The processed results file contain a number of parameters. This file describes how they were measured or calculated.

t [s]: Time at which measurement was performed, in number of seconds since the start of the test. Measured by the fatigue machine.

N [cycles]: Number of cycles. Measured by the fatigue machine.

P [N]: Force. Measured by the fatigue machine.

d [mm]: Displacement. Measured by the fatigue machine.

C [mm/N]: Compliance. Calculated by assuming that the P-d behaviour is linear between d_{min} and d_{max} and applying: $C = \dfrac{d_{max} - d_{min}}{P_{max} - P_{min}}$.

a [mm]: Crack length. Calculated by a power-law curve fit through the measured a vs N data. I.e. $a = \alpha N^{\beta}$.

dadN [mm/cycle]: Crack growth rate, calculated by taking the derivative of the power-law fit of the crack length. I.e. $\dfrac{da}{dN} = \alpha \beta N^{(\beta-1)}$.

G_max [N/mm]: Strain energy release rate (SERR) at maximum displacement. Calculated following ASTM D5528-01 according to: $G = \dfrac{nPd}{2wa}$ where w is the specimen width and n is a calibration parameter (see ASTM D5528-01) determined to be 2.62 based on the tests in series A.

Delta_sqrt(G) [N/mm]: SERR range, calculated as: $\Delta\sqrt{G} = \left(\sqrt{G_{max}} - \sqrt{G_{min}}\right)^2$.

R [-]: Stress ratio, calculated as $\dfrac{P_{min}}{P_{max}}$.

Cyclic_energy [mJ]: Cyclic energy, calculated as $\dfrac{1}{2}\left[\left(P_{max} - P_{min}\right)\left(d_{max} - d_{min}\right) + P_{min}\left(d_{max} - d_{min}\right)\right]$.

Monotonic_Energy [mJ]: Monotonic energy, calculated as $\dfrac{1}{2}P_{min}\left(d_{min} - d_0\right)$, where d_0 is the displacement for which P is zero; found by extrapolation of a linear fit between (d_{min},P_{min}) and (d_{max},P_{max}).

See also the figure on the next page for the definition of the cyclic energy (U_{cyc}) and the monotonic energy (U_{mono}).