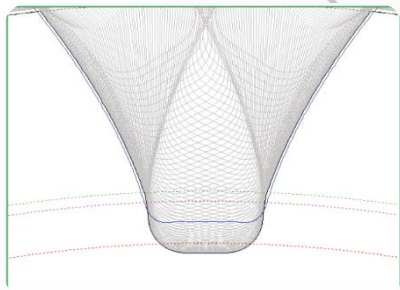


Dontyne

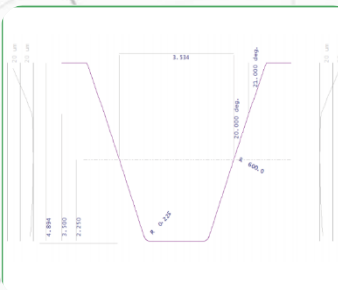
Systems

Gear Design | Analysis | Manufacture | Inspection

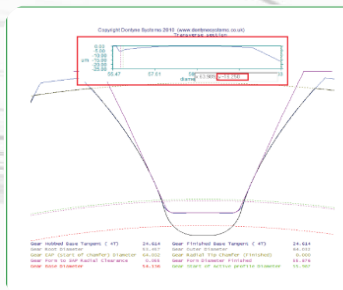
GPS Machine Center Manufacturing Modules



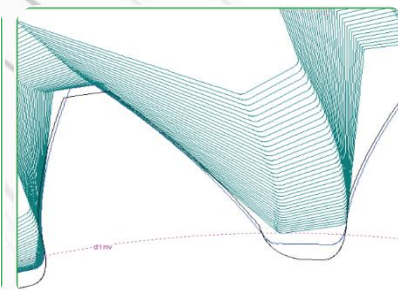
Hob roll out diagram including stock allowance and tolerancing



Define micro-geometry on dressing tool



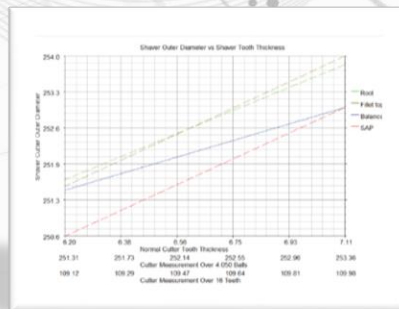
Grinding sim shows profile mod on gear with break out and chamfer



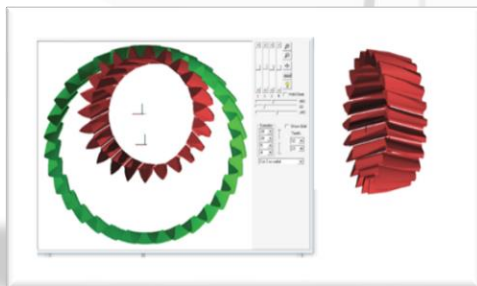
Asymmetric and non-involute tool design and roll-out check chamfer

- The Machine Center modules allow automated design of new tooling, or assessment of existing tooling, at the design stage to avoid costly errors in production
- Analysis includes effects of tolerancing on workpiece and tool to check stability of manufacturing process
- Gear Pair or Single Component modes available, the Gear Pair option being recommended to ensure changes do not influence contact
- Application in a range of processes; *Hobbing, Continuous Grinding (with Dressing), Form Grinding, Shaving Shaping, Skiving, Honing, Forging, Injection Molding, Sinter (Powder Metal), 3D Printing*
- Links to design, load analysis and inspection modules in GPS for increased production efficiency and product development

As the tooth thickness is reduced with sharpening along the x axis, the blue line depicts the outer diameter reduction required to maintain force balance. User can click on diagram to create optimum design.



Protuberance for Shaper Cutters



Options added to Machine Center module with full tool definition

HOB & CONTINUOUS GRIND (WITH DRESSING):

Module simulates hob roll-out including stock allowance and tolerancing, definition of micro-geometry on dressing tool, grind simulation and more.

SHAVING: Allows for optimum tool design to maintain force balance.

PROFILE/THREAD: Form grinding simulation including micro-geometry. Calculates error in generation from existing tool, or correct profile of a new design to create ideal gear.

SHAPING: Shaping tool design and simulation internal and external.

