**Readme**

- This data is of carbon fibres produced from commercial carbon fibre precursor (Jilin). A carbonisation facility at Deakin University (called Carbon nexus) was used to convert commercial precursor into carbon fibre.

- The processing involves various stages for conversion of precursor into carbon fibre. These are oxidation, low temperature carbonisation, high temperature carbonisation, surface treatment and sizing. Each of this process is controlled by various factors.

* Oxidation – Temperature, Tension (4 zones)
* Low Temperature carbonisation – Temperature, Tension (3 zones)
* High temperature carbonisation – Temperature, Tension (2 zones)
* Surface treatment – etching of surface to eliminate defects and make fibre ready for sizing
* Sizing – application of epoxy

- The zones in the dataset are labelled as follows:

Z1 – Oxidation temperature zone 1

Z2 - Oxidation temperature zone 2

Z3 - Oxidation temperature zone 3

Z4 - Oxidation temperature zone 4

LT1 – Carbonisation low temperature zone 1

LT2 – Carbonisation low temperature zone 2

LT3 – Carbonisation low temperature zone 3

HT1– Carbonisation low temperature zone 1

HT2 – Carbonisation low temperature zone 2

* 14 experiments were performed to collect this data.
* The variable in Exp 1,2,3 was the speed of the line. If the line speed is changed, the time the fibre spends in each zone will vary
* The variable in Exp 4,7,8,9,10 is Oxidation temperature in zone 1
* The variable in Exp 3,4,5,6 is Oxidation temperature in zone 4
* The variable in Exp 4,13,14 is HT tension

About 50 fibres were tested from each zone.