

| Material                            | Thermal conductivity  W·m <sup>−1</sup> ·K <sup>−1</sup>                                                                                                                           | Temperature [K]                                                                                                | Electrical conductivity @293 K<br>[Ω <sup>−1</sup> ·m <sup>−1</sup> ]                                                 | Notes                                                                                                                                      |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Acrylic Glass (Plexiglas V045)      | 0.17 <sup>[1]</sup> –0.19 <sup>[1]</sup> –0.2 <sup>[2]</sup>                                                                                                                       | 296 <sup>[1]</sup>                                                                                             | 7.143E-15 <sup>[1]</sup> - 5.0E-14 <sup>[1]</sup>                                                                     |                                                                                                                                            |
| Air                                 | 0.0243 <sup>[4]</sup> –0.025 <sup>[6]</sup><br>0.0262 (1 bar) <sup>[7]</sup><br>0.0457 (1 bar) <sup>[7]</sup>                                                                      | 273 <sup>[3]</sup> –293 <sup>[6]</sup> –298 <sup>[5]</sup><br>300 <sup>[7]</sup><br>600 <sup>[7]</sup>         | hiAerosol52.95 <sup>[8]</sup> –10Aerosol57.83 <sup>[8]</sup> –10 <sup>−15</sup>                                       | (N2)1%O+0.93%A+0.04%CO2) (1 atm)                                                                                                           |
| Alcohols OR Oils                    | 0.15 <sup>[6]</sup> –0.110 <sup>[9]</sup> –0.21 <sup>[5]</sup> –0.212 <sup>[9]</sup>                                                                                               | 293 <sup>[6]</sup> –298 <sup>[5]</sup> –300 <sup>[9]</sup>                                                     |                                                                                                                       |                                                                                                                                            |
| <b>Aluminium, pure</b>              | 204.3 <sup>[10]</sup> –205 <sup>[3]</sup> –220 <sup>[11]</sup> –237 <sup>[6]</sup> –1211 <sup>[13]</sup> –141–250 <sup>[5]</sup><br>214.6 <sup>[10]</sup><br>249.3 <sup>[10]</sup> | 293 <sup>[6]</sup> –298 <sup>[5]</sup> –300 <sup>[9]</sup><br>366 <sup>[10]</sup><br>478 <sup>[10]</sup>       | 37.450,000 <sup>[13]</sup> - 37,740,000 <sup>[15]</sup>                                                               |                                                                                                                                            |
| Aluminium nitride                   | 170 <sup>[12]</sup> –175 <sup>[16]</sup> –190 <sup>[16]</sup>                                                                                                                      | 293 <sup>[16]</sup>                                                                                            | 1 × 10 <sup>−11</sup> –11 <sup>[16]</sup>                                                                             |                                                                                                                                            |
| Aluminium oxide, pure               | 26 <sup>[17]</sup> –30 <sup>[6]</sup> –35 <sup>[17]</sup> –39 <sup>[12]</sup> –40 <sup>[18]</sup>                                                                                  | 293 <sup>[6]</sup> –171 <sup>[18]</sup>                                                                        | 1 × 10 <sup>−12</sup> –1.17 <sup>[11]</sup> –181                                                                      |                                                                                                                                            |
| Ammonia, saturated                  | 0.507 <sup>[9]</sup>                                                                                                                                                               | 300 <sup>[9]</sup>                                                                                             |                                                                                                                       |                                                                                                                                            |
| Argon                               | 0.016 <sup>[5]</sup> –0.0177 <sup>[14]</sup> –0.0179 <sup>[14]</sup> –19                                                                                                           | 298 <sup>[5]</sup> –114 <sup>[14]</sup> –300 <sup>[14]</sup> –19                                               |                                                                                                                       |                                                                                                                                            |
| Beryllium oxide                     | 218 <sup>[12]</sup> –260 <sup>[20]</sup> –300 <sup>[20]</sup>                                                                                                                      | 293 <sup>[20]</sup>                                                                                            | 1 × 10 <sup>−12</sup> –12 <sup>[20]</sup>                                                                             |                                                                                                                                            |