SKIVING: Skiving tool design and simulation for pre-finish operations. Calculates gear profile from given tool and machine settings. Add definition of protuberance on tool for simulation as pre-finish process. Calculate/model skiving machine cutting position to create cutter tilt. Include generating disc parameters using variable roll circle

HONING: Honing tool design and simulation

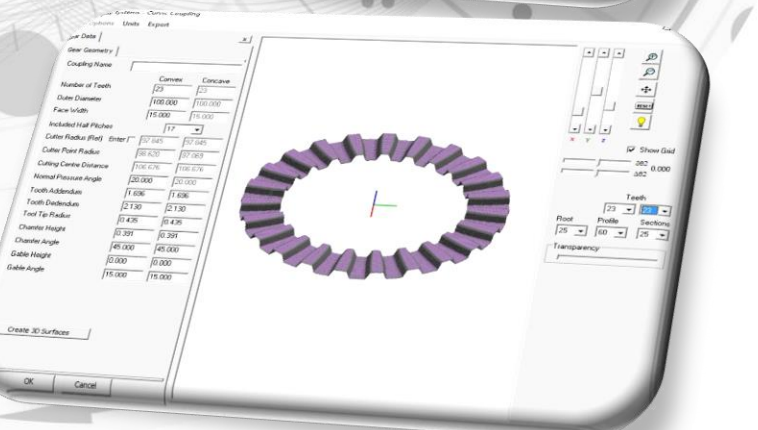
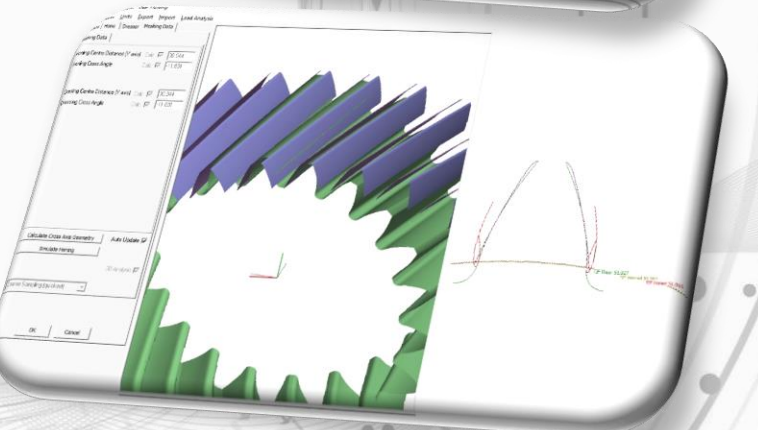
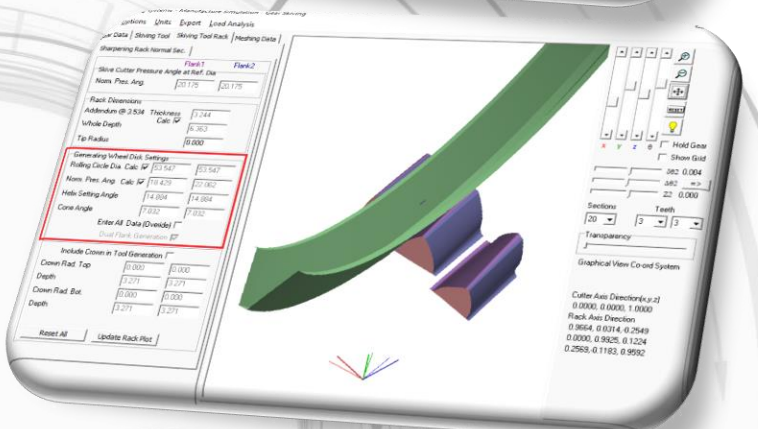
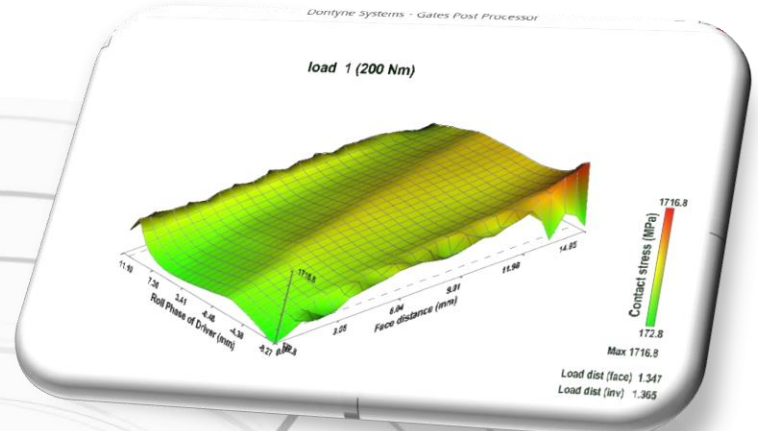
5-AXIS SPUR AND HELICAL: Simulation and G-code generation of tooth for 5-axis CNC manufacture of spur and helical gears. Specific machines as well as machine axis definition and 4-axis variations.

5-AXIS BEVEL: Simulation and G-code generation of tooth for 5-axis CNC manufacture of bevel gears. Specific machines as well as generic machine axis definition available.

WIRE EROSION: Wire erosion tool calculation and simulation.

GENERIC: Tool design for user defined gear and simulation of tool for manufacture of generic user defined gear forms imported by DXF

FACE MILLED: Face mill tool calculation and simulation of existing Gleason designs.



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