ATHENA 2006

The most extensive upgrade in the history of ATHENA

More productivity due to faster construction

ATHENA 2006 is the newest version of the leading AutoCAD compatible 2D/3D CAD design software for metal construction and facade technology.

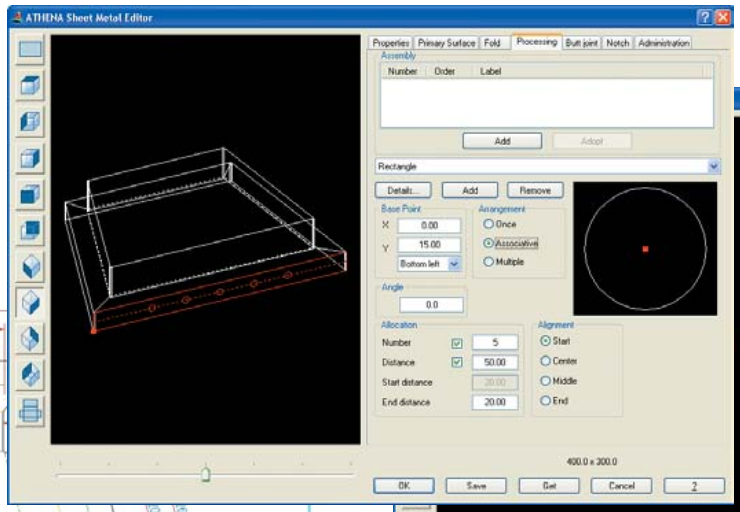
The further development took place within three ranges:

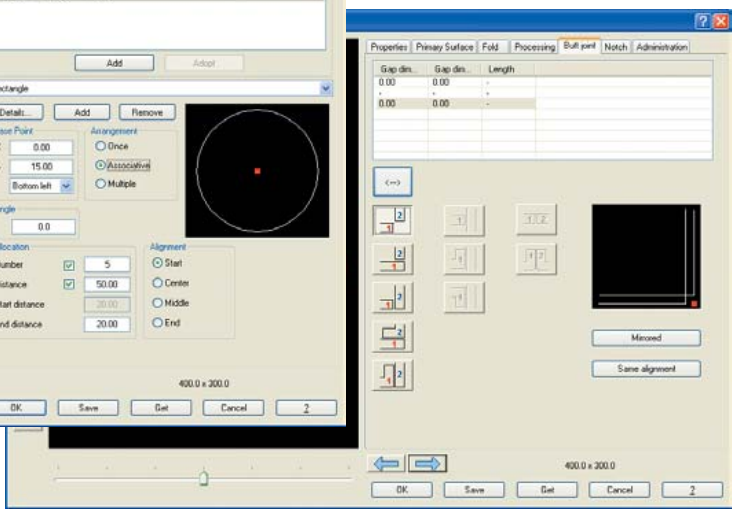
- Sheet editing
- 2D design
- 3D design

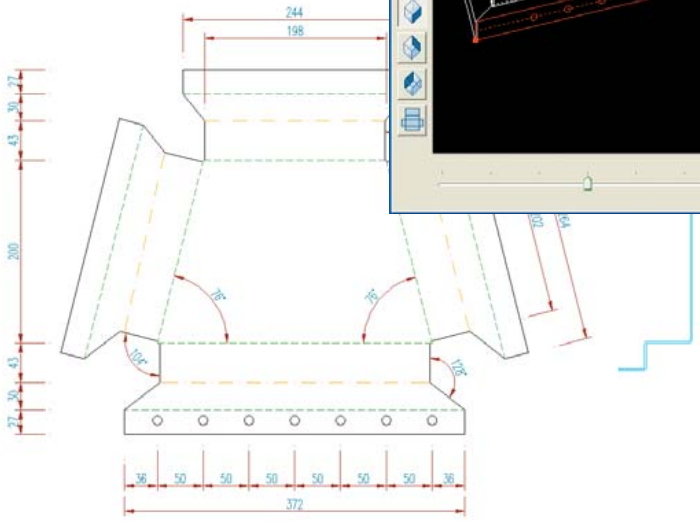
SHEET PROCESSING

A new constituent part of ATHENA is the complete sheet processing program for the quicker design of sheets with the associated developments.

Basic data, such as for example, sheet thickness and bending radius, form the basis of the sheet to be designed. The basic shape is applied to the sheet via a dialog box or from a free ATHENA sheet contour. Then, the various edges are set and copied in the easiest way to adjacent or opposite sides. Visual checks of the sheet shape via the dynamic 3D viewer ensure error-free working. Holes or punchouts can be set in the sheet body at any time. There are basic shapes such as circle, rectangle or free contour (e.g. agraffes) available for this purpose. Customized contours can be generated and saved in a library for reuse. The editing processes can be set absolute or associative and also rows of punchouts are possible.







