

Acoustic Specifications of some Materials

Materials	Density (g/cm³)	Longitudinal Wave Velocity (m/s)	Shear Wave Velocity	Acoustic Impedance (kg/mys) (x10)	L.Wave Length (mm) at 25 MHz
Water (20°)	1.00	1483	0	1.48	0.059
Alcohol (20°)	0.79	1168	0	0.92	0.047
Glycerin (100%)	1.27	2880	---	2.38	0.075
Air (20°)	0.00	344	0	0.00	0.014
Silicon	2.33	8600	---	20.04	0.344
Gold	19.30	3240	1200	62.53	0.130
42 Alloy	8.15	5020	---	40.91	0.201
Steel	7.70	5900	3100	45.43	0.236
Copper	8.90	4700	2260	41.83	0.188
Aluminium	2.70	6260	3080	16.90	0.250
Nickel	8.80	5630	2960	49.54	0.225
Cast Iron	7.20	1800	2400	34.56	0.192
Lead	11.49	2170	700	24.74	0.087
Duralmin	2.79	6320	3130	17.63	0.253
Stainless Steel (18-8)	8.03	5660	3120	45.45	0.226
Epoxy Resin	1.20	2600	---	3.12	0.104
Resin (for IC packages)	1.72	3930	---	6.76	0.157
Glass (Quartz)	2.70	5570	3515	15.04	0.223
Alumina (AL O)	3.8	10410	---	39.56	0.416
Zirconia (ZrO)	5.9	6994	---	41.26	0.280
Silicon Nitride (Si N)	3.2	10743	---	34.38	0.430
Silicon Carbide	3.1	12043	---	37.33	0.482