

Speed of Sound @model

[@wikipedia](#)

(1)

$$v = \sqrt{\left(\frac{\partial p}{\partial \rho}\right)_S}$$

where

p	pressu re
ρ	density
S	entropy

and the derivative is taken at constant entropy: $S = \text{const.}$

It differs for [p-wave](#) and [s-wave](#):

p-wave	s-wave
(2) $v_p = \sqrt{\frac{K + \frac{4}{3}G}{\rho}}$	(3) $v_s = \sqrt{\frac{G}{\rho}}$

where

ρ	density
K	Bulk modulus
G	Shear modulus

See also

[Physics](#) / [Mechanics](#) / [Continuum mechanics](#) / [Mechanical waves](#) / [Body wave](#) / [Speed of Sound](#)

[[p-wave](#)] [[s-wave](#)]