The description of the joint formation, which is important for the development, is easily entered in a dialog box, e.g. the gap dimension and nature of the corners of the fold. The computation of the development occurs according to the factor tables normally used in metal construction and can be saved as required.

The produced sheet can be inserted into ATHENA as a development or 3D model. The development can also be saved as a DXF or XML file or transferred to MS Excel.

The advantages of the sheet processing program as an overview:

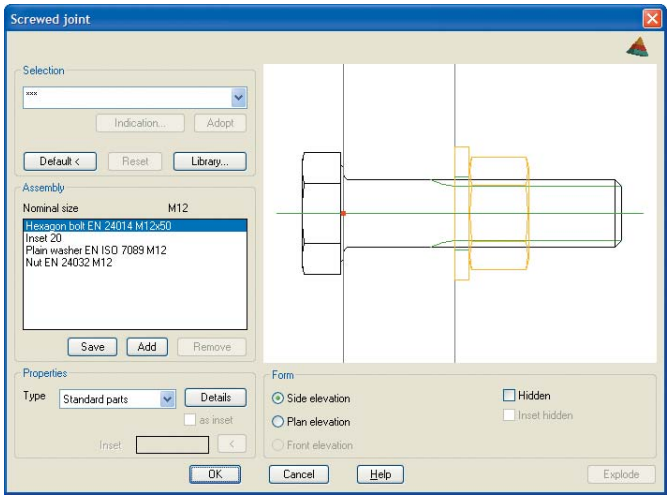
- Any primary surfaces, folds, processes, separations and types of joint.
- Sheet generation by accepting a 2D cross-section or in a dialog box.
- Continuous visual checks via the 3D viewer with zoom/pan functions.
- Development computation via factor tables as is usual in metal construction.
- Sheets are managed in libraries (order, partial order ...).
- Development produced automatically in DXF format for NC machine control.
- Fully compatible to ATHENA 3D.
- No procurement of additional “sheet development software” is required.

CAD-PLAN

Maximum efficiency for your plans and drawings

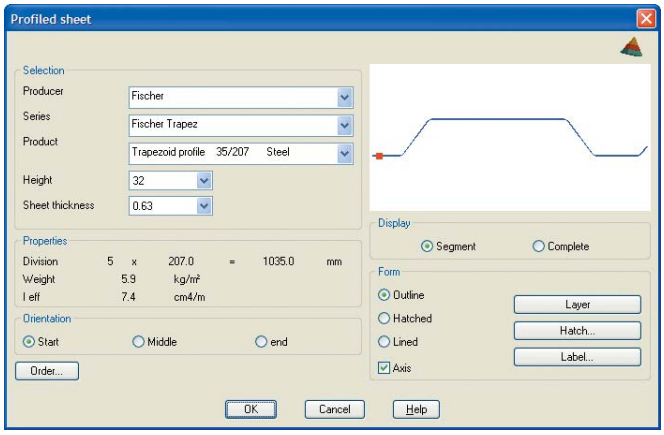
2D DESIGN

Screwed joint
Program for generating screwed joints. Using this routine, screwed joints consisting of a number of ATHENA parts (screw, washer, nut, hole), can be generated and also edited. Frequently required screwed joints can be saved in libraries for rapid recall.



Adapt plotscript files
The ATHENA fast-print function can be conveniently set up using this function.

Profiled sheet
The profiled sheet generator facilitates the fast insertion of trapezoidal or corrugated sheets from various manufacturers. The sheet parameters are defined in a dialog box.



Edge symbol and surface symbol
These two new commands are used for the generation of symbols for labeling workpiece edges according to DIN ISO 1371 and surface details to DIN ISO 1302.

Covering object parts
All ATHENA objects as well as closed polylines and circles can now cover parts of other ATHENA objects. Among other factors, this improves the readability of leader texts, because they automatically cover the respective object (e.g. the insulation). Furthermore, screwed joints can be better illustrated.

Punch contours
This enables the trimming of two or more contours.

Converting ellipses
This is used for converting ellipses to polylines with approximated arcs. It is particularly important for the static calculation and 3D editing.

Extended insert
A method of inserting and replacing WBlocks with the additional options of Rotation, Move, Xmirror, Ymirror, Origin - Alternatively to AutoCAD.

