

Black Coatings & Materials	Emissivity
Anodize Black	0.88
Carbon	
Filament	0.53
Rough Plate	0.77
Lampblack	0.84
Carbon Black Paint NS-7	0.88
Catalac Black Paint	0.88
Chemglaze Black Paint Z306	0.91
Delrin Black Plastic	0.87
Ebanol C Black	0.73
Ebanol C Black-384 ESH* UV	0.75
EOI Mid-Temperature Black Coating (Up to 200 °C)	0.965 ± 0.005
EOI High-Temperature Black Coating (Up to 1400 °C)	0.93 ± 0.02
GSFC Black Silicate MS-94	0.89
GSFC Black Paint 3I3-1	0.86
Hughson Black Paint H322	0.86
Hughson Black Paint L-300	0.84
Martin Black Paint N-150-1	0.94
Martin Black Velvet Paint	0.94
3M Black Velvet Paint	0.91
Paladin Black Lacquer	0.75
Parsons Black Paint	0.91
Polyethylene Black Plastic	0.92
Pyramil Black on Beryllium Copper	0.72
Tedlar Black Plastic	0.90
Velesat Black Plastic	0.85

Anodized Aluminum	Emissivity
Black	0.82
Black (2nd Sample)	0.86
Blue	0.87
Blue (2nd Sample)	0.82
Brown	0.86
Chromic	0.56
Clear	0.76
Clear (2nd Sample)	0.84
Green	0.88
Gold	0.82
Plain	0.04
Red	0.88
Sulphuric	0.87
Yellow	0.87
Blue Anodized Titanium Foil	0.13

Vapor Deposited Coatings	Emissivity
Aluminum	0.02
Aluminum on Fiberglass	0.07
Aluminum on Stainless Steel	0.02
Chromium	0.17
Chromium on 5-mil Kapton	0.24
Germanium	0.09
Gold	0.02
Iron Oxide	0.56
Molybdenum	0.21
Nickel	0.04
Rhodium	0.03
Silver	0.02
Titanium	0.12
Tungsten	0.27

Metals and Conversion Coatings	Emissivity
Aluminum	
Highly Polished	0.039-0.057
Commercial Sheet	0.09
Heavily Oxidized	0.20-0.31
Surface Roofing	0.216
Alzac A-2	0.73
Black Chrome	0.62
Black Copper	0.63
Black Iridite	0.17
Black Nickel	0.66
Brass	
Highly Polished	0.028-0.037
Dull Plate	0.22
Buffed Aluminum	0.03
Buffed Copper	0.03
Constantan-Metal Strip	0.09
Copper	
Polished	0.023
Thick Oxide Layer	0.78
Dow 23 on Magnesium	0.67
Ebanol C Black	0.77
Electroplated Gold	0.03
Electroless Nickel	0.07
Iron, Polished	0.14-0.38
Cast Iron	0.60-0.70
Mild Steel	0.20-0.32
Iron Plate, Rusted Red	0.61
Sheet Sheet, Rough Oxide Layer	0.81
Gold - Pure, Highly Polished	0.018-0.035
Iridite Aluminum	0.11
Inconel X Foil (1 mil)	0.10
Iron and Steel (Not Stainless)	

Kannigen-Nickel Alloy	0.08
Steel, Polished	0.066
Lead	
Unoxidized	0.057-0.075
Gray Oxidize	0.28
Molybdenum	
Filament	0.096-0.202
Massive, Polished	0.071
Nickel	
Polished	0.072
Nickel Oxide	0.59-0.86
Plain Beryllium Copper	0.03
Platinum Foil	0.04
Quartz, Rough, Fused	0.93
Stainless Steel	
Polished	0.11
Machined	0.14
Sandblasted	0.38
Machine Rolled	0.11
Boom-Polished	0.10
Silver - Pure, Polished	0.020-0.032
Tantalum Foil	0.05
Tungsten Polished	0.03
Vapor Deposited Coatings	Emissivity
Aluminum	0.02
Aluminum on Fiberglass	0.07
Aluminum on Stainless Steel	0.02
Chromium	0.17
Chromiumlon 5-mil Kapton	0.24
Germanium	0.09
Gold	0.02
Iron Oxide	0.56
Molybdenum	0.21

Misc	Emissivity
Asbesto, Board	0.96
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )-(12/4) on Buffed Alum Initial	0.23
Aluminum Oxide(Al <sub>2</sub> O <sub>3</sub> )(12/4) on Fused Silica	0.24
Brick	
Red, Rough, No Gross Irregularities	0.93
Fireclay	0.75
Concrete Tiles	0.63
Glass	
Smooth	0.94
Pyrex, Lead, and Soda	0.95
Porcelain, Glazed	0.92
GSFC Dark Mirror Coating - SiO-Cr-Al	0.04
GSFC Composite SiO <sub>x</sub> - Al <sub>2</sub> O <sub>3</sub> -Ag	0.68
Inconel with Teflon Overcoating -1 mil	0.46
Kapton Overcoating	0.57
Parylene C Overcoating	0.34
Roofing Paper	0.91
Silver Beryllium Copper Coating (AgBeCu)	0.03
Teflon Overcoating	0.38
Vespel Polyimide SP1	0.90
Water	0.95
Tapes & Film	Emissivity
Aclar Film (Aluminum Backing)	
1 mil	0.45
2 mil	0.62
5 mil	0.73
Copper Foil Tape	
Plain	0.02
Sanded	0.04
Tarnished	0.04
Kapton Film (Aluminum Backing)	
0.08 mil	0.24
0.15 mil	0.24