

: peps tubecut

Multi-axis laser technology for tubular components

PEPS Tubecut is an industry leading CAD/CAM system for rotary and multi axis cutting machines developed specifically for tube cutting and manipulation industry. The intuitive programming system allows tubes or sections to be parametrically defined from a library of standard shapes into which cutting apertures and profiles can be defined.

Extensive range of CAD interfaces

PEPS Tubecut comes with an extensive range of integrated CAD data translators that allow the direct import of CAD drawings in their native form or as industry standards, such as IGES, STEP and DXF. The standard system configuration comes with interfaces for DXF, AutoCAD DWG, AutoCAD-Inventor, VISI, SolidWorks, Solid Edge, IronCad and Solid IGES. Optional CATIA V4, CATIA V5, Unigraphics, Pro Engineer, VDA and STEP translators are available. PEPS Tubecut can display the CAD data as simple wireframe, solids and surfaces or a combination of both. Solids are used as the source for all cut-path programming and process simulation.

Comprehensive machine and postprocessor database

PEPS Tubecut contains a comprehensive database of laser machines from a large number of Machine Tool manufacturers; including Adige, NTC, Trumpf and Amada. Should a machine not be supported, PEPS Tubecut also contains a Machine Setup utility that allows the configuration of bespoke machine

types and post processing information. The advanced postprocessors aren't just limited to the use of generic G and M codes; posts are easily configured to suit different head configurations and table sizes.

Library of standard tube sections

PEPS Tubecut supplies a library of parametric tube shapes that simplify the creation of the tube material to be cut. If a suitable section does not exist, the 'Freeform' option is used to create the special shape section. Freeform shape tubes can even be created from one of the libraries of PEPS Tubecut parametric shapes. If none of these standard shapes are suitable, the user simply draws the section centre line profile or outside / inside shape using the integrated CAD tools. All modelling in PEPS Tubecut is done entirely in 3D.

intuitive graphical user interface

extensive range of CAD interfaces

comprehensive machine and postprocessor database

built-in library of standard tube and aperture types

nesting over single or multiple pipes or sections

one-click application of toolpath

manual application of toolpath for selected areas

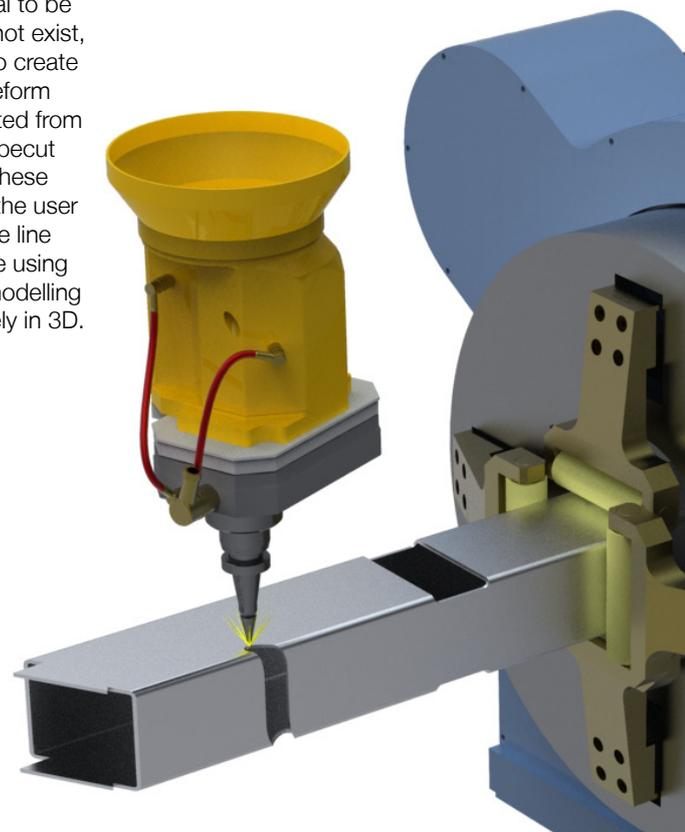
total control of nozzle angle both interactively and explicitly