Save system variables
The current system settings (system variables) are saved in the file system.var. These settings can be reloaded when required (e.g. in drawings from external sources).

Plan list
The contents of the text box can be read out and transferred to Excel. In this way plan lists can be produced from drawings.

Rw value
Using this program you can calculate the mean Rw value (= measure of sound insulation).

Ucw value calculation
Program for calculating a mean U-value (= thermal transmission coefficient) for a facade which consists of a number of components.

Library for portions of text, multilingual
Texts can be acquired and managed in a multilingual dedicated database. Once acquired, the texts are then available again at any time.

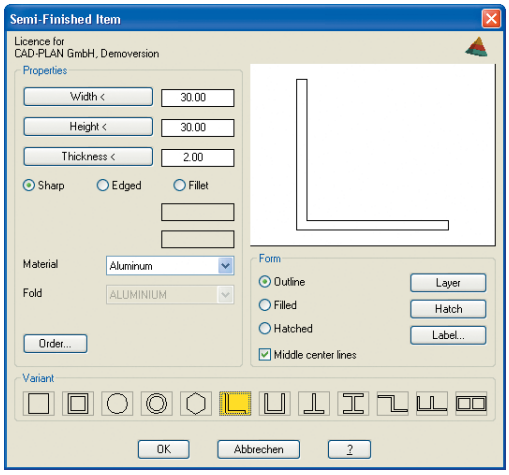
Leader text
The texts of leaders, dimensions and part labels can now be generated multilingually. Once texts are acquired in the library, they can be simply imported.

Dihedral angle
Dihedral angles in three dimensional space can be easily calculated and dimensioned with this part of the program.

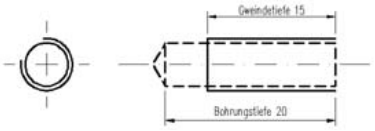
Stretching to a dimension
A new command for the stretching of objects by changing a dimension text.

Standard Parts
About 5,000 new groups of standard parts have been integrated, also including many new parts groups, such as Pestalozzi profiles and Schüco standard profiles. New international standards, e.g. GOST (Russian), GB/T (Chinese), have also been added. For a better overview the parts groups can be filtered according to regions.

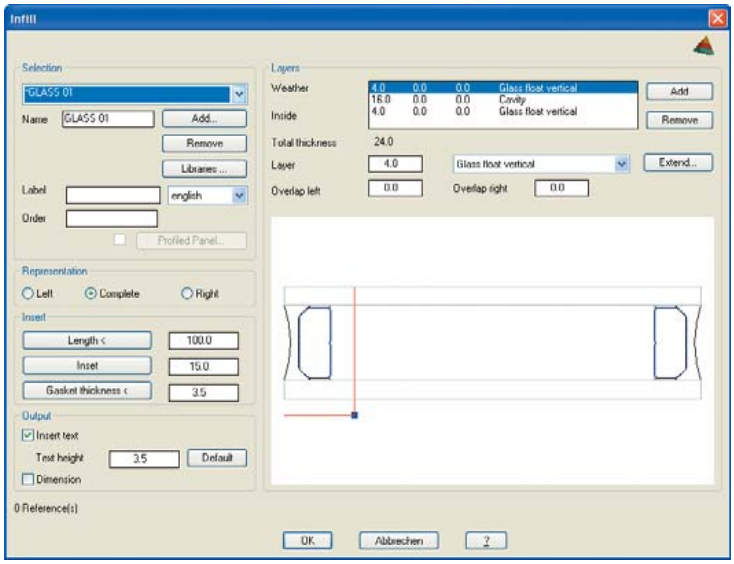
Semi-finished item
New variants: Hexagonal, F and rectangular tube with web. New options: "Sharp", "Edged" and "Rounded".



Hole
This can optionally generate freely defined (not standardized) cylindrical or conical countersinks. The thread depth can be specified. The hole depth for main holes is no longer stated up to the tip. Threads are illustrated in plan view to standard as a three-quarter of a circle.



Infill
With this command it is now possible to generate glazing and panels and to save them in libraries. Glass panels have a proper edge seal. Glass linings can be specified and editing of the glass edges is possible.

