

Emissivity values of common materials

Material	Emissivity*
Aluminum, polished	0.05
Aluminum, rough surface	0.07
Aluminum, strongly oxidized	0.25
Asbestos board	0.96
Asbestos fabric	0.78
Asbestos paper	0.94
Asbestos slate	0.96
Brass, dull, tarnished	0.22
Brass, polished	0.03
Brick, common	0.85
Brick, glazed, rough	0.85
Brick, refractory, rough	0.94
Bronze, porous, rough	0.55
Bronze, polished	0.10
Carbon, purified	0.80
Cast iron, rough casting	0.81
Cast iron, polished	0.21
Charcoal, powdered	0.96
Chromium, polished	0.10
Clay, fired	0.91
Concrete	0.54
Copper, polished,	0.01
Copper, commercial burnished	0.07
Copper, oxidized	0.65
Copper, oxidized to black	0.88
Electrical tape, black plastic	0.95
Enamel **	0.90
Formica	0.93
Frozen soil	0.93
Glass	0.92
Glass, frosted	0.96
Gold, polished	0.02
Ice	0.97
Iron, hot rolled	0.77
Iron, oxidized	0.74
Iron, sheet galvanized, burnished	0.23
Iron, sheet, galvanized, oxidized	0.28
Iron, shiny, etched	0.16

Material	Emissivity*
Iron, wrought, polished	0.28
Lacquer, Bakelite	0.93
Lacquer, black, dull	0.97
Lacquer, black, shiny	0.87
Lacquer, white	0.87
Lampblack	0.96
Lead, gray	0.28
Lead, oxidized	0.63
Lead, red, powdered	0.93
Lead, shiny	0.08
Mercury, pure	0.10
Nickel, on cast iron	0.05
Nickel, pure polished	0.05
Paint, silver finish**	0.31
Paint, oil, average	0.94
Paper, black, shiny	0.90
Paper, black, dull	0.94
Paper, white	0.90
Platinum, pure, polished	0.08
Porcelain, glazed	0.92
Quartz	0.93
Rubber	0.93
Shellac, black, dull	0.91
Shellac, black, shiny	0.82
Snow	0.80
Steel, galvanized	0.28
Steel, oxidized strongly	0.88
Steel, rolled freshly	0.24
Steel, rough surface	0.96
Steel, rusty red	0.69
Steel, sheet, nickelplated	0.11
Steel, sheet, rolled	0.56
Tar paper	0.92
Tin, burnished	0.05
Tungsten	0.05
Water	0.98
Zinc, sheet	0.20

*Emissivities of almost all materials are measured at 0 °C but do not differ significantly at room temperature.

**Paint, silver finish is measured at 25 °C and Paint, enamel at 27 °C

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