create and apply technology data at any point

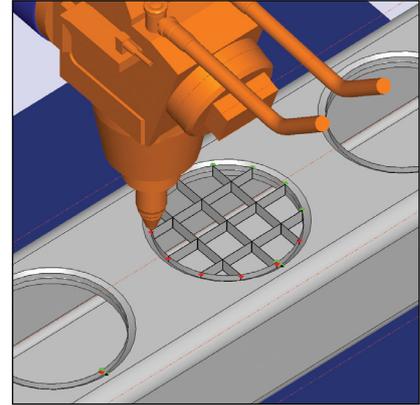
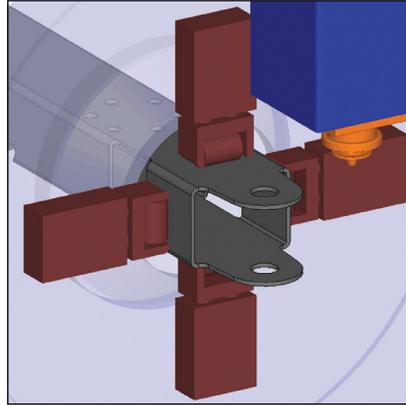
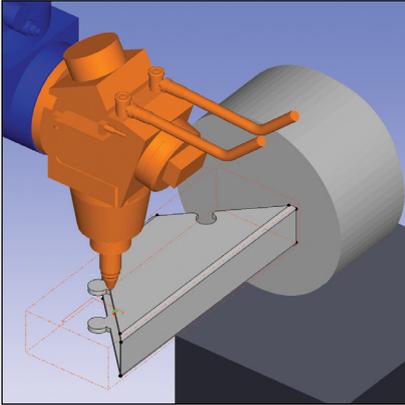
inter- and intra-cut collision detection

full solid 3D simulation of machine, nozzle and part

ability to import 3D geometry and machine them directly



By using PEPS Tubecut, not only will programming time be minimised, but also the eventual cut-path will be far more efficient, saving further time on the machine. Add in the comprehensive simulation and proofing tools and you have a system that streamlines day-to-day production, reduces costly errors and eradicates the need for dry-runs.



Library of standard shapes

In a similar way to tube sections, PEPS Tubecut supplies a library of parametric hole shapes, again with the option to define 'freeform' shapes; so specialist joint features such as duck tails, clips and key holes are easily added. Holes in the tube are created by generating a solid object to represent the shape, which is then extracted from the tube. The solid can pass through all walls or one wall and can pass through the edge of the section creating a gap. For holes passing through the tube section at a single or compound angle, positioning can be defined at the mid-point of the section or at a position on the top face. For hole shapes that repeat along the tube in a standard pattern, five pattern shapes are supported: Circle, Line at an Angle, Arc, Square and Grid.

Nesting multiple parts on a single pipe or section

Where a number of small parts can be produced from a common tube section, it is possible to use the PEPS

TubeCut nesting option. This allows the user to create individual programs for each part (including cutting path), simulate and check the cutting path. Parts of suitable section are then selected and the quantity required specified. New parts and quantities are added until PEPS Tubecut reports that the material length specified is full. As each part is selected, PEPS automatically checks the section of the material and reports if it is a suitable part for the nest. An advanced nesting option is also available which will nest previously machined parts into a multiple number of tubes, where each nested tube can then be postprocessed to form a complete NC program. This advanced nesting functionality provides an easy route to using stock material most effectively and economically.

Toolpath verification and simulation

Within PEPS Tubecut the toolpaths are presented showing the angle of the nozzle as it moves around the part in a full solid simulation. Instant

feedback is provided about whether or not a specific move is possible - either in terms of machine head movement limits or accessibility. Any collisions that are detected are highlighted both on the model and via on-screen messages. The toolpath parameters can be edited directly or, in the event of a collision, automatically corrected at any time ensuring that your toolpath is both safe and using the optimum strategy to reduce processing time. Once the toolpath has been optimised, simply select the cutting conditions from the pre-defined technology tables and PEPS Tubecut quickly generates reliable NC code.

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