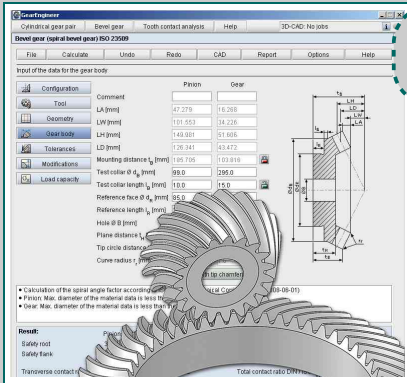


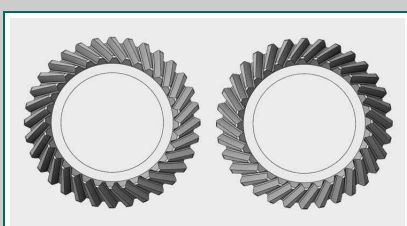
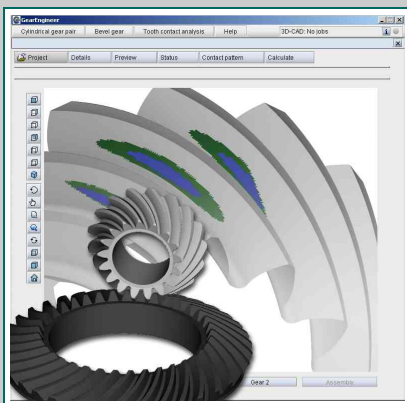
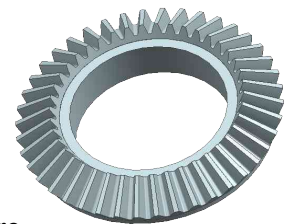
Bevel Gears



This seminar provides an understanding of the essential fundamentals of bevel gears. The main focus will be on different types of bevel gears, manufacturing procedures as well as the basics of bevel gear calculation. Seminar participants take a closer look at spiral bevel gears (Klingelberg's Zyklo-Palloid®). GearEngine, eAssistant and TBK 2014 software are used to illustrate certain principles. Intended audience include young professionals, experienced engineers, designers as well as technicians.

Main Topics

- Types of bevel gears: Straight, helical and spiral bevel gears, forms of tooth depth, tooth traces
- Manufacturing methods
- Basics: Crown gear, octoidal tooth profile, pressure angle, shaft angle, offset, number of teeth, minimum number of teeth and geometrical limits
- Facewidth, normal module, transverse module
- Cone distances, reference cone angle, spiral angle
- Tools and machine data: Basic rack profile, cutter module, cutter radius, number of blade groups, N-point and their influences on geometry and load capacity
- Profile shift and tooth thickness modification
- Angle modification, tooth tip chamfering
- Turning dimensions, mounting distance
- Allowances, flank backlash and tooth accuracy
- Modifications: Lead and profile crowning
- Tooth contact analysis/development of tooth contact pattern
- Coast and drive side operation
- Manufacturability
- Calculation of load capacity according to ISO 10300



The seminar includes practical exercises with eAssistant, TBK 2014 or GearEngine. Individual questions are allowed and welcomed during the workshop (depending on time).