

# Precision in Sheet Metal

## SPI SheetMetalWorks

### How SolidWorks helps to halve the production time of fire protection enclosures

**Precision: that's what customers expect, if they decide to order solutions from Schneider. Within the last 60 years the 30 man company from Hessian Söhrewald, Germany, has made a name in the field of fire protection. The strategic direction of the enterprise with a clear tendency toward the order manufacturing led to the acquisition of efficient machinery and efficient software. Schneider's decision led to the 3D CAD system SolidWorks.**

As a sheet metal manufacturer, who is involved in the fire protection, Schneider GmbH must fulfill highest quality requirements. The customers get all solutions which are representing the standards but also numerous individual variants for the security in the fire protection. With such solutions Schneider takes part quite in front: the Hessian family business delivered fire protection installations for six of the Soccer World Championship Stadiums, for the "Cologne Fair" and for the "Sony Centre" in Germany's capital Berlin and many more.

Foresights, further ways of thinking - these are the strengths of the management which leads the family-owned enterprise in the third generation now. "Despite the rapid technical developments, we again and again succeed in reacting fast to the market's requests", explains the technical managing director of Schneider GmbH, Burkhard Heß.

"We can fulfill the increased customer requirements and offer solutions based on a high manufacturing standard". So over the years the company has conquered and defended a solid position on national and international markets. Constant investments make it possible for the Söhrewalder enterprise to provide various sheet metal working solutions today.



Look optimistically: Business managing director Corina Flashar and her brother, the technical managing director of Schneider GmbH, Burkhard Heß.

Three years ago Schneider decided to go to the front and replace the elder machinery by a uniform manufacturing line.

"This was due", explains the managing director Corina Flashar, "because we wanted to remain in the market with our products and furthermore to stay competitive under global aspects". An ultra-modern punch and bend centre dominates the machine shop now. Panels to 2.80 m x 1.52 m can be driven here. "Thanks to the modern manufacturing line and the corresponding construction software we are able to unfold our sheet metal parts very efficiently", Burkhard Heß swarms. "And this - under economic aspects - also in very small lot sizes."

For certain, there are standards. But there are fire protection cabinets in many sizes and variants. Schneider partly manufactures even single items. The Söhrewalder produces about 60,000 enclosures per annum, and under these approximately 5,000 different types. Feasible, thanks to modern machinery and thanks to modern software.



An ultra-modern punch and bend centre dominates the machine shop.



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# SPI CAD Solutions

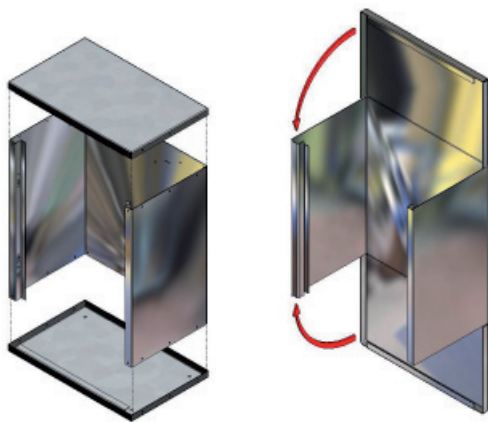
## Intelligent design software

Perhaps the high-end manufacturing line would be a number too great, if the Söhrewalder would not have invested in new, intelligent construction software at the same time. On the CeBIT in 2003 it came to the first contact between SolidWorks reseller SPI GmbH and the manager of the sheet metal working, Reinhard Budde, who is also responsible for the production planning and control of Schneider. SPI has a name as a specialist supplier of CAD solutions for sheet metal construction over many years. "A brother-in-law who already uses solutions of SPI has recommended me SPI", explains the manager. After a convincing presentation the Söhrewalder sheet metal specialists decided to approach the CAD system in a "workshop". This supply offers prospects the chance to familiarize themselves with the functions and possibilities of the software under instructions of experienced coaches. In the context of this supply the participants get a so-called "Evaluation Kit", which allows them to use the software without reservations for several days in their own office. The concept opened. Schneider uses two licenses of the software in the construction today and redeemed the formerly used 2D software with that.

## Production time halves

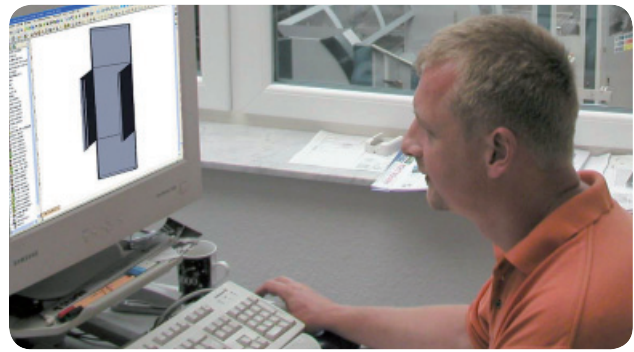
One of the great challenges in the construction plant consisted in producing a fire protection cupboard from one part now which was put together from three parts with former methods. The grounds and roofs of the cupboard, designed before as single components, are manufactured together with the corpus from one piece nowadays. The realization of the idea presupposes software which precisely unfolds because the areas where the material meets must match exactly or even overlap after the bending process.

"The fact that instead from three parts (which had to be brought together in subsequent work processes) we can produce from one part now saves machine time and many work steps", Reinhard Budde proudly explains. "We could halve the production time." The production costs correspondingly dropped.



Make one of three: production time halves.

SPI SheetMetalWorks is a special application for the metalworking industry. It completes the convincing functions of the basic system for this special application field and defines itself as a link between construction and manufacturing. The designer selects the material to be used in the manufacturing process and by this secures that material properties and bend characteristics are precisely taken into account at the calculation of the unfolding. SheetMetalWorks delivers a 100% correct unfolding which can immediately be reprocessed in the process chain.



The intuitive user interface convinced production engineer R. Budde

## Working with imported data

Since the Söhrewalder sheet metal professional often plays the role as a subcontractor, it is also decisive for Schneider to be able to assign the material features to different imported models, e.g. DWG, SAT and IGES format, because such imported data show inaccuracies now and then.

SheetMetalWorks compensates for it by different tolerance options which among other things refer to the thickness, the parallelism of upper and underside and the angles under which adjacent areas meet.

The data relevant for the process chain (machinery, material and thicknesses) are maintained in the *SPI Material Editor*. But with the choice of the material the designer, however, doesn't finally commit himself. Of course he is able to assign also other materials to the component.

The calculation of the shortening is carried out according to DIN, formula or table. Shortening values can be adjusted to work norms if the calculation of the unfolding shall not be carried out via the DIN k-factor and can be defined differently per bend. The intuitive user interface convinced production engineer Budde.

However, the 3D CAD of model delivers more than these construction data. For example it also contains the information to derive realistic views and models of the product in a very early stage of the construction cycle. Thanks to eDrawing, a special exchange format of SolidWorks, informative marketing documents are available in a very early stage.

Within only two years the company Schneider has succeeded in doing the change from the traditional workshop to an industrially operating enterprise. The acquisition of efficient construction software makes it possible to handle more complex constructions and to reduce the cycle time in the construction and production planning now. The acquisition of a composite punching bend line permits to produce small and middle lot sizes fast and economically.

Precision - the maxim. Schneider succeeded in creating the pre-requisites for it now. "We are fetching orders back that went to our competitors before", Burkhard Heß summarizes. "We safe 30 jobs in the region and march past our competitors in Eastern Europe and the Far East again." Industrial enterprises from all lines of business profit from it: Big players like Airbus, Mercedes-Benz, Opel and VW are customers of Schneider today.



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