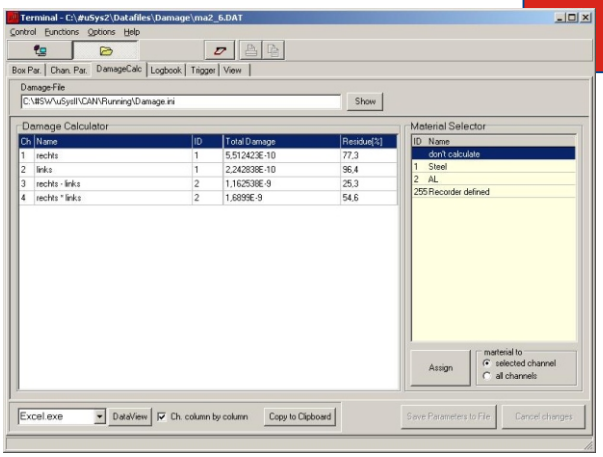
Software-Option

Damage Calculator

NEW OPTION



Description of the Damage Calculator

The Damage Calculator is an addition to the MAS Terminal Programme for the subsequent (offline) damage calculation based on recorded Rain-Flow matrices. The result is the damage value which allows for the evaluation of the charged load changes concerning its effect of the damage on the tested part. The method used by the Damage Calculator assumes the "linear damage accumulation hypothesis" (Pilgrem-Miner). This hypothesis assumes that individual damages of different load cycles can be added straight proportionally to calculate the total damage.

The basis of the damage calculation is the Wöhler curve and characteristic operating load curve, respectively. The parameters of this curve are stored in the so-called damage file that can be customised to the user's requirements by any editor. Optionally, the parameters of the Damage Evolution Method (DE) may be used.

DAMCALC requires the existence of Rain Flow Method (RF).

Typical Applications and Characteristics

In most cases the calculated damage value is only meaningful in relative terms, i.e. by comparing different data records. For instance, the damage value can be used for the comparison of:

- different (test) tracks
- different (test) drivers
- impact of different climatic conditions
- different load cases

In such cases the ratio of the damage values is a meaningful conclusion advising of how much more severe the application case A was, compared to the application case B.

Referring to the example with the comparison of different test tracks, e.g. supposed the damage value of track A is twice the damage value of track B, means that test track B should be driven twice to level the severity of test track A.

Subject to technical alterations
(Rev. 1.0-231109)

Gesellschaft für Messwerterfassungs-Systeme mbH
Am Dieburger Berg 18 D-64354 Reinheim
Tel. +49 (0) 6162 - 82 0 86 info@swift-online.de
Fax+49 (0) 6162 - 82 6 04 www.swift-online.de