

## Introduction

**Lantek Flex3d Steelwork** is a new module in the family of **Lantek Flex3d** products focused on designing and machining of standard sections (I, U, L, H, T and square or round tubes).

**Lantek** has used all the experience and proficiency in design systems and programming for sheet metal cutting, punching and bending machines and applying it to the structural steel sector regardless of the type of machine: sawing, drilling, punching, tapping, oxy and plasma cutting.



## Easy and flexible design

**Lantek Flex3d Steelwork** allows 3D design in an intuitive and simple way, giving a real vision of the result that the user will obtain when cutting the beam or tube on the machine.

The user can create any type of standard section in a very flexible way. It is a parametric system, allowing the user to change the values of any of the operations made previously; including the possibility of changing the initial parameters of each section (enlarge, shorten, etc.).

Once the design process is done, the user can simulate in 3D the head movement of the machine, the beam or tube movement and the machining operations of every tool. The user can also generate the NC file to send directly to the machine (NC code, DSTV or DSTV+). **Lantek Flex3d Steelwork** can be adapted to work with any beam or tube machine.

## Technical characteristics

**Lantek Flex3d Steelwork** gives a real time display of the result. It displays the exact beam section or tube and simulates in 3D, each process, reducing the possibility of errors to a minimum.

It offers the user the ability to create standard sections (I, U, L, H, T, circular or square tube, etc.).

This eliminates the need for the user to duplicate the entry of information to create a beam or tube section. It is only necessary to select one of the standard

base sections and insert the length. The system is based on database technology, allowing complete management of the different profile products and remnants giving rapid access to them.



It is totally integrated with the **Lantek Integra** Management Software System (ERP).

Integral management of the sales process: from the quotation generation (jobs or projects) to the issue of the invoice.

It provides the launching of orders and production operations as well as reservation management, material needs, purchases, production situations and time and cost control.

It is also possible to incorporate workshop data collection.

Integral management of warehouses/stocktaking (beams, sheet metal, tubes, remnants, commercial product, finished goods). It includes serial and batch numbers sections for entire traceability management.

## DSTV, SAT and CAM Importers

**Lantek Flex3d Steelwork** can import data generated by the market leading structural steel CAD systems using DSTV, SAT and CAM files. The system converts the DSTV, SAT and CAM files into the native format for **Lantek Flex3d** which allows the user to apply modifications in a natural and easy way.

**Lantek Flex3d Steelwork** can easily import the various properties of each file such as the material, quantity and thickness to simplify the process for cutting preparation.

## Design options

Apart from the basic operations of drilling, shearing, marking and sawing, the system has the ability to create cutting operations from geometry imported from the **Lantek 2D** module, and imported formats such as DXF.



There are also dimensioning features to check the measurements of any geometry or machining operations of the profile.

**Lantek Flex3d Steelwork** offers to the user the ability to apply the following operations:

- Automatic and semi-automatic drilling, tapping and sinking operations along the profile (any flanges and/or web).
- Automatic and semi-automatic cutting operations (plasma, oxycut, sawing or shearing).
- Automatic tools for text and contour making operations (scribing, contour marking, plasma...).
- Cutting macros which include parametric operations and able to drive any 5 or 6 axis cutting head (bevel cutting).
- Copying machining along the beam or tube section keeping the relationship between each profile for easy modification.



## • Optimization and profile cutting

**Lantek Flex3d Steelwork** will allow the user to obtain the best optimization of the profile path and the generation of the CNC file for the machine.

Optimization can be created by importing sections from the warehouse automatically or by calculating the needs of supply.

Automatic, semi-automatic or manual 3D nesting.

Automatic or manual lead-in lead-out generation.

Redefine the sequence or the direction of the cutting path calculated automatically.

Manual, semi-automatic or automatic entries/bridges management.

Remnant management. Warehousing and re-utilization of beams or tubes.

**Lantek Flex3d Steelwork** provides the option to modify manually the vectors of the cutting sequence calculated by the system automatically (add or delete

vectors or modify angles...).

It is possible to order and/or to modify the sequence of the cutting path manually.

Manual and automatic management of cutting compensation according to material and thickness.

The system has automatic control of the work zone of the profile deciding and performing automatic repositions on the machine.

**Lantek Flex3d Steelwork** provides you with automatic detection and control of collisions and the tools for manual modification.

There are several reports and process forms with relevant information for the user.

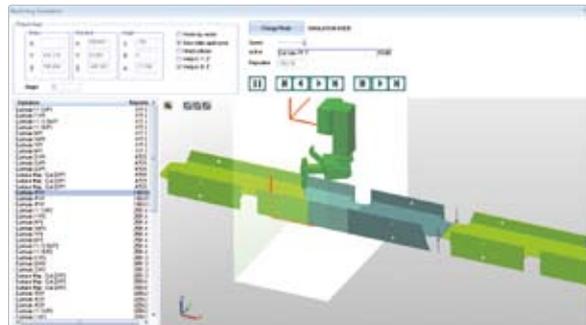
## • Cutting profiles simulation

**Lantek Flex3d Steelwork** allows you to simulate each machining operation such as, drilling, punching, the cutting head and the work zone. If the resultant simulation is appropriate for the user, **Lantek Flex3d Steelwork** will automatically generate the NC file for the machine and the user can view the information in the same environment.

It allows the simulation of all machining operations and the trajectory of the cutting head (plasma or oxycut head). When collisions are found the user can repair them by stopping the simulation and correcting the trajectory.

The user can visualize all of the parameters of cutting during the simulation (position of the axis, contour, reposition, head height...).

The user can also make zoom, movements, rotations and adjust axis positioning on the profile while viewing the simulation.



Totally interactive simulation: there are multiple options for viewing the simulation step by step or forward and rewind.