



Material list: choosing the correct TW unit

Various materials and surface finishes have different emissivity values. The emissivity of many objects, metals in particular, is highest at short wavelengths. Therefore, the selection of TW sensors has different wavelength ranges. Ideally the shortest wavelength possible should be chosen.

In the chart below, there is a list of various materials and the corresponding recommended unit type. The value listed is the recommended EPSI (emissivity) setting for the TW sensor.



Note: The emissivities are approximate values, to determine the temperature precisely a reference value measurement should be made.

If there is a – , that TW is not recommended.

Material	TW2000 / TW2100	TW2001 / TW2101 / TW2011	TW2002
Alumina	76	-	-
Aluminum, finished	-	10	25
Aluminum, polished	-	5	15
Asbestos cement	-	60	70
Asphalt	90...98	-	-
Baking oven	96	-	-
Bitumen (roofing cardboard)	96	-	-
Brass, oxidized	56...64	-	-
Brass, oxidized (tarnished)	-	50	70
Bread in the oven	88	-	-
Brick	93...96	85	90
Bronze, finished	-	15	30
Bronze, polished	-	1	3
Cement	90	-	-
Chamotte	75	40	50
Chromium, blank	-	15	30
Clinker brick, glazed	75	-	-
Concrete	55...65	-	-
Copper, oxidized	78	70	90
Enamel	84...88	-	-
Glass	85...95	-	-
Gold and silver	-	1	2
Graphite	98	-	-
Graphite, finished	-	85	90
Iron oxide	85...89	-	-
Iron, heavily scaled	-	90	95
Iron, molten	-	15	30



Material	TW2000 / TW2100	TW2001 / TW2101 / TW2011	TW2002
Iron, rolling skin	-	75	90
Leather	75...80	-	-
Lime plaster	91	-	-
Marble	94	-	-
Nickel	-	8	20
Paints and lacquers, matt	96	-	-
Paints and lacquers, shiny	92	-	-
Paper	70...94	-	-
Plaster	80...90	-	-
Plastics, opaque	65...95	-	-
Porcelain, glazed	-	50	60
Porcelain, rough	-	75	85
Pottery, glazed	-	85	90
Radiator	80...85	-	-
Rubber, black	94	-	-
Sand	90	-	-
Skin, human	98	-	-
Slag	-	80	85
Soil	92...96	-	-
Soot	-	90	95
Steel, antitrust	45	-	-
Steel, red oxidized	69	-	-
Table stove	95	-	-
Textiles	75...88	-	-
Water	92...98	-	-
Wood	80...90	-	-
Zinc	-	40	60