ThermaKin

**Input**

* I know all the equations are shown in the manual but it might be nice to have a ‘show’ and ‘hide’ option in the component and condition files so the user can see where the values for the different parameters are used and with what other parameters they interact.
* Is there a version of ThermaKin that works with Mac?
* At the beginning I was confused about why there were four numbers in the component file for properties like density (the original files I had had a number of about 1000 in the first space, then zero as the next three). I realise now that this is for describing temperature dependence but that wasn’t obvious to me at the start and I don’t remember seeing anything much about that in the manual. It might be good to have a small paragraph about it in the manual with an example of how temperature dependent values would be obtained from experimental data and then implemented in the condition file.

**Output**

* It could be useful to have a step-by-step guide of how to generate things like MLR/HRR curves from the ThermaKin output data. Some instructions for what to do with the output file once you copy it into Excel for example.
* It’s possible to filter the output by thickness but it could be really useful to be able to choose a fixed point on the sample (i.e. top/middle/bottom). If you apply swelling to a, let’s say, 6 mm sample, filtering for 6 mm will give you data for the bottom for the first part of the simulation but once swelling starts and the sample gets thicker data at 6 mm will refer to somewhere within the sample bulk. If it’s possible to get ThermaKin to ‘know’ where the bottom of the sample is at all times, it would be great for validating temperature profile measurements (same goes for middle and top too). If not, I guess it would always be possible, but time consuming, to plot the output thickness over time and select the appropriate thicknesses for the respective parts of the simulation.
* Is there any way to visualise the sample in Excel from the output? What I mean is that I’ve seen some great images (including in Isaac’s presentation at FRPM) where the sample is represented and colour coded to relate regions to temperature ranges. If there’s any way to do that in Excel, it would be brilliant, but it might be that it’s only something you can do in modelling packages like Matlab.