

# Mechanical Pressure (physical property)

[@wikipedia](#)

The [force](#)  $F$  applied perpendicular to the surface of [Continuum Body](#) per unit [area](#)  $A$  over which that force is distributed:

(1)  $p = F / A$

| Symbol | Dimension         | SI units | Oil metric units                                                                                         | Oil field units                  | Additional                                                                                    |
|--------|-------------------|----------|----------------------------------------------------------------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|
| $p$    | $M L^{-1} T^{-2}$ | Pa       | $kPa = 10^3 Pa = 0.145038 psi$<br><br>$MPa = 10^3 Pa = 145.038 psi$<br><br>$GPa = 10^6 Pa = 145,038 psi$ | $psi = 6894.76 Pa = 6.89476 kPa$ | $bar = 10^5 Pa = 100 kPa = 14.5038 psi$<br><br>$atm = 101,325 Pa = 101.325 kPa = 14.6959 psi$ |

## See also

[Physics](#) / [Mechanics](#) / [Continuum mechanics](#) / [Continuum Body](#)

[ [Pressure \(thermodynamic property\)](#) ]