

# TolAnalyst

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## ■ Tolerance stack-up analysis and validation.



With TolAnalyst, you'll be able to quickly verify dimensioning and tolerancing schemes to ensure proper fit and function. TolAnalyst GD&T data is read directly from the SolidWorks models. TolAnalyst eliminates the need for hand calculations and manual entry of dimensions and tolerances.

Maximum/minimum worst-case and RSS results are calculated and a "contributors" list is output to let you know which features and tolerances have the greatest impact on the stack-up. In this way you can loosen tolerances on dimensions that are not important to the stack-up, thereby reducing manufacturing costs.

### Key Capabilities of TolAnalyst

- Fast tolerance stack-up calculation of maximum and minimum "worst-case" and RSS for parts and assemblies
- Intuitive and easy-to-use
- Ability to create and display critical study dimensions directly on the 3D model
- Automatic extraction of dimensions and tolerances necessary for the analysis directly from the 3D models
- Automatic calculation and display of a contributors list of features and tolerances based on percent impact on the critical evaluation dimensions
- Graphic display of maximum and minimum condition in the 3D model
- Quickly evaluate different tolerance schemes
- Seamlessly integrated with SolidWorks DimXpert - automated part dimensioning and tolerancing
- Ability to export all analysis results in Excel

### Key Benefits of TolAnalyst

- Significantly reduces prototyping typically required to test for assembly fit and function and even reveals "worst-case" issues you would not normally find with physical prototyping
- Decreases manufacturing costs by verifying tolerance schemes - allows looser tolerances and less expensive manufacturing techniques where tight tolerances are not needed
- Eliminates the need for hand calculations which can be time consuming and error-prone - TolAnalyst contains a tolerance stack-up analysis engine
- Eliminates the need for manual data entry into a program or spreadsheet because TolAnalyst is seamlessly integrated with DimXpert and automatically extracts DimXpert dimensions and tolerances that are necessary for the stack-up calculation
- Provides graphical and text-based feedback as to which features and tolerances most greatly affect the critical dimension being evaluated - easier for the designer to figure out what tolerances and/or features need to be modified
- Fast tolerance stack-up calculations, combined with the fact that no manual data entry is required, allows designers to quickly iterate stack-up analyses in order to optimize assembly fit and function
- Solves minimum/maximum "worst-case" tolerance stack-up with respect to position of components in the assembly, not by just merely rebuilding parts at their maximum or minimum tolerances