

# CAM for sheet metal machining

The programming and nesting software for oxy-cutting and plasma cutting

## act/cut



Thanks to its ability to meet specific machine requirements, including heat constraints, involved in oxy-cutting and plasma cutting, act/cut is a powerful and flexible solution which efficiently combines automation and user interaction, when required.

### Advantages and benefits

- High-performance automatic nesting (in terms of efficiency and calculation time) thanks to the availability of multiple nesting strategies.
- Optimized multi-torch cutting control and ability to pilot machines equipped with programmable torches.
- Optimized use of remnant sheets or off-cuts of any shape.
- One click to perform the nesting, the tool path, and NC program generation.
- Use of several methods to reduce the number of piercings on the sheet : continuous cutting (positive or negative bridges), chain cutting, common cut between two parts.
- Efficient control of heat deformations.
- Lead-ins/outs calculation to avoid burrs.
- Ability to pilot programmable beveling heads.

**Alma**

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# act/cut advantages for oxy-cutting and plasma cutting

## Significant material savings

- Significant reduction of loss rate thanks to automatic nesting performance, resulting from several available strategies.
- Multi-torch nesting available either in automatic or interactive mode, with the calculation of the smallest gap between the torches, lower than the height of parts that can be embedded with themselves; possibility to combine multi- and mono-torch cutting in a single nesting.
- Optimized management of remnant sheets and off-cuts of any shape.

## Programming time reduced to the minimum

- Possibility to operate in full automatic mode.
- Nesting and sub-nesting (kit) management enabling future re-use of optimized programs.
- Possibility to modify the profile characteristics (lead-ins/outs, chains, etc.); which avoids modifying the geometry.

## Savings on consumables

- Limited number of sheet piercings thanks to several cutting methods: continuous cutting, chain cutting and common cut between two parts.
- Use of the pre-lead-in method when cutting thick sheet (pre-cutting of a rectangle to facilitate the lead-in).

## Optimized time cycles

- Optimized computation of the tool paths.
- Multi-torch cutting minimizing the cut length (the automatic nesting computes the best compromise between the loss rate and the cycle time).
- Possibility to simultaneously cut several sheets in multi-torch configurations.
- Reduced number of required piercings thanks the use of available features, including bridges between parts, chain cutting or the common cut.

## Complete mastering of the technological process and complex machines

- Ability to pilot machines equipped with programmable torches - automatic definition of the torch gaps and locks.
- Ability to pilot programmable beveling heads while automatically preparing the program:
  - pass sequence and offsets calculation,
  - automatic generation of the reconfiguration loops and overall profile to take into account the maximum bulk of the part in the nesting,
  - optimal cutting condition configuration according to material, thickness and bevel angle combination.
- Support of any process related to oxy-cutting and plasma cutting; for example, piercing marking systems (zinc powder, needle, stylus, alphanumerical marking by ink jet or plasma, etc.)
- Interaction with combined machines (plasma and punching or drilling).

## Improved quality of manufactured parts

- Heat deformation taken into account thanks to several automatic or semi-automatic functions: parts cut out in several passes, heat distribution over the sheet with specific cutting sequence, etc.
- Lead-ins/outs calculation to avoid potential burrs.

## Eased handling in the workshop

- Nesting methods according to priority groups to simplify the sorting of parts during evacuation.
- Skeleton cutting to facilitate the evacuation of the remnant.

