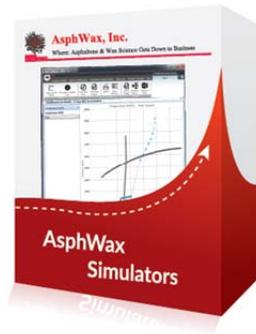


AsphWax Simulators

2017

Quick Start Guide





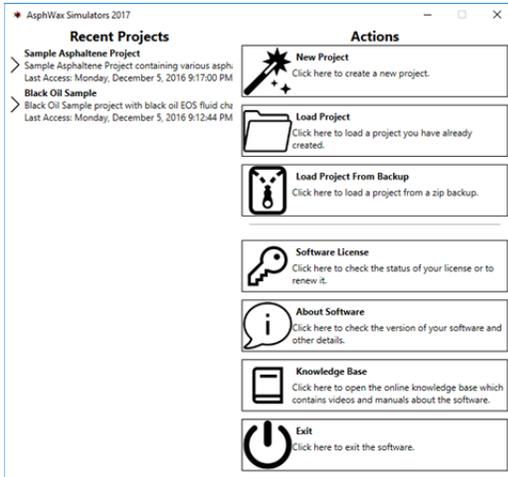
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Introduction

The AsphWax Simulators interface is built with a project-centric approach in mind. In other words, all the data and simulations are grouped in a single folder called the “Project Folder” which contains all the information you input plus the simulation result runs. In this guide, a quick tour of the interface will be presented with a goal to get you up and running as fast as possible.



Project Actions

You can create, import and load a project at any moment from the main screen. Keep in mind that projects are merely folders containing all the necessary information so it is advisable to never manually edit the contents of a project folder.

Creating a Project

From the main screen you can select the “New Project” option which will present you with a dialog to help you create the project. At the end of that dialog you will

select the “Parent Folder”, in other words the folder in which the project folder resides in. Once the project is created, the Project Manager screen will open with the created project opened.

Loading a Project

If you have a project folder ready, you can load it from the main screen as well. Also, a “Recent Projects” list is kept for convenience.

Importing a Project

If you have an archived project, you can import it from this screen. Please see “The Project Folder” chapter of this guide for more information.

*Project folders contain special files that help the AsphWax Simulators interface store and encode all the input and result data. It is strongly advisable **not to edit any of the contents** of the folder directly before consulting with AsphWax. Doing so might result in project folder corruption and **potential loss of data**.*

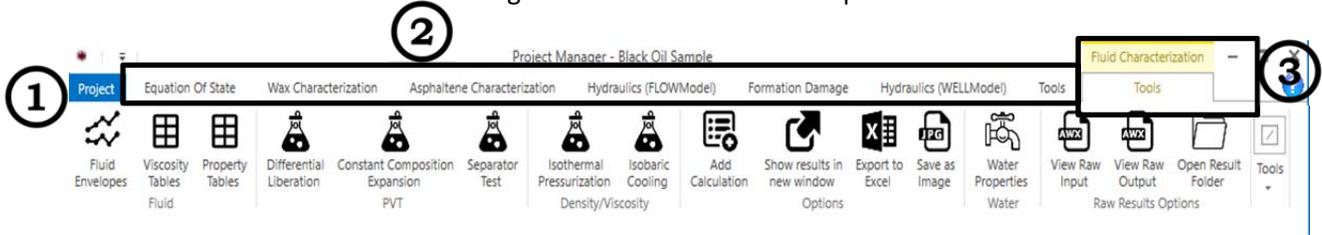


The Project Manager

The project manager window is open as soon as you load/create/import a project. It's the hub of all the information pertaining to the specific project you have set up along with all the simulations associated with it.

The Menu Bar

The project manager has a menu bar at the top with all the functionality needed to define and perform calculations and simulations. It has a generic area and a content specific area.



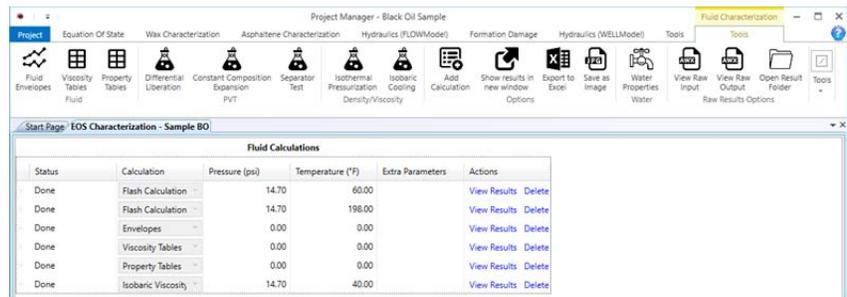
1. The AsphWax button allows for easy access to the project settings and options, including exporting / backing up your project.
2. The main menu bar allows for access to all the simulators. Please note that this menu will only contain the licensed models you have purchased.
3. The content specific area will have the menus associated with the specific tab opened in the main part of the screen. The screenshot above, for instance, depicts the content specific menu for an EOS characterization.

