Dual-component power law permeability @model

(1) $k = k_1 \phi^{m_1} + k_2 \phi^{m_2}$

where

ϕ	effective porosity

This is a complex empirical model which does not directly rely on the Flow Zone Indicator.

Usually, the first component $k_1 \phi^{m_1}$ dictates permeability values at low porosities while second component $k_2 \phi^{m_2}$ tak es over at high porosities.

This allows to cover a wider range of porosity variations comparing to single-component power law permeability @model.

This model was thought to be empirical for a very long time but later on it was shown that it has a physical meaning within the frame of fluid percolation through a porous medium with fractal structure.

See also

Petroleum Industry / Upstream / Subsurface E&P Disciplines / Petrophysics / Absolute permeability / Absolute permeability @model