



## Staalservice Hardenberg

Realise complex steel projects quickly and error-free with HiCAD

For more than 15 years, Staalservice (steelservice) Hardenberg, based in the Netherlands has been a specialist in manufacturing of customised steel products such as stairs, fences and balustrades. Due to the continuous changes in the market, the demand for more complex projects is growing. In addition, projects have to be realised ever faster, which increases the chance of errors. Adriaan van 't Hof, head of the engineering department and calculator at Staalservice Hardenberg, explains how 3D CAD software helps them to realise complex projects faster and avoid mistakes.

Projects are becoming more luxurious and more striking, and so the demand for special (spiral) staircases is also gro-

wing. It is a challenge for organisations to get these shapes right on paper. Adriaan: "We work out all our drawings in 3D. By setting up the situation in the model and then working it out, you are able to get much more out of the model, which makes it a lot easier and clearer. In addition, we always exchange our drawings with clients which, in addition to carrying out a collision check, ensures that most errors are eliminated at an early stage," says van 't Hof.



**StaalService**  
**HARDENBERG**



Image: © Staalservice Hardenberg  
Detail of the spiral staircase at  
Royal Flora Holland

### 3D Drawing software

Since its establishment, the organisation has worked with the 3D drawing programme HiCAD from ISD Group, a very all-round programme. Van 't Hof, who has been working with the programme for 22 years, says: "With HiCAD we can work out challenging and complex projects well. At the moment, we use different modules within HiCAD, which are very compatible and contain different functions that are very important to us. One example is the ability to create and edit profiles. In addition, the continuity of the 2D/3D function is indispensable for us as an organisation. But what is really an addition and most valuable for our sector is the derive function in HiCAD. This enables you to work out your components and assemblies quickly, which saves you a lot of time and allows you to deliver your projects faster.

### Automation

Staalservice Hardenberg has automated their production process by means of links with their ERP package and HiCAD. Working with a BIM model is increasingly a requirement. Clients share IFC files and contractors are also increasingly working with BIM. HiCAD complies 100% with all BIM requirements and can therefore easily read IFC files.

Van 't Hof explains: "With HiCAD, we can continue working in client files immediately and send them for approval in both PDF and IFC models. When all comments have been processed, we send back a final IFC model. We have also automated our material procurement with HiCAD. HiCAD offers the possibility of generating bills of materials and purchasing lists at the push of a button, which we use for the purchasing of materials. We can also order materials directly by uploading STEP files into the CAM software of a cutting, bending and folding company. This means, among other things, that we no longer need to make cut-out drawings, which saves a great deal of time on drawing.

Our ERP-system is also automated. For example, our quotation management is linked to our calculation. When a quotation is converted into an order, we immediately have a pre-calculation linked to the right project, and materials and hours purchased are also booked here. This gives us a very clear picture of the pre-calculation and post-calculation, allowing us to see at a glance how a project is progressing."

*„The ‚derive-function‘ in HiCAD is the most valuable to us. It saves a lot of time and enables us to deliver projects faster.*

*Adriaan van 't Hof, head of the engineering department  
Staalservice Hardenberg*

Image © Staalservice Hardenberg  
Detail of the spiral staircase





## Project

One of the many successfully completed projects is 'Spiral staircases Royal Flora Holland'. Van 't Hof was approached by Paul de Ruiter Architects to supply a spiral staircase. In the end the order was given by Bam Bouw en Techniek BV.

Van 't Hof about the course of this project: "Based on the architect's drawings, the structural engineer made strength calculations. After the calculations of this spiral staircase, the drawing work was started. The client shared a BIM model, which we used for further engineering. After several meetings between us, the client and the structural engineer, the model was set up and presented for approval, which was then finalised. After approval for production, the purchase of materials and production was started.

There were a number of challenges with this project. One floor did not fit on one truck, so the staircase had to be made in several parts and welded together at the construction site. Another challenge was to seal off the bottom of the stairs. We did this by placing 5mm steel plates in a V-shape. This created a very unique look for the underside of the stairs. HiCAD is a very nice programme to draw these complicated stairs. Functions such as spirals and sweep functions are very useful to draw the stringers and handrails quickly. What finally resulted in the project being delivered without any problems and a satisfied customer."

## Cooperation

In addition to good software, it is also important to be able to switch easily and quickly with the supplier behind the software. Van 't Hof: "The cooperation with ISD is very pleasant and they always have expert staff available. Not all problems we encounter are urgent, but when we have a really big problem, help is provided quickly and adequately by the helpdesk. As a result, our production process does not come to a halt and we do not lose any time, which is very pleasant, especially for our customers. In order to get the most out of the software, Staalservice Hardenberg has attended training courses. "The most recent training was at our location.

Because you sit one-on-one with a consultant, you can very easily express your own wishes and they work specifically towards a solution that can also be directly applied to your own organisation."

His advice for organisations that want to reposition themselves on CAD: "HiCAD is a very comprehensive programme, which is very easy to learn and therefore very user-friendly. In addition, HiCAD is always evolving, which benefits us greatly, because it enables us to continue to develop and to improve. We can see how a project is progressing at a glance.