| Bismuth                             | 7.97 <sup>[14]</sup>                                                                                                                                                               | 300 <sup>[14]</sup>                                                                                            |                                                                                                                       |                                                                                                                                            |
| Brass Cu63%                         | 125 <sup>[21]</sup>                                                                                                                                                                | 296 <sup>[21]</sup>                                                                                            | 15,150,000 <sup>[21]</sup> - 16,130,000 <sup>[21]</sup>                                                               | (Cu63%, Zn37%)                                                                                                                             |
| Brass Cu70%                         | 109 <sup>[5]</sup> –121 <sup>[22]</sup>                                                                                                                                            | 293 <sup>[5]</sup> –296 <sup>[22]</sup>                                                                        | 12,820,000 <sup>[22]</sup> - 16,130,000 <sup>[22]</sup>                                                               | (Cu70%, Zn30%)                                                                                                                             |
| Brick                               | 0.15 <sup>[3]</sup> –0.6 <sup>[5]</sup> –1.0.69 <sup>[5]</sup> –1.31 <sup>[5]</sup>                                                                                                | 293 <sup>[3]</sup> –298 <sup>[5]</sup>                                                                         |                                                                                                                       |                                                                                                                                            |
| Bronze                              | 26 <sup>[11]</sup>                                                                                                                                                                 | 293 <sup>[10]</sup> –296 <sup>[23]</sup>                                                                       |                                                                                                                       | Sn25% <sup>[11]</sup>                                                                                                                      |
| Calcium silicate                    | 42 <sup>[23]</sup> –50 <sup>[10]</sup> –23                                                                                                                                         | 293 <sup>[10]</sup> –296 <sup>[23]</sup>                                                                       | 5,982,000 <sup>[23]</sup> - 7,143,000 <sup>[23]</sup>                                                                 | (Cu89%, Sn11%) <sup>[23]</sup>                                                                                                             |
| Carbon dioxide                      | 0.0146 <sup>[5]</sup> –0.01465 <sup>[25]</sup> –0.0168 <sup>[19]</sup> (sat. liquid 0.087 <sup>[26]</sup> )                                                                        | 298 <sup>[5]</sup> –273 <sup>[25]</sup> –300 <sup>[19]</sup><br>(293 <sup>[26]</sup> )                         |                                                                                                                       |                                                                                                                                            |
| Carbon nanotube                     | 3180 (multiwall) <sup>[27]</sup> –3500 (single wall) <sup>[29]</sup><br>(SWcalc.6,600 <sup>[27]</sup> –301–37,000 <sup>[27]</sup> –130)                                            | 320 <sup>[27]</sup> –1281–300 <sup>[29]</sup><br>(300 <sup>[27]</sup> –1301–100 <sup>[27]</sup> –130)          | (Lateral)10 <sup>−16</sup> –11 - (Ballistic)10 <sup>8</sup> –11)                                                      | SWNT (length:2.6 μm, diameter:1.7 nm)                                                                                                      |
| Concrete                            | 0.8 <sup>[3]</sup> - 1.28 <sup>[6]</sup>                                                                                                                                           | 293 <sup>[6]</sup>                                                                                             |                                                                                                                       | −61-67%CaO                                                                                                                                 |
| <b>Copper, pure</b>                 | 385 <sup>[3]</sup> –386 <sup>[10]</sup> –111–390 <sup>[6]</sup> –401 <sup>[5]</sup> –141 <sup>[32]</sup><br>368.7 <sup>[10]</sup><br>353.1 <sup>[10]</sup>                         | 293 <sup>[3]</sup> –151 <sup>[6]</sup> –1011–141 <sup>[32]</sup><br>573 <sup>[10]</sup><br>873 <sup>[10]</sup> | 59,170,000 <sup>[32]</sup> - 59,590,000 <sup>[15]</sup>                                                               | International Annealed Copper Standard (IACS)<br>pure =1.7×10 <sup>−8</sup> Ω·m<br>=58.82×10 <sup>6</sup> Ω <sup>−1</sup> ·m <sup>−1</sup> |
| Cork                                | 0.04 <sup>[3]</sup> - 0.07 <sup>[6]</sup>                                                                                                                                          | 293 <sup>[6]</sup>                                                                                             |                                                                                                                       | For main article, see: Copper in heat exchangers.                                                                                          |
