NX Electrode Design

The fastest and most complete electrode design process

Business challenges
- Job turnaround and project time
- Cost control
- Process efficiency
- Waste and human error
- Tool quality
- Process connectivity between tool design and machining

Benefits
- Highly automated electrode design process
- Specialized electrode modeling tools
- Standard component libraries and intelligent blank selection
- Fast and efficient design change propagation across entire process (tool design through machining)
- Reduced electrode design errors
- Automated drawing creation
- Effective data and process management
- Decreased EDM programming time

Summary
NX™ Electrode Design software delivers a state-of-the-art solution to enable today's tool manufacturers to shrink their lead times and reduce their costs. By combining industry knowledge and best practices with process automation, NX Electrode Design streamlines electrode modeling and design for any tool project that requires EDM. NX Electrode Design excels at handling the most complex and challenging electrodes, providing a time-saving, step-by-step solution that automates and helps toolmakers effectively design, validate, document, manufacture and manage the entire EDM process from design through production.

Basic functionality
NX Electrode Design offers a wealth of industry best practices and process solutions for:

Manufacturing geometry identification
You can automate the way you specify the manufacturing processes for surfaces on the core and cavity. In addition, you can automatically search, recognize, group and color faces that you want to burn and rough through EDM, WEDM, milling and grinding.

### Design the electrode working area and blanks
You can leverage specialized and efficient features to model the shape of the electrode head/burn area. Highly complex shapes are easily achieved and are associative – design changes made to the core and cavity properly propagate to the electrode, drawing and into machining.
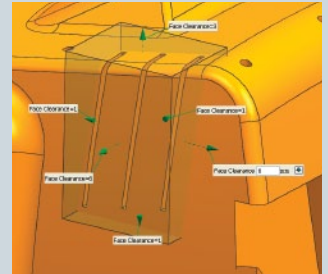
Electrode modeling functions are highly functional and simple to use. You can drag and drop, as well as facilitate easy extraction of the sparking regions.
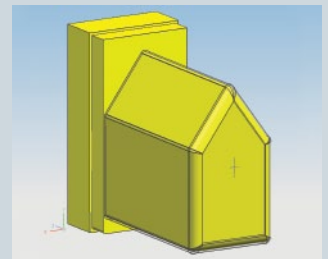
Undersized electrode geometry facilitates compensation for spark gap and user-defined orbit.
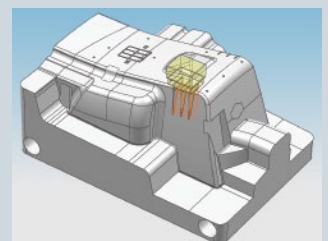
You can leverage electrode visualization to graphically visualize the sparking faces and the faces to be burned.

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You can intelligently add and generate the blank based on standard sizes predefined within a knowledge-enabled table. You can also copy and and mirror modeled electrodes to new positions and orientations.

Electrode undersizing You can use the Undersize Electrode command to create undersized electrode geometry. You can compensate for spark gap and orbital motion. Out-of-the-box orbit types include: circular, square and spherical. User-defined orbits can also be easily created.

Electrode validation You can check for interferences and calculate the sparking area; this is useful in defining downstream manufacturing operations and determining proper EDM machine settings.

Documentation and manufacturing information You can automatically document electrodes using predefined drawing templates and BOM tools.

Design change management You can swap design versions of the manufacturing surfaces and efficiently update related electrodes, electrode drawings and toolpaths.

Concurrent design You can facilitate team-oriented current design by enabling multiple electrode designers to work concurrently. This approach is an extension of the traditional concept of product/tooling concurrency.

Electrode machining You can integrate with any of the NX Machining products and automate the NC programming of electrodes.

NX Electrode Design add-on content
Electrode design
• Manufacturing geometry identification (EDM, WEDM, milling, grinding, as-specified)
• Box
• Trim solid
• Replace solid
• Extend solid
• Reference blend
• Intelligent blank design
• Spark area and type specification
• Copy to new positions and orientation
• Mirror
• Undersize geometry based on spark gap and orbital motion

Electrode documenting
• Automated drawing creation
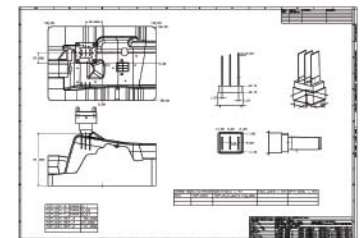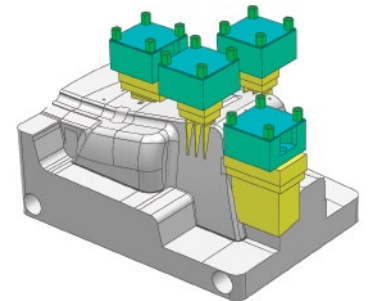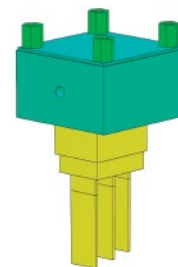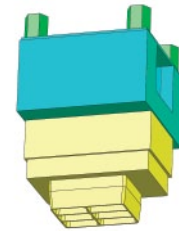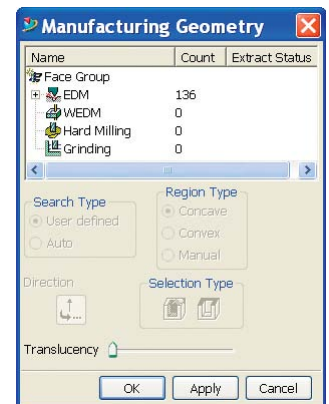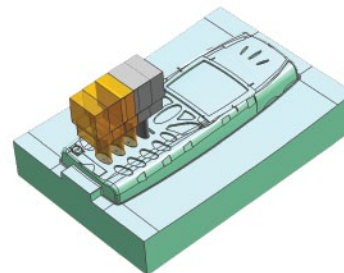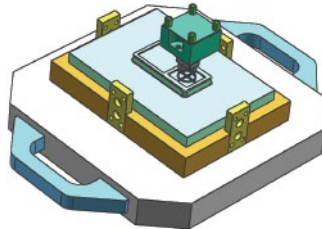• BOM

Standard catalog offerings
• Holders
• Creation of special fixtures
• Machining pallets

Validation
• Projection area
• Burn area
• Interference validation

NX Electrode Design can add-on to and integrate with Siemens PLM Software product bundles and NX Mach Series products including:
• NX NC Machining
• NX Mold Design
• NX Progressive Die Design meta-solution process