



Hybrid Modeling

The all New ELECTRODE Module

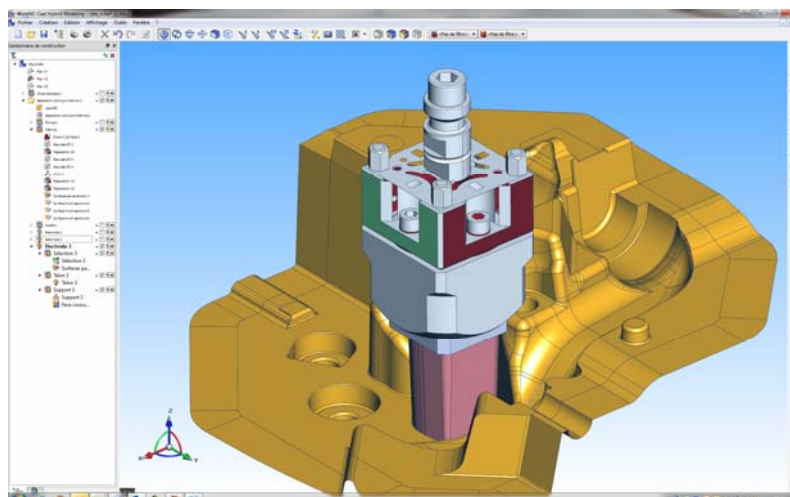
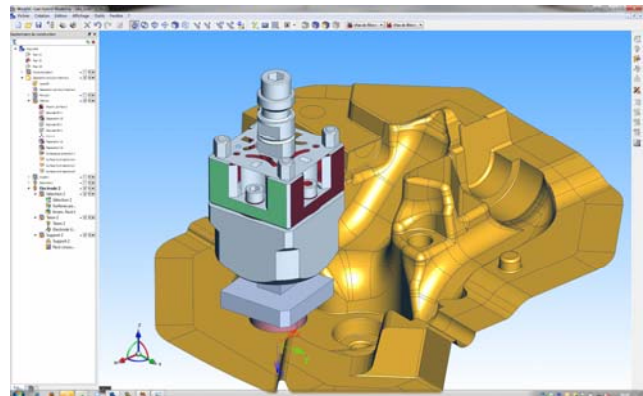
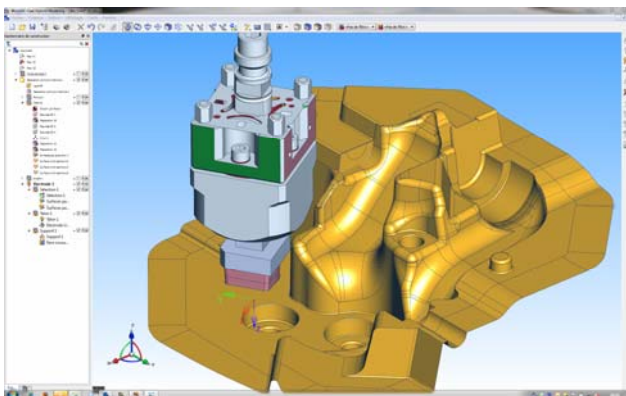
The creation of electrodes is an important part of the mold making process, whatever its complexity.

The **WorkNC-CAD Hybrid Modeling** Electrode Module brings users the perfect balance between automated and manually controlled processes.

With this combination of processes (automatic and manual), users can modify their projects at any time to refine the design of the electrode.

The user-friendly, ergonomic **WorkNC CAD Hybrid Modeling** interface enables users to get to grips with the Electrode Module quickly and efficiently.

Furthermore, **WorkNC CAD Hybrid Modeling's** powerful functionality enables the most complex open or closed 3D models to be prepared and repaired with ease.