| Cotton or Plastic Insulation-foamed | 0.035 <sup>[16]</sup>                                                                                                                                                              | 293 <sup>[6]</sup>                                                                                             |                                                                                                                       |                                                                                                                                            |
| Diamond, impure                     | 1,000 <sup>[5]</sup> –1133 <sup>[1]</sup>                                                                                                                                          | 273 <sup>[3]</sup> - 293 <sup>[3]</sup>                                                                        | 1 × 10 <sup>−16</sup> –134 <sup>[1]</sup>                                                                             | Type I (98.1% of Gem Diamonds) (C+0.1%N)                                                                                                   |
| Diamond, natural                    | 2,200 <sup>[33]</sup>                                                                                                                                                              | 293 <sup>[33]</sup>                                                                                            | 1 × 10 <sup>−16</sup> –134 <sup>[1]</sup>                                                                             | Type-IIA (99% <sup>12</sup> C and 1% <sup>13</sup> C)                                                                                      |
| Diamond, isotopically enriched      | 3,320 <sup>[35]</sup> –41,000 <sup>[27]</sup> –136 <sup>[99]</sup> –9999% <sup>12</sup> C calc.200,000 <sup>[36]</sup>                                                             | 293 <sup>[35]</sup> –104 <sup>[27]</sup> –136 <sup>[99]</sup> –(80 <sup>[36]</sup> )                           | (Lateral)10 <sup>−16</sup> –134 <sup>[1]</sup> - (Ballistic)10 <sup>8</sup> –134 <sup>[1]</sup>                       | Type-IIA isotopically enriched (>99.9% <sup>12</sup> C)                                                                                    |
| Epoxy, thermally conductive         | 0.682 <sup>[37]</sup> - 1.038 - 1.384 <sup>[38]</sup>                                                                                                                              |                                                                                                                |                                                                                                                       |                                                                                                                                            |
| Expanded polystyrene                | 0.03 <sup>[5]</sup> –0.033 <sup>[3]</sup> –1133 <sup>[1]</sup> (PPS Only)0.1 <sup>[39]</sup> –0.13 <sup>[39]</sup>                                                                 | 98 <sup>[33]</sup> –298 <sup>[5]</sup> –133 <sup>[39]</sup> (296 <sup>[39]</sup> )                             | 1 × 10 <sup>−14</sup> –139 <sup>[1]</sup>                                                                             | (PS+Air+CO2+C6H6+...)                                                                                                                      |
| Fiberglass or Foam-glass            | 0.045 <sup>[6]</sup>                                                                                                                                                               | 293 <sup>[6]</sup>                                                                                             |                                                                                                                       |                                                                                                                                            |
| Gallium arsenide                    | 56 <sup>[33]</sup>                                                                                                                                                                 | 300 <sup>[33]</sup>                                                                                            |                                                                                                                       |                                                                                                                                            |
| Glass                               | 0.8 <sup>[3]</sup> –1.0.93 <sup>[6]</sup> (SiO2pure) <sup>[112]</sup> –SiO296% <sup>[12]</sup> –1.4 <sup>[40]</sup> –1.4 <sup>[40]</sup>                                           | 293 <sup>[3]</sup> –161 <sup>[40]</sup>                                                                        | 10 <sup>−14</sup> –141 <sup>[42]</sup> –10 <sup>−12</sup> –140 <sup>[1]</sup> –10 <sup>−10</sup> –141 <sup>[42]</sup> | <1% Iron oxides                                                                                                                            |
| Material                            | Thermal conductivity  W·m <sup>−1</sup> ·K <sup>−1</sup>                                                                                                                           | Temperature [K]                                                                                                | Electrical conductivity @ 293 K<br>[Ω <sup>−1</sup> ·m <sup>−1</sup> ]                                                | Notes                                                                                                                                      |