The Models

The AsphWax models are the three phase behavior models (EOSModel®, WAXModel®, TCMModel®), the hydraulics model called FLOWModel® and formation damage called FDMModel®. Depending on the licensing package you purchased, the appropriate tabs will be available to you.

Phase Behavior Models

All three phase behavior models have similar menus and layout. On the left there is a table summarizing all the calculations performed for this characterization. Then, when



“View Results” is pressed, the results show up on the right of that table. If there is too much information and you don’t want to scroll too much, you have the option of selecting “Show Results In New Window” which will open all results in a separate window.

The calculations available are unique to each model. Also, the parameters that go into the calculations are unique for that model as well. You can also edit the characterization used for the model although, if this is a tuned input file, it is highly recommended to keep edits to a minimum.



Hydraulics Model

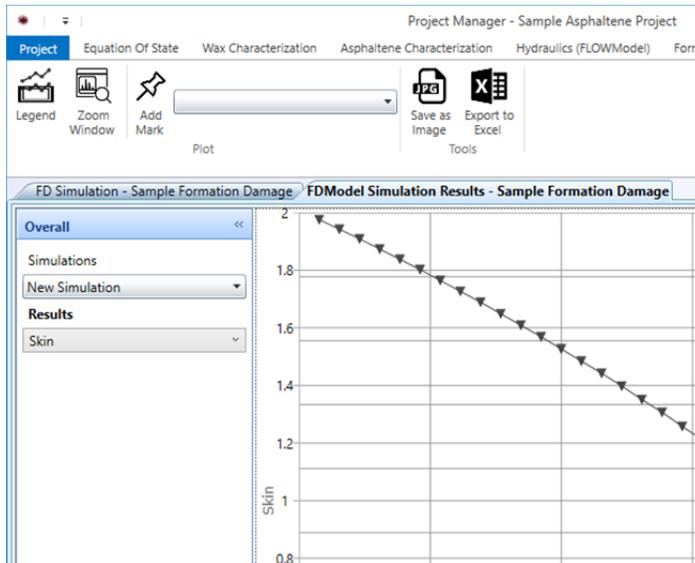
The hydraulics model is a combination of a steady state hydraulics simulator and a fully blown unsteady state hydraulics with wax precipitation and deposition. Which will be used depends on the options you select during the setup of the input file after hitting “New Case”.

This model also offers the ability to run different setup scenarios, called “Case Studies”, and then compare the results. For instance, for the same hydraulic profile run one simulation with and one without insulation and examine the effects.

Formation Damage Model

The FDMModel® is laid out similarly to a phase behavior model, i.e. a table contains all the parameters available (gamma, porosity, permeability etc.) and you can run as many simulations with different values as you like. Then you can select “Plot Results” and a new tab will open. From there you have the chance to select any number of result sets you might have run and plot them together.

You can select any or all the simulations you have run to plot simultaneously.



Wizards and Imports

The AsphWax Simulators interface offers two ways to create simulation input files. The easiest one is using wizards that guide you in inputting data measured from the lab, help you tune the simulators to that data and create the input file as a result. This is a very convenient and easy way that doesn’t allow a lot of room for errors.

Sometimes, AsphWax will provide you with a raw text .AWX file, which is the input file that goes directly to the simulator. In that case, you can use the import function which is provided for all the models.

Either way you choose to input the data, the simulation will be fully functional and all the options of the simulators will be available to you.



The Project Folder

It was mentioned before that the project folder contains special files and structure guiding the AsphWax simulators how all the information is organized. All the files with the extension .AWX are text raw input files to the simulators, either automatically generated by the wizards provided, or manually imported.

A file with a .AWX extension can always be re-imported to the appropriate simulator through the interface (to another project for instance, if needed). The best practice to send or transfer projects though, is to use the project backup and restore feature. From the project manager interface, you can click the button with the AsphWax logo and select to “Backup Project”. A zip file will be created containing everything the project has and you can save/send this file.

To restore the backup, from the main screen of the simulators select “Load Project From Backup” and select the zip file. All the information, input and results will be readily available to view.

Conclusion

The AsphWax Simulators interface has a lot of options and settings both for the novice and experienced user. The help system included, aids in the clarification of a lot of those options and it should be consulted. Finally, AsphWax always stands by its products and services and is ready to help you in any way needed.