

Infrared Emissivity of common materials

NON-METALS

Material	Temp °F (°C)	E-Emissivity	Material	Temp °F (°C)	E-Emissivity	Material	Temp °F (°C)	E-Emissivity
Adobe	68 (20)	.90	Granite	70 (21)	.45	Paints, Oil		
Asbestos			Gravel	100 (38)	.28	All colors	200 (60)	.92-.96
Board	100 (38)	.96	Gypsum	68 (20)	.80-.90	Black	200 (60)	.92
Cement	32-302 (0-300)	.96	Ice, Smooth	32 (0)	.97	Black Gloss	70 (21)	.90
Cement, Red	2500 (1371)	.87	Ice, Rough	32 (0)	.98	Camouflage Green	125 (52)	.85
Cement, White	2500 (1371)	.85	Lacquer			Rat Black	80 (27)	.88
Cloth	100 (38)	.90	Black	200 (60)	.96	Rat White	80 (27)	.91
Paper	100-700 (38-371)	.93	Blue, on Al Foil	100 (38)	.78	Gray-Green	70 (21)	.95
Slate	68 (20)	.97	Clear, on Al Foil (2 coats)	200 (60)	.08 (.08)	Green	200 (60)	.95
Asphalt, pavement	100 (38)	.93	Clear, on Bright Cu	200 (60)	.66	Lamp Black	200 (60)	.96
Asphalt, tar paper	68 (20)	.93	Clear, on Tarnished Cu	200 (60)	.64	Red	200 (60)	.95
Basalt	68 (20)	.72	Red, on Al Foil (2 coats)	100 (38)	.61 (.74)	White	200 (60)	.94
Brick			White	200 (60)	.95	Quartz, Rough, Fused	70 (21)	.93
Red, rough	70 (21)	.93	White, on Al Foil (2 coats)	100 (38)	.69 (.88)	Glass, 1.98 mm	540 (282)	.90
Gault Cream	2500-5000 (1371-2760)	.26-.30	Yellow, on Al Foil (2 coats)	100 (38)	.57 (.70)	Glass, 1.98 mm	1540 (838)	.41
Fire Clay	2500 (1371)	.75	Line Mortar	100-500 (38-260)	.90-.92	Glass, 6.88 mm	540 (282)	.93
Light Buff	1000 (538)	.80	Limestone	100 (38)	.95	Glass, 6.88 mm	1540 (838)	.47
Line Clay	2500 (1371)	.43	Marble, White	100 (38)	.95	Opaque	570 (299)	.92
Fire Brick	1892 (1000)	.75-.80	" Smooth, White	100 (38)	.56	Opaque	1540 (838)	.68
Magnesite, Refractory	1892 (1000)	.38	" Polished Gray	100 (38)	.75	Red Lead	212 (100)	.93
Gray Brick	2012 (1100)	.75	Mica	100 (38)	.75	Rubber, Hard	74 (23)	.94
Silica, Glazed	2000 (1099)	.88	Oil on Nickel			Rubber, Soft, Gray	76 (24)	.86
Silica, Unglazed	2000 (1099)	.80	0.001 Film	72 (22)	.27	Sand	68 (20)	.76
Sandstone	2500-5000 (1371-2760)	.56-.63	0.002 "	72 (22)	.46	Sandstone	100 (38)	.67
Carborundum	1890 (1010)	.92	0.005 "	72 (22)	.72	Sandstone, Red	100 (38)	.60-.83
Ceramic			Thick "	72 (22)	.82	Sawdust	68 (20)	.75
Alumina on Inconel 800-2000 (427-1068)		.69-.45	Oil, Linseed			Shale	68 (20)	.69
Earthenware, Glazed	70 (21)	.90	On Al Foil, uncoated	250 (121)	.09	Silica, Glazed	1892 (1000)	.85
Earthenware, Matte	70 (21)	.93	On Al Foil, 1 coat	250 (121)	.56	Silica, Unglazed	2012 (1100)	.75
Greens No. 5210-2C	200-750 (68-399)	.89-.82	On Al Foil, 2 coats	250 (121)	.51	Silicon Carbide	300-1200 (149-649)	.83-.96
Coating No. C20A	200-750 (68-399)	.73-.67	On Polished Iron, .001 Film	100 (38)	.22	Silk Cloth	68 (20)	.78
Porcelain	72 (22)	.92	On Polished Iron, .002 Film	100 (38)	.45	Slate	100 (38)	.67-.80
White Al ₂ O ₃	200 (68)	.90	On Polished Iron, .004 Film	100 (38)	.65	Snow, fine Particles	20 (-7)	.82
Zirconia on Inconel 800-2000 (427-1068)		.62-.45	On Polished Iron, Thick Film	100 (38)	.83	Snow, Granular	18 (-6)	.89
Clay	68 (20)	.39	Paints			Soil		
" Fired	158 (70)	.91	Blue, Cu ₂ O ₃	75 (24)	.94	Surface	100 (38)	.38
" Shale	68 (20)	.69	Black, CuO	75 (24)	.96	Black Loam	68 (20)	.66
" Tiles, Light Red	2500-5000 (1371-2760)	.32-.34	Green, Cu ₂ O ₃	75 (24)	.92	Plowed Field	68 (20)	.38
" Tiles, Red	2500-5000 (1371-2760)	.40-.51	Red, Fe ₂ O ₃	75 (24)	.91	Soot		
" Tiles, Dark Purple	2500-5000 (1371-2760)	.78	White, Al ₂ O ₃	75 (24)	.94	Acetylene	75 (24)	.97
Concrete			White, Y ₂ O ₃	75 (24)	.90	Camphor	75 (24)	.94
Rough	32-2000 (0-1099)	.94	White, ZnO	75 (24)	.96	Candle	250 (121)	.95
Tiles, Natural	2500-5000 (1371-2760)	.63-.62	White, MgCO ₃	75 (24)	.91	Coal	68 (20)	.95
" Brown	2500-5000 (1371-2760)	.87-.83	White, ZnO	75 (24)	.95	Stonework	100 (38)	.93
" Black	2500-5000 (1371-2760)	.94-.91	White, ThO ₂	75 (24)	.90	Water	100 (38)	.67
Cotton Cloth	68 (20)	.77	White, MgO	75 (24)	.91	Waterglass	68 (20)	.96
Dolomite Lime	68 (20)	.41	White, PbCO ₃	75 (24)	.93	Wood	Low	.80-.90
Emery Carundum	176 (80)	.86	Yellow, PbO	75 (24)	.90	Beech Planed	158 (70)	.94
Glass			Yellow, PbCrO ₄	75 (24)	.93	Oak, Planed	100 (38)	.91
Corvus D	212 (100)	.80	Paints, Aluminium	100 (38)	.27-.67	Spruce, Sanded	100 (38)	.89
Corvus D	600 (316)	.80	10% Al	100 (38)	.52			
Corvus D	902 (500)	.76	28% Al	100 (38)	.30			
Norex	212 (100)	.82	Dow XP-310	200 (60)	.22			
Norex	600 (316)	.82	Paints, Bronze	Low	.34-.80			
Norex	902 (500)	.78	Gum Varnish (2 coats)	70 (21)	.53			
Smooth	32-200 (0-99)	.92-.94	Gum Varnish (3 coats)	70 (21)	.50			
			Cellulose Binder (2 coats)	70 (21)	.34			