

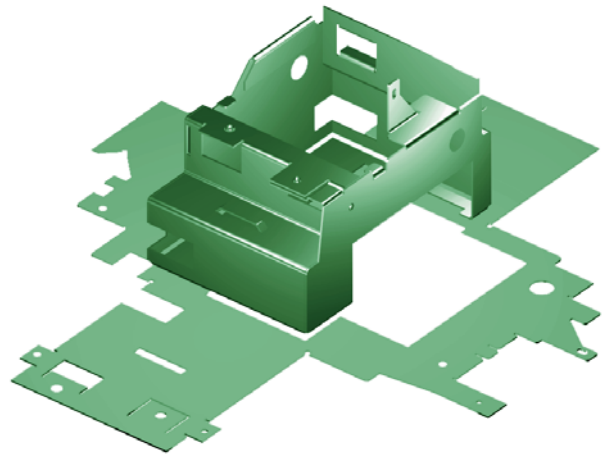


From prototype to finished product

SPI SheetMetal AutoCAD

Unfold sheet metal in seconds

SPI SheetMetal AutoCAD brings sheet metal manufacturing knowledge up front into the design process, introducing dramatic productivity gains and cost savings in the design and manufacture of sheet metal parts. This is achieved through an unique combination of specialized sheet metal design capabilities. SPI SheetMetal is 100 % integrated with AutoCAD and allows multi-document-sessions.



SPI SheetMetal AutoCAD supports the designer with several design features e.g. apply flanges with automatic filleting and notching, shortening, stretching, free choice of bending angle, flatten sharp cornered parts.

With a comfortable set of functions to design corner areas SPI saves a lot of constructiontime. Automatic creation of bend reliefs reduces the designers workload.

The initial selection of the manufacturing capabilities ensures that only the materials, tools and process available are recommended to the designer, avoiding rejection of non-manufacturable parts and the resulting rework.

The automatic flat generation provides fast, accurate flattening of 3D sheet metal parts to create the complete 2D flat information needed. Even unfolding of conical surfaces is possible.

SPI SheetMetal AutoCAD allows the modification of the used material and material thickness. The bend allowance will be re-calculated automatically.

SPI leads to significant increase in ready-to-manufacture products and makes the design process instant, resulting in drastic time savings between conceptualization and the testing of actual parts. After all SPI drastically decreases the time-to-market.

Customers say:

"It will only take you about two days to gain full control of the software. I believe that this is the best investment that we have ever made. It's very time-saving to design and unfold sheet metal with SPI."

Icesteel LTD, Iceland

Solid design

Creation of a sheet solid is easily done. SPI creates 3D solids from arbitrary 2D contours, among others from profiles that you can create using "sweep along path". The selected type of material and the thickness will control the design to create a part ready for manufacture. During the design process, the designer can easily change the type of material.

Modify flange

As every other command modifications are done fast controlled by ease-to-use panels where one defines length, width, offset, bend radius, and bend relief.

Joggle

SPI SheetMetal AutoCAD provides a joggle command.



Split corner

The split command allows for precise unfolding of closed boxes. The designer does not need to design slots but just adds split attributes to the corner areas.

Sharp cornered construction

The option sharp cornered speeds up design when it is not necessary to display fillets.

Create / Modify corner

These commands allow to create and modify different types of corner designs, including a follow-up within the bend process to avoid collisions.

Sheet metal shelling

With sheet metal shelling thin sheet metal shells are produced fast and precisely from solids. The split attributes guarantee an accurate unfolding result. In that way you create complex sheetmetal designs with an enormous speed.

Tool Management

Based on partnerships with leading tool manufacturers, SPI offers a wide range of the most frequently used punch and emboss tools (e.g. circle, oblong, rectangle, hexagon, dimples, louvers, bridges etc.). Several pre-defined dimensions of tools are available.

Flat pattern (unfold)

Material definitions and bend compensation factors drive the unfolding process. They are easily put into the technology driven material management, which calculates the precise flat geometry according to the needs of the designer. He can edit correction factor and discrete shortening values and formula calculations influenced by type and thickness of material, type of manufacturing process, bend angle and bend radius. At the prototyping or pre-production stage, SPI's 'one-click' solid model unfolding - in just seconds - leaves a flat pattern transferable to laser or punch CAM programs and pressbrake control systems. The designer can start the unfold command at any time to control the design process. During the unfold calculation the part is analyzed. Any problem area is displayed and reported. Common problems detected include: overlapping of material (clash detection), bend radius lower than critical minimum (break).

Standard views, isometric views and explosion drawings are created. The program offers automatic dimensioning and automatic update of the shape when the solid is modified.

Bending

The designer can re-bend the flat sheet. This allows the creation of 3D solids from existing unfoldings. The bend line table provides an editable list with information that helps to define the follow up of the forming process.

Manufacturing costs

Estimated manufacturing costs are calculated simultaneously during the design process based on: type and thickness of material, number of bends, number of punch and stamp tools, length of contour.

