



AD FALCON API Manual

Soil Water Retention Curve (SWRC) Models

Javad Ghorbani

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1 Soil Water Retention Curve (SWRC) Models

SWRC models define the relationship between suction (capillary pressure) and saturation, and are used in unsaturated (two-phase) formulations.

1.1 Syntax

Specify an SWRC model per material inside `% Materials` using `@SWRC::`

```
% Materials
MyMaterial
@SWRC: <ModelName> <key1> <value1> <key2> <value2> ...
%%%
```

Notes:

- Directive lookup is case-insensitive and extra leading `@` characters are accepted (so `@SWRC:`, `@@swrc:`, and `@@SWRC:` are treated the same for selecting the directive).
- A space after `:` is optional (`@SWRC:FredlundXing ...` and `@SWRC: FredlundXing ...` both work).
- Model keywords (the first token after `@SWRC:`) and parameter keys should be written exactly as documented on the model page.
- See [Material Models: Syntax & Conventions](#) for shared rules across all material directives.

1.2 Available models

The model keyword is the first token after `@SWRC::`

- van Genuchten (non-hysteretic): `NonHysteretic` — see [van Genuchten](#)
- Brooks & Corey: `BrooksAndCorey` — see [Brooks & Corey](#)
- Fredlund & Xing: `FredlundXing` — see [Fredlund & Xing](#)
- Hysteretic model: `Hysteretic` — see [Hysteretic model](#)