Workflows

This techniques describes how to use 3D Tolerancing & Annotation.

In this section:

Generating Annotations and Tolerances Automatically

This technique describes how to generate annotations and tolerances automatically.

Before you begin: Create or open a 3d shape.

1. From the **Compass**, click 3D Tolerancing & Annotation.
2. Create the mechanical interfaces on 3D shape specifying the positional mode, positioning geometry characteristics, mounting constraints, etc. See Creating a Mechanical Interface.

   You can also instantiate the mechanical interface template. See Instantiating Mechanical Interface Template and Instantiating Mechanical Interface Template Automatically.
3. Create the functional surfaces specifying functions, positional constraints, required geometrical tolerance specifications, etc. See Creating a Basic Functional Surface.

   You can also instantiate the functional surface template. See Instantiating a Functional Surface Template and Instantiating a Functional Surface Template Automatically.
4. Create mechanical junctions specifying their type and role using existing or create new mechanical interfaces. See Creating a Mechanical Junction.
5. Click **Generate Tolerances** to automatically generate the tolerances and annotation. See Generating and Validating Tolerances.

   The credits consumed are based on saving the automatically generated annotations and tolerances. For more information about credits, see About Consumable Credits Query.
6. Wherever required, create the annotations manually, and apply them several times on similar features. See Creating Annotations and Tolerances Manually.

Creating Annotations and Tolerances Manually

You can create annotation and tolerances.

Before you begin: Create or open a 3d shape.

1. From the **Compass**, click 3D Tolerancing & Annotation .
2. Create the required views (front, left, right, bottom, and top).
3. Create a front view, section view, section cut view or an axonometric view using **View from Reference**. See View/Annotation Plane Creation.
4. Create applicable tolerances based on the selected geometries and datum systems using **Tolerancing Advisor** according to the standard used. See Working with Tolerancing Advisor.
5. Specify the datums, datum targets, and geometrical tolerances. See Datums and Datum Targets.
6. Add flag notes, texts, flag notes with leaders, and text with leaders. See Texts and Flag Notes.

   You can make the added text parallel to the screen. See Creating a Text Parallel to Screen.
7. Create a restricted area for annotation and dimensions. See Creating a Restricted Area.
8. Create the constructed geometries and thread representations. See Constructed Geometry for Annotations.

   You can manage the associativity of constructed geometries manually. See Managing Constructed Geometry.
9. Specify the annotataions as principal and complementary for controling the manufacturing requirement generation in a more specific way. See Creating Complementary and Principal Annotations.
10. Group the annotations on the same geometrical elements automatically. See Grouping Annotations.

    You can also position the annotation automatically for better understanding and aesthetics. See Positioning the Annotations Automatically.
11. Specify the surface texture values for features and welding symbols wherever necessary. See Creating Surface Texture Symbols and Creating a Weld Feature.
12. Create the dimensions, for example, length dimension, angle dimensions, etc. in the activated view.

    You can also create framed dimensions, coordinate dimensions, cumulative dimensions, stacked dimensions, curvilinear dimensions, and generative dimensions. See Working with Dimensions.

13. Generate a layout of the 3D feature with all the annotations provided you have a license for 2D Layout for 3D Design. See Creating a Layout from 3D Tolerancing & Annotation.

14. Create captures. See Capture.

Managing Annotations and Tolerances

You can manage the display, placement, and visualization of annotations and views.

1. From the **Compass**, click 3D Tolerancing & Annotation .
2. Apply the existing annotations on several similar features using **Apply Separately Several Times**. See Applying Annotation to Several Geometrical Elements.
3. To guarantee the correct understanding of the design, define the favorite context so that it can be reopened when working on an annotation. See Favorite Context.
4. Delete or repair the invalid FTA features disconnected from the geometries. See Managing Invalid Annotations.
5. Filter the annotations, annotation sets, and annotation views displayed in the 3D area using **3D Annotation Filter**. See Filtering Annotations.
6. Browse the required view or capture using **View Browser**. See Browsing, Organizing, and Editing Views and Captures: View Browser.
7. Apply blanking for better visualization. See Applying Blanking on Annotations and Dimensions.
8. Display the technical information, the relationships between 3D master objects and geometrical elements, and geometrical element colors. See Querying 3D Annotations.
9. Mirror the required annotations using **Mirror Annotation**. See Mirroring Annotations.