

# Instructions for TempVis.xls

TempVis.xls is a temperature-viscosity spreadsheet intended to calculate mixing and compaction temperatures for Superpave mix design. The spreadsheet is written in Excel 5.0 format. Simply enter data in the red shaded areas. The temperature ranges will be calculated and a graph generated.

Enter Header information next to "Binder" in Cell B1. This can be sample identification, binder type, company name, etc.

Enter a temperature (°C) where the viscosity of the asphalt binder was measured in Cell A3. Enter the measured viscosity (centiPoises) in Cell B3.

If a second viscosity measurement was made, at a different temperature, then enter the second temperature (°C) in Cell A4. Enter the second measured viscosity (centiPoises) in Cell B4.

Instead of a second viscosity measurement, the user may opt to utilize a measurement from the dynamic shear rheometer (DSR). This option is applicable to neat (unmodified) asphalt binders, in particular. Some error may be realized if this approach is followed using heavily modified asphalt binders. If this option is selected, do not enter data in Cells A4 and B4. Instead, enter the DSR temperature (°C) in Cell C9. Enter the measured value of  $G^*/\sin \delta$  (kPa) in Cell C10.

Finally, enter the specific gravity of the asphalt binder (at 15°C) in Cell C6.

The spreadsheet will calculate the mixing temperature range where the binder viscosity is  $0.17 \pm 0.02$  Pa-s. The compaction temperature range is calculated where the binder viscosity is  $0.28 \pm 0.03$  Pa-s. These values are displayed on a graph with the sample identification as the title. Clicking "Print" will print the data plus the graph automatically.