

## ISI TRANSFER YAĞI FİZİKSEL ÖZELLİKLERİ

| SICAKLIK  | ÖZGÜL KÜTLE                    | İLETİM KATSAYISI         | ÖZGÜL ISI            |                                   | DİNAMİK VİSKOZİTE                         | KİNEMATİK VİSKOZİTE                     | ISIL YAYINIM                          | ISIL GENLEŞME                | PRANDLE |
|-----------|--------------------------------|--------------------------|----------------------|-----------------------------------|---|---|---------------------------------------|------------------------------|---------|
|           |                                |                          | $c_p$                | $c_v$                             |   |   |                                       |                              |         |
| T<br>[°C] | $\rho$<br>[kg/m <sup>3</sup> ] | $\lambda$<br>[kcal/mh°C] | $c_p$<br>[kcal/kg°C] | $c_v$<br>[kcal/m <sup>3</sup> °C] | $\mu \cdot 10^4$<br>[kgs/m <sup>2</sup> ] | $\nu \cdot 10^6$<br>[m <sup>2</sup> /s] | $a \cdot 10^4$<br>[m <sup>2</sup> /h] | $\beta \cdot 10^3$<br>[1/°K] | Pr      |
| 0         | 892.5                          | 0.0967                   | 0.371                | 330.7                             | 64.006                                    | 70.50                                   | 2.9304                                | 3.66                         | 866.0   |
| 10        | 886.4                          | 0.0960                   | 0.388                | 343.5                             | 33.960                                    | 37.90                                   | 2.8188                                | 3.53                         | 484.0   |
| 20        | 880.3                          | 0.0953                   | 0.399                | 350.9                             | 20.141                                    | 22.50                                   | 2.7216                                | 3.41                         | 298.0   |
| 30        | 874.2                          | 0.0946                   | 0.414                | 361.6                             | 13.071                                    | 14.70                                   | 2.6208                                | 3.30                         | 202.0   |
| 40        | 868.2                          | 0.0939                   | 0.428                | 371.4                             | 9.105                                     | 10.30                                   | 2.5308                                | 3.19                         | 145.0   |
| 50        | 862.1                          | 0.0932                   | 0.442                | 380.7                             | 6.660                                     | 7.58                                    | 2.4480                                | 3.10                         | 111.0   |
| 60        | 856.0                          | 0.0923                   | 0.456                | 390.1                             | 5.039                                     | 5.78                                    | 2.3688                                | 3.00                         | 87.8    |
| 70        | 850.0                          | 0.0916                   | 0.470                | 399.4                             | 3.942                                     | 4.54                                    | 2.2896                                | 2.92                         | 71.3    |
| 80        | 843.9                          | 0.0909                   | 0.485                | 409.0                             | 3.152                                     | 3.66                                    | 2.2212                                | 2.83                         | 59.3    |
| 90        | 837.8                          | 0.0902                   | 0.499                | 417.9                             | 2.585                                     | 3.03                                    | 2.1600                                | 2.75                         | 50.3    |
| 100       | 831.8                          | 0.0894                   | 0.513                | 426.6                             | 2.167                                     | 2.56                                    | 2.0988                                | 2.68                         | 43.9    |
| 110       | 825.7                          | 0.0887                   | 0.527                | 435.0                             | 1.850                                     | 2.20                                    | 2.0412                                | 2.61                         | 38.8    |
| 120       | 819.6                          | 0.0880                   | 0.541                | 443.3                             | 1.608                                     | 1.92                                    | 1.9800                                | 2.54                         | 34.9    |

V. P. Isachenko, V. A. Osipova, A. S. Sukomel; HEAT TRANSFER, Mir Publishers Moscow 1977

$$\rho = 5.99 \times 10^{-6} T^2 - 0.60775225 T + 892.47362637$$

$$\lambda = -7.7 \times 10^{-9} T^2 - 7.20399 \times 10^{-5} T + 0.0967328461$$

$$c_p = 8.6 \times 10^{-8} T^2 + 0.0014035247 T + 0.3714680057$$

$$c_v = -7.814198 \times 10^{-4} T^2 + 1.0271580118 T + 331.5234941374$$

$$\mu = 1 \times 10^{-4} \times 1 / ( 3.34514 \times 10^{-5} T^2 + 1.08938 \times 10^{-3} T + 0.01439 )$$

$$\nu = 1 \times 10^{-6} \times 1 / ( 2.61575 \times 10^{-5} T^2 + 1.14244 \times 10^{-3} T + 0.011788 )$$

$$a = 2.47433 \times 10^{-5} T^2 - 0.0107942458 T + 2.9262461538$$

$$Pr = 1 / ( 9.672 \times 10^{-7} T^2 + 1.207331 \times 10^{-4} T + 7.507844 \times 10^{-4} )$$