

Tooth Contact Analysis (TCA) Without Load for Cylindrical Gears, Straight, Helical and Spiral Bevel Gears

Tooth Contact Analysis

The GearEngineer tooth contact analysis (TCA) provides the calculation of the exact location and size of the tooth contact pattern on gear and pinion, comparable to the tooth contact analysis on a rolling test machine. The tooth contact pattern can be changed by modifying the geometry data, even before the first chip falls.

The tooth contact analysis including the visualization of the tooth contact pattern is possible for the following gear types:

- Internal and external cylindrical gears
- Straight and helical bevel gears
- Spiral bevel gears

Tooth Contact Analysis Overview

- The tooth meshing process is simulated, a check for meshing interferences is carried out and the contact surfaces are determined.
- Tooth contact pattern is visually displayed on the gear flanks and is highlighted in a different color.
- If the position of the contact pattern does not apply with the technical demand, the location of the contact pattern can be modified.
- A calculation of deviations from the ideal position in horizontal and vertical position is integrated, so the possibility of displacement is given.
- Adjustments and modifications of pinion and gear are not needed. Closed Loop becomes no longer necessary.

