

Specific Heat Capacity of Metals

The specific heat is the amount of heat energy required per unit mass to raise the temperature by one degree Celsius. The relationship between heat and temperature change is usually expressed in the form shown below where 'c' is the specific heat. For Liquid water 'c' = 4.184 J/g°C, For Steam 'c' = 1.996 J/g°C and for Ice 'c' = 2.108 J/g°C

Metal	J/(kg*K)	J/(g*°C)
AlBeMet	1507.248	1.507248
Aluminum	921.096	0.921096
Antimony	209.34	0.20934
Barium	200.9664	0.2009664
Beryllium	1825.4448	1.8254448
Bismuth	125.604	0.125604
Brass (Yellow)	401.9328	0.4019328
Cadmium	230.274	0.230274
Calcium	628.02	0.62802
Carbon Steel	502.416	0.502416
Cast Iron	460.548	0.460548
Cesium	238.6476	0.2386476
Chromium	460.548	0.460548
Cobalt	418.68	0.41868
Copper	376.812	0.376812
Gallium	368.4384	0.3684384
Germanium	318.1968	0.3181968
Gold	125.604	0.125604
Hafnium	138.1644	0.1381644
Incoloy 800	544.284	0.544284
Incoloy 600	527.5368	0.5275368
Indium	238.6476	0.2386476
Iridium	1297.908	1.297908
Iron	460.548	0.460548
Lanthanum	196.7796	0.1967796
Lead	125.604	0.125604
Lead Liquid	154.9116	0.1549116
Lithium	3558.78	3.55878
Lutetium	150.7248	0.1507248
Magnesium	1046.7	1.0467
Manganese	477.2952	0.4772952
Mercury	125.604	0.125604
Molybdenum	277.16616	0.27716616
Monel 400	460.548	0.460548

Nickel	502.416	0.502416
Nichrome (80%NI - 20% Cr)	460.548	0.460548
Niobium (Columbium)	267.9552	0.2679552
Osmium	129.7908	0.1297908
Palladium	238.6476	0.2386476
Platinum	125.604	0.125604
Plutonium	133.9776	0.1339776
Potassium	753.624	0.753624
Rhenium	138.1644	0.1381644
Rhodium	242.8344	0.2428344
Rubidium	360.0648	0.3600648
Ruthenium	238.6476	0.2386476
Scandium	586.152	0.586152
Selenium	322.3836	0.3223836
Silicon	711.756	0.711756
Silver	238.6476	0.2386476
Sodium	1214.172	1.214172
Solder (50% Pb-50% Sn)	213.5268	0.2135268
Steel, Mild	510.7896	0.5107896
Steel, Stainless 304	502.416	0.502416
Steel, Stainless 430	460.548	0.460548
Strontium	301.4496	0.3014496
Tantalum	138.1644	0.1381644
Thallium	125.604	0.125604
Thorium	125.604	0.125604
Tin (Liquid)	209.34	0.20934
Tin (Solid)	217.7136	0.2177136
Titanium 99%	544.284	0.544284
Tungsten	133.9776	0.1339776
Uranium	117.2304	0.1172304
Vanadium	485.6688	0.4856688
Yttrium	301.4496	0.3014496
Zinc	376.812	0.376812
Zirconium	251.208	0.251208
Wrought Iron	502.416	0.502416