Table 1-1. Order of magnitude of thermal conductivity $k$.

| Material | Btu/hr ft F | w/m K |
|---|---|---|
| Gases at atmospheric pressure | 0.004 – 0.10 | 0.0069 – 0.17 |
| Insulating materials | 0.02 – 0.12 | 0.034 – 0.21 |
| Nonmetallic liquids | 0.05 – 0.40 | 0.086 – 0.69 |
| Nonmetallic solids (brick, stone, cement) | 0.02 – 1.5 | 0.034 – 2.6 |
| Liquid metals | 5.0 – 45 | 8.6 – 76 |
| Alloys | 8.0 – 70 | 14 – 120 |
| Pure metals | 30 – 240 | 52 – 410 |

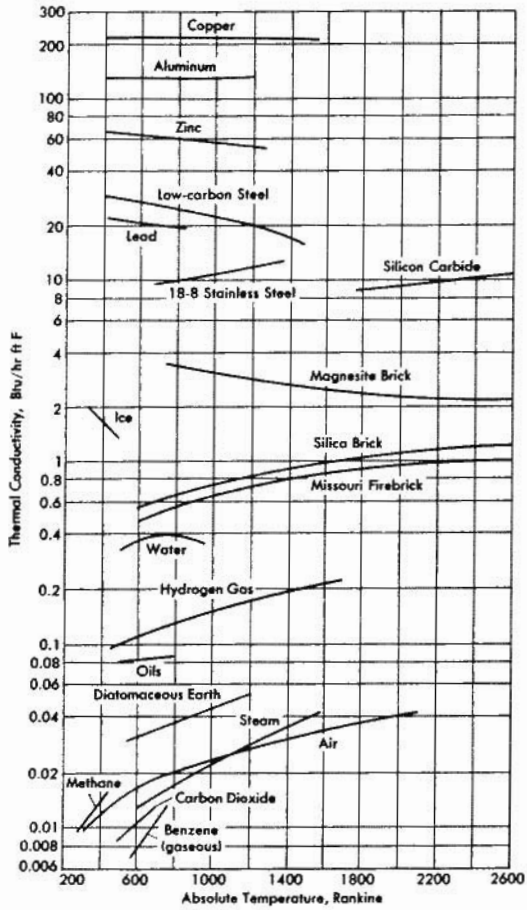


Fig. 1-2. Variation of thermal conductivity of solids, liquids, and gases with temperature.