

SMARTElectrode 10.0

EROWA S

What's new in SMARTElectrode?

Changes



Process Ribbon

- Assemble Again
- Burnsheet
- View Control

Detail/Modeling Ribbon

- Get Data
 - Mirror
 - Merge
 - Split
 - Cutout and Cserdefined Cutout
- Base UI

Compatibility with SME 7.0

- Functions for legacy assemblies
- Import electrodes

Configuration

- Options
- Parameters

Repeat / Assemble again



- Allow selection of several electrodes to repeat
- Transformation will be defined for 1st selected electrode

 Disable and enable preview of new electrode positions



Repeat / Assemble again



Move

- relative with respect to current electrode position
- <u>absolute</u> with respect to selected reference
- Assemble using native Creo UI





Repeat / Assemble again



Rotate in 90° steps



 Measure distance, angle or move from point-to-point in RMB-menu



Burnsheet UI



 Review all electrode parameter in one UI

Use RMB to

- Filter display
- Open parameter UI
- Update electrode model

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Burnsheet UI



Update icon appears in column ,Status' if...

- outline of copy-geom changed
- base not centered anymore on electrode solid

Use RMB ,Update
Model' to

- update position and size of cutouts (created by SME)
- recenter base on electrode solid
- set minimum base size

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View Control



Display of components will be filtered automatically on activation







 In modeltree hidden electrodes stay hidden till command ,View All'



View Control



New commands to...

- hide/show datum surfaces/quilts
- hide/show solid geometry

New commands to...

- activate wireframe style for electrodes
- activate wireframe style for workpieces



Get Data - Mirror



Use ,Mirror' to mirror geometry into active electrode.

- Usage
 - Activate electrode
 - Activate ,Mirror'
 - Select electrode to mirror
 - Select datum plane to mirror at
- Electrode with mirror model can't be moved from initial position!

Use ,Repeat' and disable in ,Classify'









Get Data - Merge



• Use ,Merge' to merge electrode geometry into active electrode.

• Usage

- Activate electrode
- Activate ,Merge'
- Select electrodes to merge
- Disable or keep parent electrodes
- Electrode with merged models can't be moved from initial position!

Use ,Repeat' and disable in ,Classify'





Get Data - Split



Use ,Split' to split electrode geometry into active electrode.

• Usage

- Activate electrode
- Activate ,Split'
- Select electrode to split
- Sketch area to copy to active electrode
- Decide if sketched area should be removed in parent
- Electrode with split can't be moved from initial position!

Use ,Repeat' and disable in ,Classify'



	×	Dirror
Cutaut	Carry	<mark>]</mark> Merge
⊂utout ▼	Geometry	🖶 Split
	Get Date	

Get Data – Cutout





Get Data – Userdefined Cutout



Userdefined Cutout is no indepent geometry anymore

- Userdefined Cutout creates...
 - a datum point that defines the center and depth
 - extrusion with outline and offset
 - dimensions can be adjusted later if necessary
- Userdefined Cutout can't be updated by SME, because there are no references to analyse!





- **SME** shows calculated distances for better control of base creation!
- Distance D1 is the frontal offset from **FREE FACE to** workpiece
- Distance D3 is the top offset from electrode solid to datum LENGTH



A V

D2 35.000

1.000

+ D3 0.522

*

B BASE

LENGTH

FRAME

ORIGIN

Detailing CHAMFER

50.000

2 1.000

5.000

EDM Top CAM-Csys EDM-Origin

LENGTH



- SME offers the possiblity to place CAM-csys independent from the EDM-origin!
- New option CAM_CSYS_POS

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- Details page offers access to technology paremeters and electrode holder
- New default parameters:
 - &priority (defined in sel_list.txt)
 - &surf_quality
 (defined in sel_list.txt)





Values for undersizes and quantities can be set by...

- defaults from machine control and orbit
- selecting default
 values from list
 (defined in sel_list.txt)

Technology		
Machine	DEFAULT	-
Orbit	SPHERIC	-
Priority	Normal wear	-
	24	
	16	
Quality	12	
	10	
	0	

	Undersize	Quantity
Roughing	0.1 👻	1
Semi-Finishing	0.5	1
Serie Finishing	0.4	• •
Finishing	0.3	1
	0.2	4

Functions for legacy assemblies



Edit electrode parameters in UI

 Show complete assembly information in burnsheet UI

- Export data for EDM!
 - Suppress all but one operation!
 - Make sure USE_EDM_ORIGIN_TOP is set in options.



Functions for legacy assemblies



Use display commands like in current assemblies



Add design changes to SME 7.0-assemblies

- Change geometry interactively
- Set electrode positions interactively
 - EDM_ORIGIN
 - EDM_ORIGIN_TOP
 - STARTPOS
 - SECUREPOS
- SME 10.0 updates position parameters automatically!



Use electrodes again



There are two options to use an electrode from SME 7.0 again:

- Assemble original model
 - SME reads the data and does not change the model
- Assemble original model and create a copy
 - new electrode model that belongs to project



Configuration – New Options



 New option CAM_CSYS_POS allows independent placement of CAM-csys

Values

- placed on holder base
- placed on top surface of base
- placed on FREE_FACE of base
- placed on electrode top
- placed on blank length
- placed by user
- placed on EDM_ORIGIN (default)

Configuration – New Parameters





Configuration – Userdefined Defaults



Default values for overburns available in option-menu

- Roughing (Overburn1)
- Semi-Finishing (Overburn2)
- Finishing (Overburn3)
- Fine-Finishing (Overburn4
- Edit available values in configuration\sel_list.txt

Undersize				
	Undersize		Quanti	ty
Roughing	0.1	•	1	*
Semi-Finishing	0.5 0.4		1	*
Finishing	0.3		1	*
Fine-Finishing	0.2	•	1	*