CATIA Wire Harness Documentation and Formboard

Once a product is ready for manufacturing, its design must be thoroughly accurate or the mistakes can be costly and the delays can be long. Good collaboration will spare you mistakes while ensuring quality documentation creation and successful design between harness designers and manufacturing.

CATIA Wire Harness Documentation & Formboard generates a 3D flattened definition of wire harness designs to define a 3D manufacturing harness formboard. In addition, it provides a set of functions to manipulate the flattened harness as easily as in a 2D view as well as to define its layout in 3D. Thanks to a total integration with the CATIA Harness design data model, any harness design change can be automatically transferred to the manufacturing 3D.

Key capabilities

Automatic or manual harness flattening
CATIA Wire Harness Documentation & Formboard allows a full, automated flattening of the complete harness (devices, segments, supports, protections, mechanical parts, wires and wire groups). In order to comply with manufacturing constraints, the user can also choose to keep in 3D some subpart of the harness to respect curvature/twist on very rigid segments.

Dedicated commands to manage harness flattened layout
CATIA Wire Harness Documentation & Formboard provides dedicated commands (rotate, roll, arrange junction, straighten and scale) to easily adjust the harness layout by manipulating directly and interactively the branches. 3D Manipulators now

let you manipulate an electrical flattening layout directly within 3D, as productively as working with a 2D application like Harness drawing. Just click on a segment of the bundle to Rotate, Roll, or Arrange junctions. There is no more need to go through panels; you can now intuitively arrange the layout of your flattening model in just a few clicks.

Manage synchronization between harness design and flattening
CATIA Wire Harness Documentation & Formboard enables efficient design process iterations thanks to dedicated set of tools (extract and synchronize commands) to manage relations between harness 3D design and flattening definition. The synchronization algorithm takes automatically into account modifications made in the 3D into the

Customer benefits

- Use a flexible solution for electrical harness manufacturing preparation
- Eliminate the need for physical prototypes to validate electrical design
- Support a smooth iterative design process between OEM and harness manufacturers
- Reduce recurring manufacturing cost with efficient formboard reuse
- Facilitate the definition of harness formboards with a user-friendly interface
- Take manufacturing constraints into account with Tolerancing management

flattened view.

**Synchronization of configuration on electrical component**

In the design it is possible to add configuration information on harness components and wires. This information can be extracted and synchronized in the flattening data. Instead of having multiple flattenings, the user now has only a single flattening definition, containing all the different options. It allows him to avoid redoing all the layout management, saving preparation time, thus leading to a faster generation of manufacturing plans.

Reuse existing flattened harness linked to a new 3D design

CATIA Wire Harness Documentation & Formboard provides the ability to link a new harness design to an existing flattening thanks to the update flatten links command.

Management of tolerancing and annotations directly in the flattening

The length tolerance function allows the user to add extra length on segments, to take into account manufacturing constraints directly in the flattening data. This ensures the right quality of length to each part of the harness, to secure harness final assembly between the products. This functionality is integrated in all of the capabilities of the flattening process (synchronize).
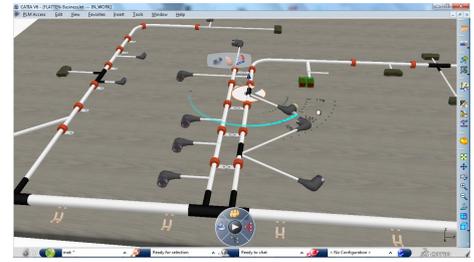
CATIA 3D Wire Harness Documentation & Formboard.