Profile technology with Autodesk Inventor®

ASi-Profiles (ASI) is a supplementary tool for Autodesk Inventor. With ASi very efficiently profiles and their typical connections, for example for structural steelworks, support frames, maintenance stages or operational fund construction can be planned and designed in Inventor.

ASi-Profiles (ASI) offers many comfortable functions for the installation and the changing of profiles and their special connections. Profiles can be produced freely in the 3d-area, from point to point, from point to a face or even also with a given length. Very efficiently profiles can be inserted along sketch-lines, within special work spaces produced with ASi, along edges of solid parts or along 2D or 3D sketchlines within Inventor parts.

The logic data of the respective profile connection is compatibly defined to Inventor standards and saved in the system for further use. Special ASi command dialogs simplifies and accelerates the expiration of construction with profiles made of steel and aluminum substantially. The statements of sizes, e.g. for own connections, can be stored in tabular form and been available then for later use again.

Natural it was also so far possible to produce profiles structures and joints with Inventor, however there were a lot of work to do before it was efficient to work with. Together with ASi-Profile this process is very much simplified, also standardized and much more accelerated.

Also the possibility to define own profile systems or user-defined profiles is offered by ASi. With ASi produced construction units remain Inventor compatible, also the necessary parts list information are added to the construction parts and assemblies.

Some functions in overview:

Defining ASi-Workspaces:
For spatial and isometrical orientation in groups of profile structures it is advantageous to build a basic structure of 3D-Lines. This skeletal structure is the ASi-workspace, which can also represent the outer and inner system lines and a knot list from the statics. Different types of work spaces are implemented. With using of the sketch lines of the workspace it is very simple to build profiles in and to work on it. But it is also possible to use your own "free" 2D- or 3D-sketchlines in Inventor parts or edges in solid parts, as baselines for profiles produced with ASi.

Administration, construction and changing of profiles:
All ASi profiles are principle based on the available Inventor profile libraries and on different manufacturer data. There is no warranty that the ASi defined parts or their names are corresponding with regional national standards. The profile data base can be easily proofed and changed or extended by the user (Microsoft ACCESS necessarily). Own profile designations or also own item numbers can be changed or supplemented by the user.

After inserting the profiles may be changed or reworked with the function, "change profile". In this dialogue the profile types and sizes are indicated and can be changed. Likewise another insertion point can be selected and the insertion situation of the profile will be changed. A preview function may be used to look at the changes before realizing it. With user specific settings in the special "save dialog" it is always possible to define own naming standards and to add special information to the profiles, e.g. for getting better BOM data, before the new or the changed profile data will be saved.
Manipulation of profiles and profile knots:
With this very efficient function most manipulation operations on profiles and their knots can be done. Profiles can be, e.g.:
- extended and shortened,
- rotated,
- cut/extend parallel to a plane surface,
- cut/extend parallel to a part surface
- miter cut,
An easy and simple definition of profile knots (corner joint, miter-points, t-impact etc..) is now possible to use with ASi.
Rotation, moving and exchanging of profiles without recovery problems and without limits of assembly structures is very useful. The length information for the bill of material (BOM) normally remains all the time correct and associative with the model.

Inserting and changing of drill arrays:
It will be possible to construct almost any regular drilling array with one ASi function and it can be changed and cloned to other parts with other ASi functions. With selecting two reference edges, the basic position of the drill array may be directly dimensioned. The produced drilling array consists of one sketch level and Inventor drilling features. In the sketch all the drillings are connected together by using the Inventor dimensioning feature.

Typical connections for profiles:
ASI-Profile offers for the steel structure range different special functionalities:
- Standard Plate Joints (German DASi)
- User defined Plate Joints
- Base and Head Plates
- Profile to Profile connections
- Web Angle Joints
- Stiffeners, Ribs
- Bolted connections
After the selection of the profile(s) the plate is built and inserted and the connection-profile is shortened or extended automatically. The plates (web angles) are inserted as independent Inventor parts and the needed Inventor constraints for the connection are defined. If selected, directly all drillings and bolted connections are produced, too. The provided connections can be changed later on. Depending on the connection type it can be completely re-designed or deleted with one command and easily produced or used again.

Bill of material, data interchange:
All components produced with ASi will be provided with the necessary bill of material information for Inventor.
With user specific pre-settings it is possible to define own naming standards and to add special information to all ASi objects, this will make it easy to produce the BOM or to interchange data to other data-systems like EDM / PDM / PLM / ERP.

Special Structure parts:
Complete structural components can be built nearly automatically. Most of them are assemblies based on different standards in industrial construction, e.g. bracings:
Various bracing types can be directly embedded into structural frameworks and will be saved as "normal" Inventor assembly file structure. If dimensions of the basic framework will later on be changed, then this structure parts can be updated with special ASi function.


e.g. Stairs:
Planning and construction of stringer stairs can be done very efficiently based on special standards. The user will be informed about all restrictions but will be able to change this limitations and to produce nearly every possible stair.
Standard treads are stored in a step library, that may be supplemented or changed by user.

ASI-Profile needs to run with:
- Autodesk Inventor ® (Autodesk Inc.)
- Microsoft Access®, if you will design your own ASi-standard data.

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ASI-Profile for You:
- Easy to learn and great efficiency
- Good Value
- Many ASi-Partners in the near
- Based on one of the most popular 3D-Software products – Autodesk Inventor of Autodesk inc, USA.

Contact:
More Info in the Internet:
www.asi-profile.de