

# SHF Capillary pressure @model

One of the [SHF models](#):

$$(1) \quad s_{wi}(h) = P_{cow}^{-1}[(\rho_w - \rho_o)g(h - h_{FWL})]$$

based on implicit solution of the constant pressure gradient equation:

$$(2) \quad (\rho_w - \rho_o) \cdot g \cdot (h - h_{FWL}) = P_{cow}(s_{wi})$$

where  $\rho_o = \rho_o(T_i, p_i)$   $\rho_w = \rho_w(T_i, p_i)$  – oil and water densities at initial formation temperature  $T_i$  and pressure  $p_i$ .

This model requires reliable and representative data bank on [capillary pressure](#) at sandface conditions.

## See also

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[Physics](#) / [Fluid Dynamics](#) / [Percolation](#)

[Petroleum Industry](#) / [Upstream](#) / [Subsurface E&P Disciplines](#) / [Field Study & Modelling](#) / [Petrophysics](#) / [Saturation Height Function \(SHF\)](#) / [SHF mathematical models](#)

[ [Basic reservoir properties](#) ] [ [Capillary pressure @model](#) ]

## References

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SPE 71326, B. Harrison (Enterprise Oil), X.D. Jing (Imperial College, London), Saturation Height Methods and Their Impact on Volumetric Hydrocarbon in Place

Estimates, 2001