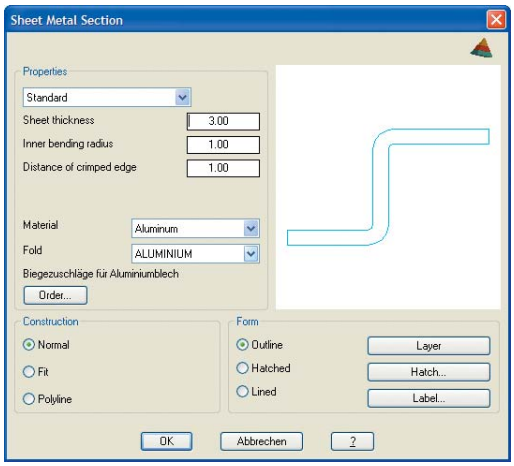


Sealing
Sealing can be generated optionally without back-filler. The dimensions can set alternatively in a dialog box or on the screen.

Welded seam
New options "Line" and "Cross", preview in the dialog box.

Drawing frame/caption
This can accommodate more than twelve text boxes.Changing (replacing) the drawing frame and the text box is possible with "Modify ATHENA".

Sheet metal section
This can optionally also generate cuts in composite boards (e.g. Alucobond).



Arrange viewing windows
The layout in which the viewing window is inserted can now be selected (originally the last active layout was used). Furthermore, the viewing windows are inserted with a spacing and with interrupt lines.

Center lines
Center lines for circles and arcs are now associatively coupled to the relevant object and can be optionally aligned on the arc.

Arc dimensioning
Arc dimensioning is now associative and can be continued with the option "Continue"

Projection
With the projection optional tangential transitions can be illustrated.

Center of Gravity and Moments
With rotated cross-sections the principal axes can be drawn in. The type of designation can be set (Ix=Iy, Iy=Iz, …).

Deflection/Ix Required
New loading cases for calculating the collapsing stress.

System requirements

AutoCAD 2004, 2005 or 2006

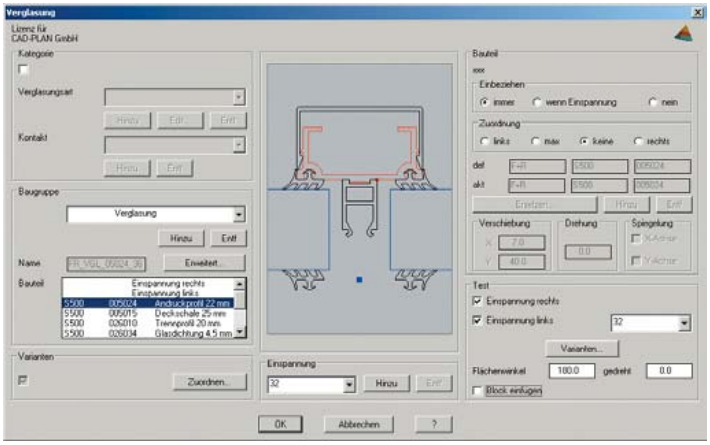
Operating sytem:
- Windows 2000 or Windows XP prof.

Hardware:
ATHENA requires the same hardware configuration as AutoCAD.
Recommended configuration:
- Intel Pentium 4 or higher
- min. 512 MB RAM
- Graphics card with min. 128 RAM (screen resolution 1280 x 1024)

3D DESIGN

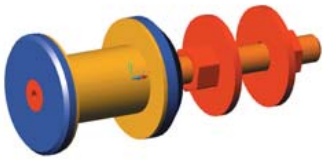
The semi-automatic 3D design already included in ATHENA 2004 has been complemented by a product configurator for the design of 3D elements, such as conservatories, skylight roofs and facades.

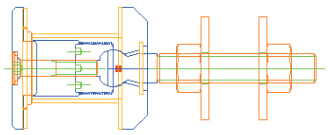
Now customized master data, e.g. material properties, design rules or production requirements can be defined as design principles. Based on this master data, spatial elements, such as for example, conservatories, pyramids and bays along with area elements such as windows and doors, can be designed quickly and reliably. During the design, blanks and processes are easily added. Also, different variants of adjoining structures can be considered. The sheets required in this respect are generated to suit the situation and can be output as developments.Complicated glazing, e.g. different thicknesses in the inset region, can be applied easily and reliably using dialog boxes. A 3D model of the element is always generated - for an optimum visual check and it is suitable for the presentation of the design results.