Translators:

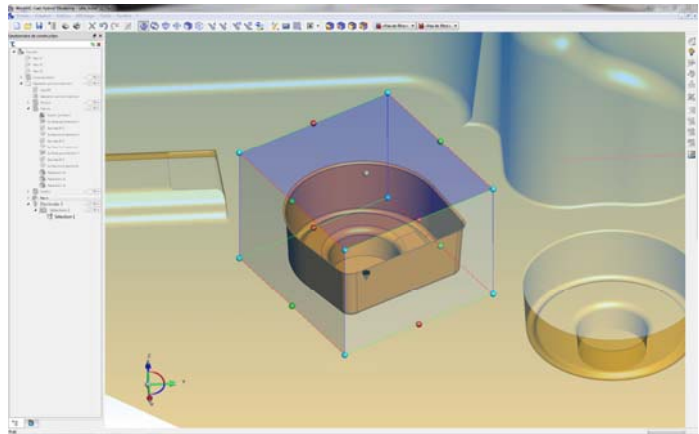
Most well known translators, both standard and native, are available with the **WorkNC CAD Hybrid Modeling** application:

- Standard CAD Translators: IGES, STEP, DXF/DWG,
- Native CAD Translators: CATIA® V4, CATIA® V5, Unigraphics®, CADD5®, ProE®, XT, PARASOLID®, SolidWorks®, SolidEdge®,...

Automatic extraction of active surfaces:

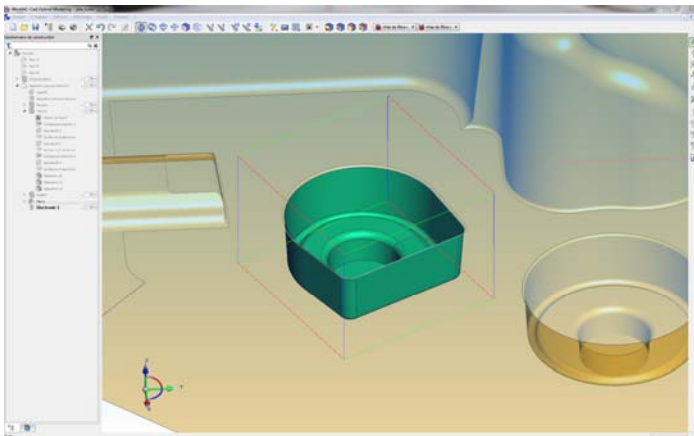
Selection and extraction of the electrode's active elements can be carried out easily and quickly:

- Surface selection by positioning a rectangular or cylindrical bounding box,



Surface selection by bounding box

- Dynamic preview of the active selection before validation,
- Manual addition or removal of surfaces to or from the selection,



Modifying the selection

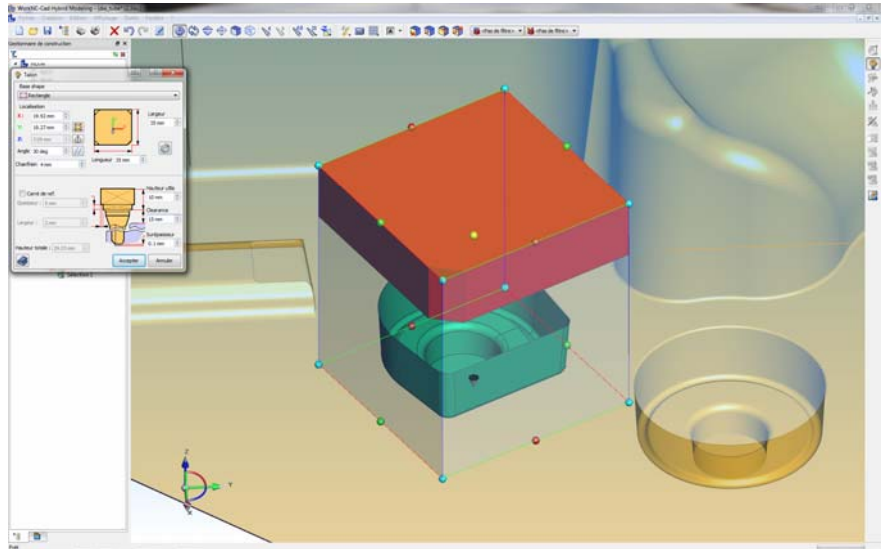
- Modification of surfaces or creation of new ones based on the extracted surfaces.

Electrode stock creation:

Creating the electrode stock and sizing it to requirements is an easy, quick step in the process:

- Automatic positioning of the stock and reference square,
- Easy orientation of the stock,
- Creation of positioning chamfers,

- Real time collision management between the stock and the part.