| Material                                        | Thermal conductivity [W·m <sup>−1</sup> ·K <sup>−1</sup> ]                                                                          | Temperature [K]                                                                        | Electrical conductivity @ 293 K [Ω <sup>−1</sup> ·m <sup>−1</sup> ] | Notes                                                                             |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Glycerol                                        | 0.283 <sup>[9]</sup> –0.29 <sup>[6]</sup>                                                                                           | 300 <sup>[9]</sup> –293 <sup>[6]</sup>                                                 |                                                                     |                                                                                   |
| Gold, pure                                      | 314 <sup>[2]</sup> –315 <sup>[10]</sup> –318 <sup>[11][14][51]</sup>                                                                | 293 <sup>[10]</sup> –298 <sup>[14][51]</sup>                                           | 45,170,000 <sup>[51]</sup> –45,450,000 <sup>[51]</sup>              |                                                                                   |
| Granite                                         | 1.73 <sup>[44]</sup> –3.98 <sup>[44]</sup>                                                                                          |                                                                                        |                                                                     | (72%SiO <sub>2</sub> +14%Al <sub>2</sub> O <sub>3</sub> +4%K <sub>2</sub> O etc.) |
| Graphene                                        | (4840±440) <sup>[45]</sup> – (5300±480) <sup>[45]</sup>                                                                             | 293 <sup>[45]</sup>                                                                    | 100,000,000 <sup>[46]</sup>                                         |                                                                                   |
| Helium II                                       | >100000 <sup>[47]</sup>                                                                                                             | 2.2                                                                                    |                                                                     | liquid Helium in its superfluid state below 2.2 K                                 |
| Ice                                             | 1.6 <sup>[5]</sup> –2.1 <sup>[6]</sup> –2.3 <sup>[5]</sup> –2.27 <sup>[48]</sup>                                                    | 293 <sup>[5][6]</sup> –273 <sup>[3][48]</sup>                                          |                                                                     |                                                                                   |
| Indium phosphide                                | 80 <sup>[33]</sup>                                                                                                                  | 300 <sup>[33]</sup>                                                                    |                                                                     |                                                                                   |
| Iron, pure                                      | 71.8 <sup>[11]</sup> –72.7 <sup>[10]</sup> –79.5 <sup>[3]</sup> –80 <sup>[51]</sup> –80.2 <sup>[53]</sup> –80.4 <sup>[14][49]</sup> | 293 <sup>[5][10]</sup> –298 <sup>[5]</sup> –300 <sup>[14]</sup> –<br>[53][49]          | 9,901,000 <sup>[49]</sup> –10,410,000 <sup>[51]</sup>               |                                                                                   |
| Iron, cast                                      | 55.4 <sup>[10]</sup><br>34.6 <sup>[10]</sup>                                                                                        | 573 <sup>[10]</sup><br>1273 <sup>[10]</sup>                                            |                                                                     | (Fe+(2-4)%C+(1-3)%Si)                                                             |
| Lead, pure                                      | 34.7 <sup>[3][10]</sup> –35.0 <sup>[5]</sup> –111–35.3 <sup>[14][50]</sup><br>29.8 <sup>[10]</sup>                                  | 110 <sup>[1]</sup> –298 <sup>[5]</sup> –300 <sup>[14][50]</sup><br>573 <sup>[10]</sup> | 4,808,000 <sup>[51]</sup> –4,854,000 <sup>[50]</sup>                |                                                                                   |
| Limestone                                       | 1.26 <sup>[44]</sup> –1.33 <sup>[44]</sup>                                                                                          | 298 <sup>[51]</sup>                                                                    |                                                                     | Mostly CaCO <sub>3</sub>                                                          |
| Marble                                          | 2.07 <sup>[44]</sup> –2.08 <sup>[5]</sup> –2.94 <sup>[5][44]</sup>                                                                  | 298 <sup>[51]</sup>                                                                    |                                                                     | Mostly CaCO <sub>3</sub>                                                          |
| Methane                                         | 0.030 <sup>[5]</sup> –0.0328 <sup>[15]</sup><br>0.04 <sup>[3][10]</sup>                                                             | 298 <sup>[5]</sup> –273 <sup>[5]</sup><br>293 <sup>[6]</sup> –298 <sup>[51]</sup>      |                                                                     |                                                                                   |
