 1006,5 | 87,127 | 248,56 | 374,89 | 1,1646 | 1,5772 |
| 34 | 16,146 | 16,132 | 1001 | 89,736 | 250,15 | 375,13 | 1,1697 | 1,5765 |
| 35 | 16,552 | 16,537 | 995,38 | 92,428 | 251,76 | 375,35 | 1,1747 | 1,5758 |
| 36 | 16,965 | 16,95 | 989,7 | 95,207 | 253,38 | 375,56 | 1,1798 | 1,5751 |
| 37 | 17,385 | 17,37 | 983,92 | 98,077 | 255 | 375,75 | 1,185 | 1,5743 |

R-507A

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| Temperatur (°C) | Flüssigkeit | Dampf | Flüssigkeit | Dampf | Flüssigkeit | Dampf | Flüssigkeit | Dampf |
|--------------------|--------------------|--------------------|--------------------------------|--------------------------------|----------------------|----------------------|-----------------------|-----------------------|
| | Druck (bar abs) | Druck (bar abs) | Dichte (kg/m ³) | Dichte (kg/m ³) | Enthalpie (kJ/kg) | Enthalpie (kJ/kg) | Entropie (kJ/kg-K) | Entropie (kJ/kg-K) |
| 38 | 17,814 | 17,798 | 978,05 | 101,04 | 256,64 | 375,93 | 1,1901 | 1,5735 |
| 39 | 18,25 | 18,235 | 972,07 | 104,11 | 258,29 | 376,09 | 1,1952 | 1,5727 |
| 40 | 18,695 | 18,679 | 965,99 | 107,28 | 259,95 | 376,24 | 1,2004 | 1,5718 |
| 41 | 19,148 | 19,131 | 959,79 | 110,56 | 261,63 | 376,37 | 1,2056 | 1,5709 |
| 42 | 19,609 | 19,592 | 953,47 | 113,96 | 263,31 | 376,48 | 1,2108 | 1,5699 |
| 43 | 20,078 | 20,061 | 947,02 | 117,49 | 265,02 | 376,57 | 1,216 | 1,5689 |
| 44 | 20,556 | 20,539 | 940,44 | 121,14 | 266,73 | 376,63 | 1,2213 | 1,5679 |
| 45 | 21,043 | 21,025 | 933,72 | 124,94 | 268,47 | 376,68 | 1,2266 | 1,5668 |
| 46 | 21,539 | 21,52 | 926,85 | 128,88 | 270,21 | 376,7 | 1,2319 | 1,5656 |
| 47 | 22,043 | 22,024 | 919,81 | 132,99 | 271,98 | 376,7 | 1,2373 | 1,5644 |
| 48 | 22,557 | 22,538 | 912,61 | 137,26 | 273,77 | 376,67 | 1,2427 | 1,5631 |
| 49 | 23,08 | 23,06 | 905,22 | 141,71 | 275,57 | 376,61 | 1,2481 | 1,5618 |
| 50 | 23,612 | 23,592 | 897,63 | 146,36 | 277,4 | 376,53 | 1,2536 | 1,5603 |
| 51 | 24,154 | 24,134 | 889,84 | 151,23 | 279,24 | 376,4 | 1,2591 | 1,5588 |
| 52 | 24,705 | 24,685 | 881,81 | 156,32 | 281,12 | 376,25 | 1,2647 | 1,5573 |
| 53 | 25,266 | 25,246 | 873,53 | 161,66 | 283,01 | 376,05 | 1,2703 | 1,5556 |
| 54 | 25,838 | 25,818 | 864,98 | 167,27 | 284,94 | 375,81 | 1,276 | 1,5538 |
| 55 | 26,42 | 26,399 | 856,14 | 173,19 | 286,9 | 375,53 | 1,2818 | 1,5519 |
| 56 | 27,012 | 26,991 | 846,96 | 179,44 | 288,88 | 375,19 | 1,2876 | 1,5498 |
| 57 | 27,614 | 27,594 | 837,42 | 186,05 | 290,91 | 374,8 | 1,2935 | 1,5476 |
| 58 | 28,228 | 28,208 | 827,47 | 193,09 | 292,98 | 374,34 | 1,2996 | 1,5453 |
| 59 | 28,853 | 28,833 | 817,06 | 200,59 | 295,09 | 373,81 | 1,3057 | 1,5427 |
| 60 | 29,489 | 29,469 | 806,12 | 208,63 | 297,26 | 373,2 | 1,312 | 1,5399 |
| 61 | 30,137 | 30,117 | 794,56 | 217,3 | 299,48 | 372,5 | 1,3184 | 1,5369 |
| 62 | 30,796 | 30,778 | 782,29 | 226,7 | 301,78 | 371,69 | 1,325 | 1,5336 |
| 63 | 31,468 | 31,451 | 769,15 | 236,98 | 304,16 | 370,74 | 1,3318 | 1,5299 |
| 64 | 32,153 | 32,136 | 754,96 | 248,34 | 306,64 | 369,64 | 1,3389 | 1,5258 |
| 65 | 32,851 | 32,835 | 739,42 | 261,06 | 309,25 | 368,34 | 1,3464 | 1,5212 |
| 66 | 33,562 | 33,548 | 722,11 | 275,57 | 312,03 | 366,78 | 1,3543 | 1,5158 |
| 67 | 34,288 | 34,276 | 702,3 | 292,58 | 315,05 | 364,86 | 1,3629 | 1,5094 |
| 68 | 35,029 | 35,019 | 678,62 | 313,4 | 318,44 | 362,41 | 1,3726 | 1,5014 |
| 69 | 35,786 | 35,779 | 647,88 | 341,01 | 322,51 | 359,02 | 1,3841 | 1,4908 |
| 70 | 36,561 | 36,558 | 597,62 | 386,39 | 328,5 | 353,25 | 1,4013 | 1,4734 |