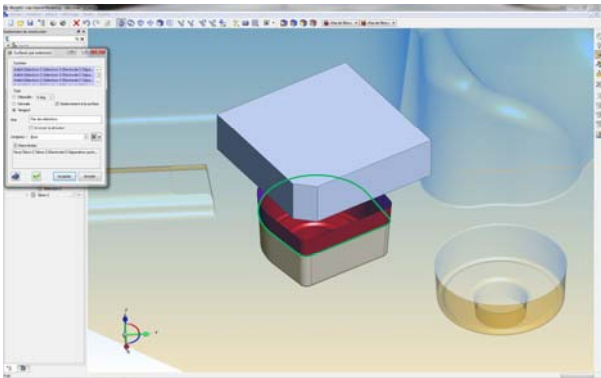


Stock creation

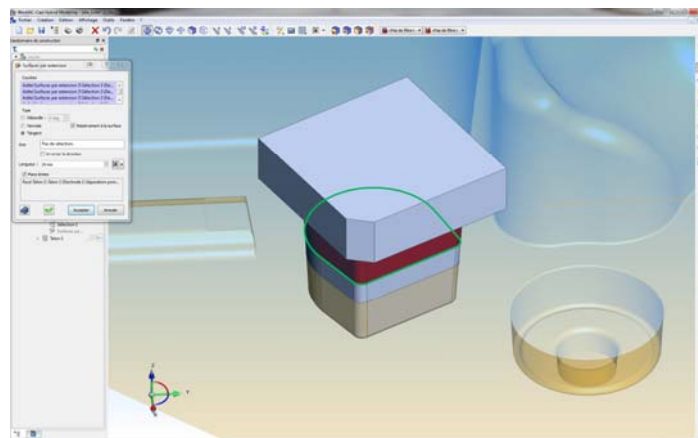
Surface extension:

A wide range of options are available permitting the extension of open contours from the extracted surfaces:

- Surface extension by a simple mouse click with automatic selection of open contours,
- Extension options: normal, tangent, at an angle with respect to surfaces and /or according to a given direction.



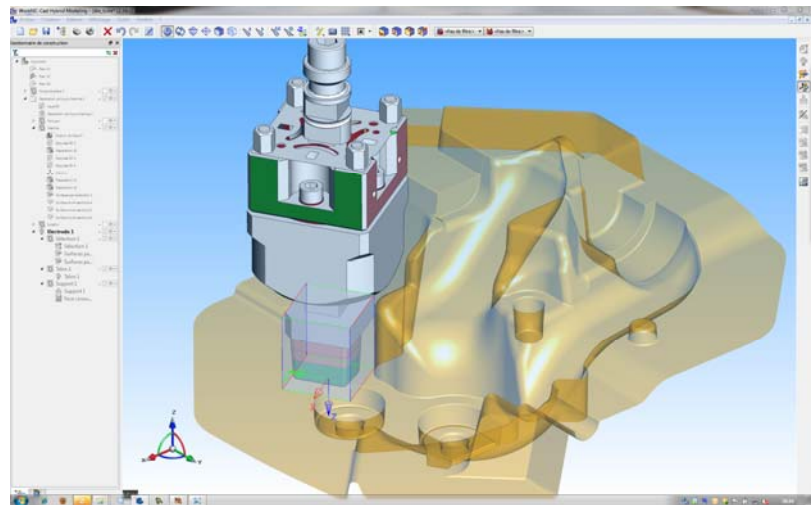
Extension 1 : tangent to surfaces



Extension 2 : tangent to a direction

Machining and electrode axis coordinate systems:

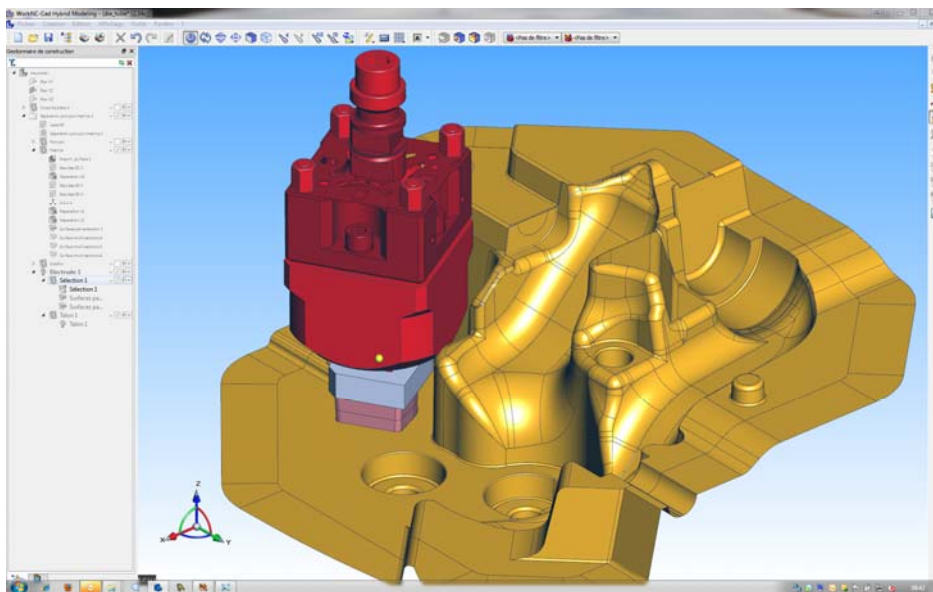
- Automatic insertion of the machining and electrode axis coordinate systems: at the base of the electrode, on the shoulder, on the reference square or the support.



Creation of a "User Coordinate System"

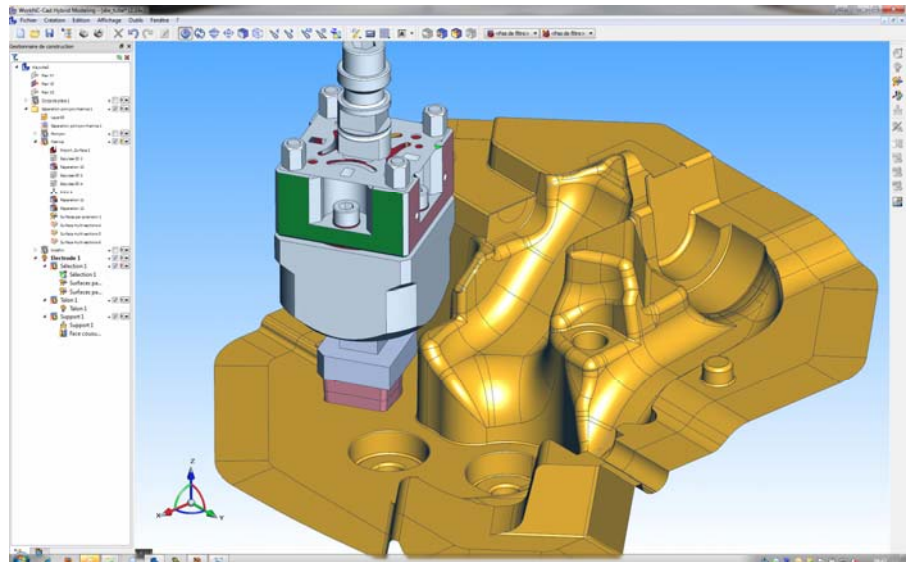
Electrode holder:

- Electrode holder selection from an integrated library,
- Customization of holders and addition of new holders to the library,
- The electrode holder position can be shifted with respect to the stock,
- Electrode holder management with real time collision checking between the electrode holder and the part,



Collision detection between the support and the part

- Automatic addition of an extension bar to avoid collisions.



Automatic addition of extension bar

Multiple electrodes:

Multiple electrode position management: by linear or circular displacement, mirroring or unlimited.

Controlling the electrode:

- Automatic creation of electrode control positions.
- Electrode sinking simulation.

Documentation:

- Associative drafting of the part and/or electrodes,
- Insertion of axis systems (part and machining) in drawings,
- Element dimensioning,
- Workshop technical documentation generation in HTML, TXT or Zwicker formats for manufacturing.

Export:

- Direct link with WorkNC CAM for electrode machining,
- Export of the electrode in STEP, IGES, STL (binary or ASCII) and VRML formats.