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## Ultrasonic Longitudinal Velocity Table for Thickness Gauging

MATERIAL	AVERAGE VELOCITY	STEEL FACTOR	% UNCERTAINTY
Aluminum*	.248	1.07	2
Bearing Babbit (Pb Base)*	.096	0.41	na
Bearing Babbit (Sn Base)*	.131	0.56	na
Beryllium*	.505	2.18	na
Copper*	.183	0.79	na
CDA 464 Naval Brass	.170	0.73	na
CDA 510 Phos. Bronze	.184	0.79	na
CDA 706 (90/10)	.188	0.81	na
CDA 715 (70/30)	.199	0.86	na
CDA 752 (Nickel Silver)	.182	0.78	na
Columbium*	.194	0.84	na
Gold*	.128	0.55	na
Hafnium*	.151	0.65	na
Hastalloy's	.225	0.97	1
Lead*	.085	0.37	na
Magnesium*	.235	1.01	5
Molybdenum*	.247	1.06	1
Monel	.219	0.94	5
Nickel*	.222	0.96	na
Nickel 200*	.224	0.97	1
Platinum*	.156	0.67	na
RA 333	.230	0.99	1
Silver*	.142	0.61	na
Steel, 1018	.232 - .234	1.00	1
Steel, 4340	.230 - .235	1.00	1
Steel, 8620	.230 - .233	1.00	1
Steel, Chrome/Moly	.232	1.00	2
Steel, Tool	.235	1.01	5
Steel, Stainless 300 series	.224	0.97	5
Steel, Stainless 400 series	.235	1.01	5
Stellite*	.233	1.01	4
Tantalum*	.161	0.69	na
Tin*	.131	0.56	na
Titanium*	.239	1.03	na
Ti-GR2*	.236	1.02	na
Tungsten*	.204	0.88	na
Tungsten Carbide	.264	1.14	na
Vanadium*	.236	1.02	na
Zinc*	.160	0.69	na
Zirconium*	.183	0.79	na

- Average Velocity was determined by actual measurements of spectrographic alloy standards.
- \* Indicates Velocity value was not measured but transcribed from published tables.
- Steel Factor is the correction factor to use if you are calibrated for Carbon Steel at .232 in/usec.
- Uncertainty is the difference between the average sound velocity and high or low samples.