| Mineral Insulation or Wool felt/Glass/Rock      | 90.9 <sup>[14]</sup> –91 <sup>[5]</sup>                                                                                             | 298 <sup>[5][14]</sup>                                                                 |                                                                     |                                                                                   |
| Nickel                                          |                                                                                                                                     |                                                                                        |                                                                     |                                                                                   |
| Nitrogen, pure                                  | 0.0234 <sup>[3]</sup> –0.024 <sup>[5]</sup> –0.0258 <sup>[14]</sup> –0.026 <sup>[19][33]</sup>                                      | 293 <sup>[5]</sup> –298 <sup>[5]</sup> –300 <sup>[14]</sup><br>119 <sup>[33]</sup>     |                                                                     | (N <sub>2</sub> ) (1 atm)                                                         |
| Oxygen, pure (gas)                              | 0.0238 <sup>[3]</sup> –0.024 <sup>[5]</sup> –0.0263 <sup>[19]</sup> –0.02658 <sup>[14]</sup>                                        | 293 <sup>[3]</sup> –298 <sup>[5]</sup> –300 <sup>[14][19]</sup>                        |                                                                     | (O <sub>2</sub> ) (1 atm)                                                         |
| Paper                                           | 0.05 <sup>[5]</sup>                                                                                                                 | 298 <sup>[51]</sup>                                                                    |                                                                     |                                                                                   |
| Perfluo. (1 atm)                                | 0.031 <sup>[51]</sup>                                                                                                               | 298 <sup>[51]</sup>                                                                    |                                                                     |                                                                                   |
| Perfluo. [partial] Vacuum                       | 0.00137 <sup>[51]</sup>                                                                                                             | 298 <sup>[51]</sup>                                                                    |                                                                     |                                                                                   |
| Plastic, fiber-reinforced                       | 0.23 <sup>[52]</sup> –0.7 <sup>[52]</sup> –1.06 <sup>[6]</sup>                                                                      | 293 <sup>[6]</sup> –296 <sup>[52]</sup>                                                | 10 <sup>−18</sup> [52]–10 <sup>[52]</sup>                           | 10-40%GF or CF                                                                    |
| Polyethylene High Density                       | 0.42 <sup>[51]</sup> –0.51 <sup>[51]</sup>                                                                                          | 298 <sup>[51]</sup>                                                                    |                                                                     |                                                                                   |
| Polymer, High-Density                           | 0.33 <sup>[52]</sup> –0.52 <sup>[52]</sup>                                                                                          | 296 <sup>[52]</sup>                                                                    | 10 <sup>−16</sup> [52]–10 <sup>[52]</sup>                           |                                                                                   |
| Polymer, Low-density                            | 0.04 <sup>[52]</sup> –0.16 <sup>[4]</sup> –0.25 <sup>[6]</sup> –0.33 <sup>[52]</sup>                                                | 293 <sup>[6]</sup> –296 <sup>[52]</sup>                                                | 10 <sup>−17</sup> [52]–10 <sup>[52]</sup>                           |                                                                                   |
| Polyurethane foam                               | 0.02 <sup>[51]</sup> –0.021 <sup>[51]</sup>                                                                                         | 298 <sup>[51]</sup>                                                                    |                                                                     |                                                                                   |
| Quartz (single crystal)                         | 12 <sup>[33]</sup> <span>  </span> to c axis, 6.8 <sup>[53]</sup> <span>⊥</span> to c axis                                          | 300 <sup>[33]</sup>                                                                    |                                                                     |                                                                                   |
| Quartz-Fused or Vitreous Silica or Fused Silica | 1.46 <sup>[53]</sup> –3 <sup>[6]</sup><br>1.4 <sup>[33]</sup>                                                                       | 293 <sup>[6][53]</sup><br>323 <sup>[33]</sup>                                          | 1.333E-18 <sup>[41]</sup> –10 <sup>−16</sup> [53]                   |                                                                                   |
