

Material Properties for Sound and Light

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Speed of Sound at 1 atm and 20 °C:

Iron	5950 m/s
Glass (Approx)	5600 m/s
Copper	4760 m/s
Lead	2160 m/s
Rubber	1550 m/s
Water	1461 m/s
Mercury	1407 m/s
Methanol	1143 m/s
Ether	1032 m/s
Hydrogen	1286 m/s
Helium	1008 m/s
Air	343 m/s
Oxygen	326 m/s
Carbon dioxide	269 m/s

Aoustic Impedance at 1 atm and 20 °C:

Hydrogen Gas	111 Ns/m ³
Air	412 Ns/m ³
Water	$1,46 \cdot 10^6$ Ns/m ³
Rubber	$1,47 \cdot 10^6$ Ns/m ³
Glycerin	$2,42 \cdot 10^6$ Ns/m ³
Quarts	$13,1 \cdot 10^6$ Ns/m ³
Glass (Approx)	$14 \cdot 10^6$ Ns/m ³
Aluminum	$17,3 \cdot 10^6$ Ns/m ³
Mercury	$19,1 \cdot 10^6$ Ns/m ³
Copper	$33,9 \cdot 10^6$ Ns/m ³
Steel	46,4 Ns/m ³
Tungsten	$101 \cdot 10^6$ Ns/m ³

Vacuum Wavelengths and Frequencies of Light:

Color	Wavelength	Frequency
Violet	400 – 440 nm	749 – 681 THz
Blue	440 – 480 nm	681 – 625 THz
Green	480 – 560 nm	625 – 535 THz
Yellow	560 – 590 nm	535 – 508 THz
Orange	590 – 620 nm	508 – 484 THz
Red	620 – 700 nm	484 – 428 THz