

Cylindrical gear basis modules

Configurations

- Spur and helical gear, double helical, herringbone, with or without face width offset
- Grease or oil lubricated or dry running gears
- Metallic and plastic gears
- Involute and non-involute gears
- Any number of teeth, any type of tooth height, internal or external gears
- Symmetrical and asymmetrical profile

Gear geometry calculation

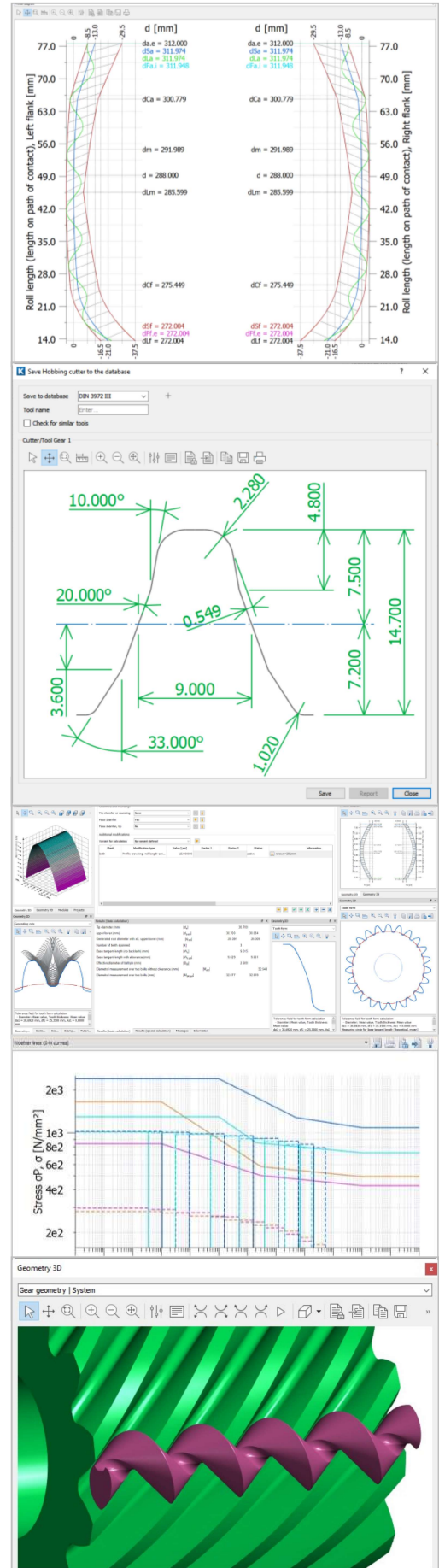
- Gear geometry along ISO 21771, DIN 3960
- Reference profile along ISO 53, DIN 867, JIS B 1701, GOST 13755, DIN 3972, DIN 58400, BS 5482
- Tooth thickness tolerances along DIN 3967, ISO 1328, DIN 58405, GOST 1643
- Centre distance along ISO 286, DIN ISO 2768, DIN 7168, DIN 58405, GOST 1643
- Gear quality along ISO 1328, AGMA 2015, DIN 3961-3963, AGMA 2000, GOST 1643, JIS B 1702
- Own input

Gear rating

- DIN 3990 method B, DIN 3990 method B with YF along method C, DIN 3990 Part 41 (vehicles)
- ISO 6336:2006 and ISO 6336:2019
- Static rating against yield
- AGMA 2001-C95, AGMA 2101-D04, AGMA 2001-D04
- AGMA 6004-F88, AGMA 6011-J14, API 613 :2021, AGMA 6014-B15, AGMA 6015-A13, GOST 21354-87
- Plastic gears along Niemann, VDI 2545, VDI 2545 modified, VDI2736
- BV / Rina FREMM3.1, Rina 2010, DNV41.2, Loyds Register 2013
- ISO 13691:2001 (high speed gears)
- For nominal load or load spectrum

Reports

- Default report or user specific template
- Geometry and strength reports
- Tooth scuffing, micropitting and wear
- Tooth thickness dimensions, tooth tolerances
- Modifications, manufacturing
- X-Y coordinates of tooth profile



Cylindrical gear modifications

Configurations

- Combine modifications in profile and lead direction, combined and topological modifications
- Create K chart and lead diagram
- Define tolerances range based on AGMA 2000, using constant band width or import tolerance bands from GAMA ®
- Display each modification separately in 2D diagram, display resulting combination
- Show flank modifications in 3D, combining all modifications
- Gear 3D geometry includes modifications
- Tip chamfer, tip rounding in different sections
- Face chamfer, tip face chamfer
- Modifications manager using variants of sets of modifications

Root modifications

- Root with pre-machining and or final machining, independent root diameter tolerances
- Grinding notch, partial final machining of root
- Root geometry optimization for minimized root stresses

Manufacturing errors as modifications

- Flank waviness with wavelength, amplitude and angle
- Natural twist from generating grinding
- Profile and helix form and slope deviation

Lead and profile modifications

- End relief (left and right end), flank line crowning (central, eccentric)
- Helix angle modification
- Linear and progressive tip / root modification
- Profile crowning (barreling), also in combination with tip relief, roll length or diameter centered
- Pressure angle modification
- Tip chamfer or rounding
- Flank twist
- Triangular end relief (left and right end)
- Topological modification
- ...