| Rice husk (ash)                                 | 0.062 <sup>[54]</sup>                                                                                                               |                                                                                        |                                                                     |                                                                                   |
| Rice husk (whole)                               | 0.0359 <sup>[54]</sup>                                                                                                              |                                                                                        |                                                                     |                                                                                   |
| Rubber (92%)                                    | 0.16 <sup>[33]</sup>                                                                                                                | 303 <sup>[33]</sup>                                                                    | 1 × 10 <sup>−13</sup> –14 <sup>[1]</sup>                            |                                                                                   |
| Sandstone                                       | 1.83 <sup>[44]</sup> –2.90 <sup>[44]</sup><br>2.1 <sup>[55]</sup> –3.9 <sup>[55]</sup>                                              |                                                                                        |                                                                     | ~95-71%SiO <sub>2</sub><br>~98-48%SiO <sub>2</sub> , ~16-30% Porosity             |
| Material                                        | Thermal conductivity [W·m <sup>−1</sup> ·K <sup>−1</sup> ]                                                                          | Temperature [K]                                                                        | Electrical conductivity @ 293 K [Ω <sup>−1</sup> ·m <sup>−1</sup> ] | Notes                                                                             |

| Material                                                                   | Thermal conductivity [W·m <sup>-1</sup> ·K <sup>-1</sup> ]                                                                                                | Temperature [K]                                                                                  | Electrical conductivity @ 293 K [Ω <sup>-1</sup> ·m <sup>-1</sup> ]           | Notes                                                                                      |
|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Silica Aerogel                                                             | 0.003 <sup>[33]</sup> (carbon black9%-0.0042 <sup>[56]</sup> ,-0.008 <sup>[56]</sup> ,0.017 <sup>[56]</sup> ,0.02 <sup>[51]</sup> ,0.03 <sup>[33]</sup> ) | 98 <sup>[33]</sup> - 298 <sup>[51]</sup> [33]                                                    |                                                                               | Foamed Glass                                                                               |
| Silver, pure                                                               | 406 <sup>[3]</sup> ,407 <sup>[10]</sup> ,418 <sup>[11]</sup><br>427 <sup>[12]</sup> ,429 <sup>[51]</sup> [41,33] <sup>[57]</sup> ,430 <sup>[14]</sup>     | 293 <sup>[31]</sup> [10]<br>298 <sup>[51]</sup> [41,37] <sup>[7]</sup> ,300 <sup>[14]</sup> [33] | 61,350,000 <sup>[57]</sup> - 65,010,000 <sup>[15]</sup>                       | Highest electrical conductivity of any metal                                               |
| Silver, dry                                                                | 0.05 <sup>[5]</sup> ,0.11 <sup>[3]</sup> ,0.25 <sup>[5]</sup>                                                                                             | 273 <sup>[5]</sup>                                                                               |                                                                               |                                                                                            |
| Sodium chloride                                                            | 35.1 - 6.5 - 4.85 <sup>[58]</sup>                                                                                                                         | 80 - 289 - 400 <sup>[58]</sup>                                                                   |                                                                               |                                                                                            |
| Soil, dry w/ organic matter                                                | 0.15 <sup>[6]</sup> [59],1.15 <sup>[59]</sup> ,2 <sup>[6]</sup>                                                                                           | 293 <sup>[6]</sup>                                                                               |                                                                               | composition may vary                                                                       |
| Soil, saturated                                                            | 0.6 <sup>[6]</sup> ,4 <sup>[6]</sup>                                                                                                                      | 293 <sup>[6]</sup>                                                                               |                                                                               | composition may vary                                                                       |
| Solder, Sn/63% Pb/37%                                                      | 50 <sup>[60]</sup>                                                                                                                                        |                                                                                                  |                                                                               |                                                                                            |
