Mechanical Design

CATIA - Generative Drafting 2 (GDR)

CATIA V5R20
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CATIA - Generative Drafting

Generate drawings from 3D part and assembly designs with assistance to manage complex schema

Product overview

Generative Drafting for CATIA-P2 is new-generation CATIA products which allows users to automatically generate associative drafting from 3D mechanical designs and assemblies produced with CATIA Version 5. When combined with Interactive Drafting 1, the Generative Drafting product benefits both from integrated 2D interactive functionality and from a higher productive environment for drawings dress-up and annotation.

Generative Drafting 2 product offers a flexible and scalable solution to create associative drawings from 3D mechanical designs, surfaces, hybrid parts and assemblies created with CATIA Version 4 or Version 5. 3D dimensions can be automatically generated with control over their placement. Designers are able to add post-generation annotations with standards-based dress-up features. Associativity of the drawings to the 3D master representation enables users to concurrently work on their design and drawings.

Product Highlights

- Associative drafting generation from sheetmetal, surfaces, hybrid parts & assembly definitions
- Highly productive dimensions generation with user control
- Integrated dress-up capabilities for post-generation dimensioning and annotations
- Associative drawings with user control of propagation from 3D to support true concurrent engineering
- BOM (Bill of Material) generation in drawing format
- Assembly filtering capability for projected views
- Compliance with Industry Standards such as DXF, DWG
- Associative patterns with part materials specifications
- Identical Native NT and UNIX Motif versions offering flexibility of choice
- Interoperable with CATIA Version 4

Product Key Customer Benefits

Drafting Generation of Parts and Assemblies on multiple views

Generative Drafting 2 (GDR) generates drawing views of 3D parts and Assemblies on multiple views. The comprehensive set of generated intuitive and associative views includes front, side, top and isometric views,
sections (snap and grid copilot, edge selection orientation, and 3D plane selection), detail views, aligned and offset section views, circular or profiled detailed views, and clipping on existing views. Integrated previews are available for all projection views.

**Dress-Up capabilities**
GDR accepts user-created, basic specifications for the generation of each drawing, using advanced parameters such as normalized fillet edge or axis visualization. User can manage View Axis parameters.

**Associative Drawings**
The GDR ensures drawing associativity to the 3D model. The associative drawings have visual control of propagation from 3D geometry. A drawing icon is displayed in the feature tree editor as long as the view is non-updated. Automated drawing updates are taken from established drawing specifications.

**Dimensioning and Annotations**
Integrated dress-up capabilities support post-generation dimensioning and annotations, using the ANSI, ISO, and JIS standards. A full set of associative annotation features includes Geometrical Dimensioning and Tolerancing (GD&Ts), complex texts, dimensions, line fonts and type, and character fonts and type, with the capability to add geometric features on the drawing. Automatic and associative angle, distance, radius, and diameter dimensioning can be performed using V5 part specifications, with controlled dimension extraction in the views. Filter parameters take into account the geometry to ensure the most suitable positioning. Step by step commands, including filter capabilities, provide an interactive placement and visualization of dimensions. GDR also supports the automatic generation of axes from 3D holes, shafts, and groove features; centerlines from 3D holes and multiple views. Associativity between views and view names is maintained. Models, parts and assemblies can be supported in a single drawing.

**2D Geometry generation**
Generated geometry can be stored, with GDR, as 2D geometry. When opening a drawing, the 2D geometry is directly loaded, improving overall system performances.

**Applies Filters to your views**
The filtering option can be accessed through a multi-selection of the elements to be projected. You can also filter according to your assembly properties: Cut/uncut, Use/Unuse, Hidden/No hidden, Color/Line type.

**Generates BOM (Bill of Material) in drawing format**
The BOM can be generated in any views (background, generated views, etc.). When positioning the BOM on a view, anchor point can be chosen with the current toolbar command. The Generated BOM remains fully associative on value content.

**Flat Sheet-metal drawing creation**
GDR automatically creates views of flattened sheet-metal parts, while respecting the repercussions of the metal bending parameters.

**Compatible with CATIA V5 Applications**
GDR is natively integrated with CATIA V5 applications. CATIA Interactive Drafting 2 (ID1) is included in some configurations. Associative drawing generation is performed on sheet-metal assemblies and parts with drafting updates controlled by the user. Views generated from 3D can be combined with views created with a 2D methodology. 3D views can be associatively dressed-up with CATIA Interactive Drafting 1. The dress-up and annotation functions benefit from being combined with CATIA Interactive Drafting 1. The Generative Drafting 2 and Interactive Drafting 2 products share common tools and methodologies, minimizing user training requirements.

**Associative Patterns**
Materials specifications defined using CATIA Real Time Rendering 1 (RT1) can be shared with GDR. The pattern characteristics (shape, colors, thickness, orientation, etc.) are fully consistent with the part material.
specifications.

**Drawing Management**
GDR provides Drawing Management capabilities including links to the referenced documents as parts and assemblies. Users can browse and edit the link between the drawing and 3D geometry.

**Compliance with Industry Standards**
GDR supports the DXF (AutoCAD ASCII format) standard. It will write or read a DXF format file from a drawing document. The DWG (AutoCAD native format) standard allows the user to read or write a DWG format file for a drawing document through the File/Open/Save pop-up window (Export AutoCAD 13/Import AutoCAD 12/13/14). The GSM standard is supported for Export only.

**Interoperable with CATIA Version 4**
GDR is interoperable with CATIA Version 4. Associative drawings (geometry and dress-up) in CATIA Version 5 can be generated from parts designed with CATIA-CADAM Solutions Version 4 as long as the design is a Version 4 Exact Solid. In the case of drawings from Version 4 models, the created annotations are not associative. Browsing and migration of V4 drawings data is supported by CATIA V4 Integration 2 (V4I). GDR Integrates V4 Skin.
ABOUT CATIA V5R20

CATIA is Dassault Systemes’ PLM solution for digital product definition and simulation.

www.3ds.com/products/catia