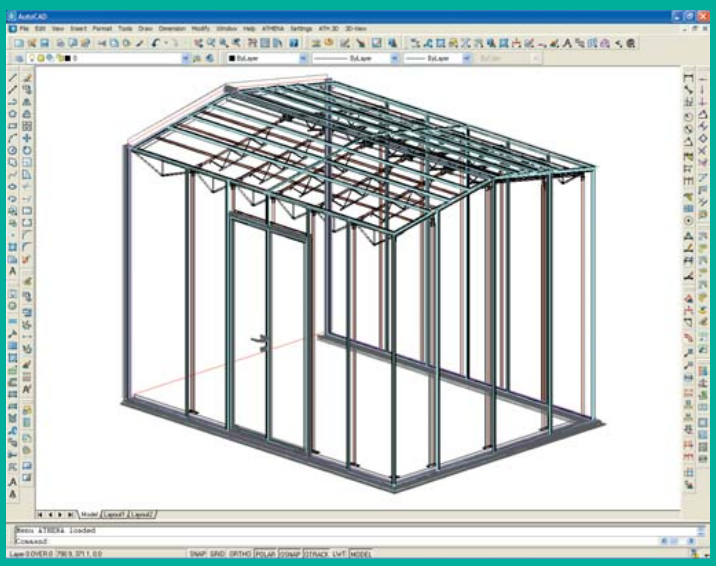
The production documentation for the generated components can be output as a drawing with automatic dimensioning and as a parts list. Here, the profile cuttings including the jack rafter sections and processes are taken into account. Apart from the profiles, sheets and glazing, the parts list also includes all the hardware, e.g. joint components and screws, and it is structured, so it is also suitable for transfer to ERP/PPS systems.

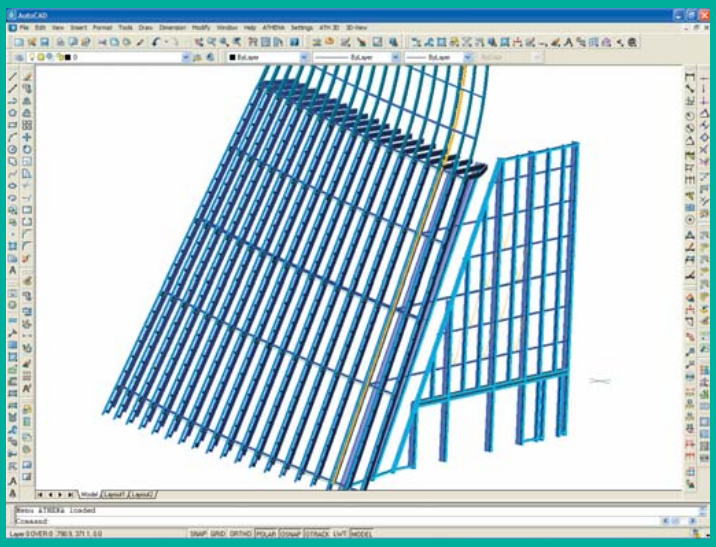
Other features of the 3D product configurator: Elevations and sections for architects, variant designs, motion simulation.

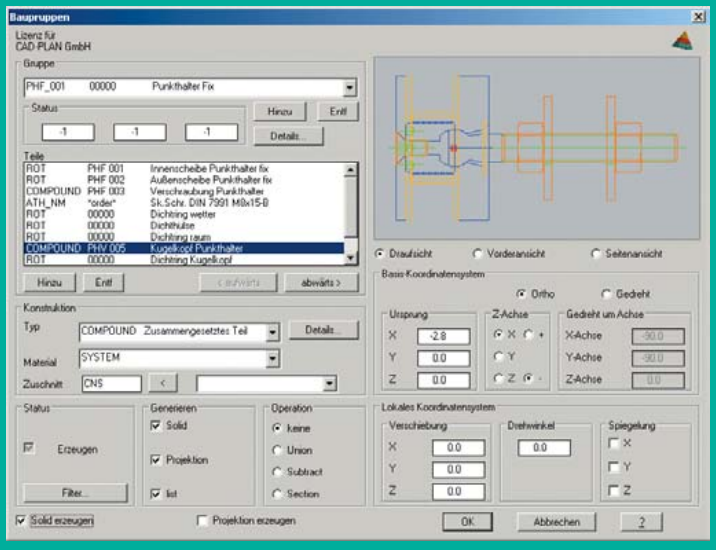




Apart from bar-shaped 3D assemblies (e.g. profiles) and area objects (e.g. glazing or panels), now local assemblies, i.e. joints and processes such as glazing retainers, can be generated. All ATHENA standard parts (screws, nuts, etc.), holes/elongated holes, sheet cross-sections and customized contours can be applied. The assemblies can be positioned on 3D profiles singly or according to a grid. The parts of the assembly are also positioned during the 2D evaluation (projection) of the 3D profiles. In the structured parts list the assemblies are ordered according to the profile or the infill, which facilitates a detailed evaluation in ERP systems.







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