| Lead free solder, Sn/95.6% Ag/3.5% Cu/0.9%, Sn/95.5% Ag/3.8% Cu/0.7% (SAC) | -60 <sup>[60]</sup>                                                                                                                                       |                                                                                                  |                                                                               |                                                                                            |
| Steel, carbon                                                              | 36 <sup>[10]</sup> [11],43 <sup>[5]</sup> ,50,2 <sup>[3]</sup> ,54 <sup>[51]</sup> [10][11]                                                               | 293 <sup>[31]</sup> [10],298 <sup>[5]</sup>                                                      |                                                                               | (Fe+(1.5-0.5)%C)                                                                           |
| Steel, stainless                                                           | 16,3 <sup>[11]</sup> [61],16,7 <sup>[62]</sup> ,18 <sup>[63]</sup> ,24 <sup>[63]</sup>                                                                    | 296 <sup>[61]</sup> [62][63]                                                                     | 1,176,000 <sup>[62]</sup> - 1,786,000 <sup>[63]</sup>                         | (Fe, Cr12.5-25%, Ni0-20%, Mo0-3%, Ti0-trace)                                               |
| Thermal grease, silver-based                                               | 8.89+ <sup>[64]</sup>                                                                                                                                     |                                                                                                  |                                                                               |                                                                                            |
| Titanium, pure                                                             | 15.6 <sup>[11]</sup> ,19,0 <sup>[10]</sup> ,21.9 <sup>[14]</sup> [65],22.5 <sup>[10]</sup>                                                                | 293 <sup>[10]</sup> ,300 <sup>[14]</sup> [65]                                                    | 1,852,000 <sup>[65]</sup> - 2,381,000 <sup>[15]</sup>                         |                                                                                            |
| Titanium Alloy                                                             | 5.8 <sup>[66]</sup>                                                                                                                                       | 296 <sup>[66]</sup>                                                                              | 595,200 <sup>[66]</sup>                                                       | (Ti+6%Al+4%V)                                                                              |
| Water                                                                      | 0.563 <sup>[67]</sup> ,0.596 <sup>[67]</sup> ,0.63 <sup>[66]</sup> ,0.609 <sup>[9]</sup>                                                                  | 273 <sup>[67]</sup> ,293 <sup>[31]</sup> [66] <sup>[7]</sup> ,300 <sup>[9]</sup>                 | 5<Pure10 <sup>-6</sup> [34],Sweet10 <sup>-3</sup> +1[34],Sea1 <sup>[67]</sup> | <4 <sup>[67]</sup> %NaCl+MgCl <sub>2</sub> +CaCl <sub>2</sub>                              |
| Water vapor                                                                | 0.016 <sup>[5]</sup> ,0.02479 (101.3 kPa) <sup>[68]</sup><br>0.0471 (1 bar) <sup>[7]</sup>                                                                | 293 <sup>[68]</sup> ,398 <sup>[5]</sup><br>600 <sup>[7]</sup>                                    |                                                                               |                                                                                            |
| Wood, +>=12% water                                                         | 0.09091 <sup>[69]</sup> ,0.16 <sup>[33]</sup> ,0.21 <sup>[69]</sup> ,0.4 <sup>[6]</sup>                                                                   | 298 <sup>[33]</sup> ,293 <sup>[6]</sup>                                                          |                                                                               | Species-Variable <sup>[69]</sup>                                                           |
| Wood, oven-dry                                                             | 0.04 <sup>[3]</sup> ,0.055 <sup>[5]</sup> ,0.07692 <sup>[69]</sup> ,0.12 <sup>[3]</sup> ,0.17 <sup>[51]</sup> [69]                                        | 293 <sup>[3]</sup> ,298 <sup>[5]</sup>                                                           |                                                                               | Balsa <sup>[5]</sup> ,L.Cedar <sup>[69]</sup> ,Hickory <sup>[69]</sup> ,Oak <sup>[5]</sup> |
| Zinc oxide                                                                 | 2 <sup>[112]</sup>                                                                                                                                        |                                                                                                  |                                                                               |                                                                                            |
| Material                                                                   | Thermal conductivity [W·m <sup>-1</sup> ·K <sup>-1</sup> ]                                                                                                | Temperature [K]                                                                                  | Electrical conductivity @ 293 K [Ω <sup>-1</sup> ·m <sup>-1</sup> ]           | Notes                                                                                      |

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