

Compressibility (rock)

[@wikipedia](#)

A measure of rock volume change due to pressure p variation:

$$(1) \quad c_r = \frac{1}{V} \frac{\partial V}{\partial p}$$

It stays constant for small pressure variations ($c_r(p) = \text{const}$) but for a wide range pressure variations the dependence on ambient pressure $c_r(p)$ can not be neglected

The typical values are in $0.5 \div 1.5 \cdot 10^{-6} \text{ kPa}^{-1}$ but may go higher for poorly consolidated rocks.

See also

[Petroleum Industry](#) / [Upstream](#) / [Subsurface E&P Disciplines](#) / [Rock Geomechanics](#)

[[Basic reservoir properties](#)]

[[Pore Compressibility \(\$c\$ \)](#)]