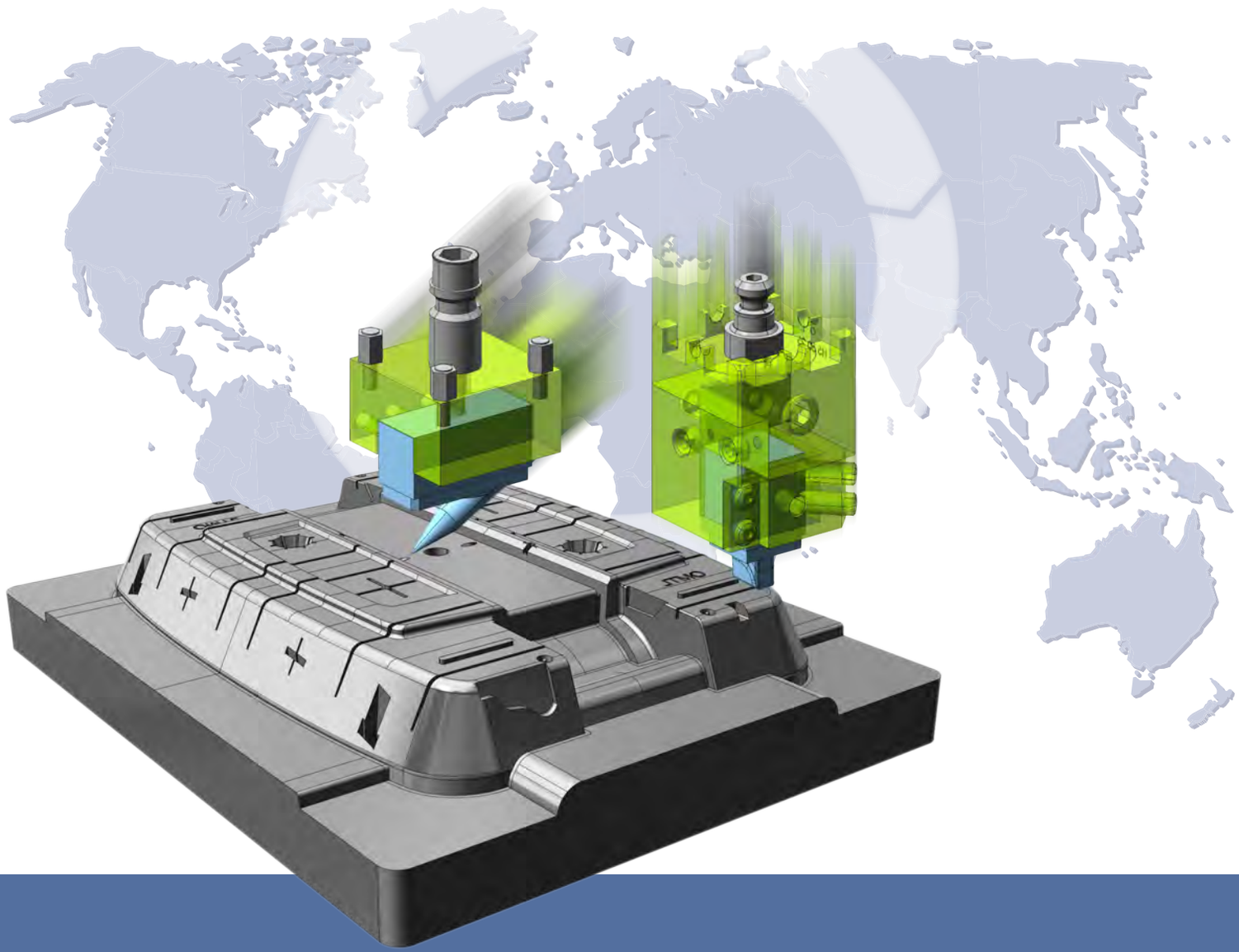
thinkline®
CAD - CAM - PLM SOLUTIONS



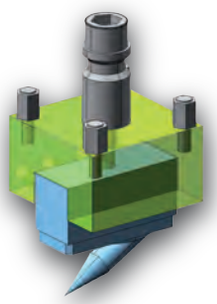
we optimize your process

tl-Elektrode

A field-tested solution for moldmaker

Easy to learn and simple to use with an average of about 84% saving of time compared to manual electrode construction. tl-Elektrode covers nearly all time consuming routines of electrode design by automated calculation. Just a few clicks are required to create project reports that contain all necessary data for the EDM process. tl-Elektrode reduces significantly the time needed for electrode design and eliminates human errors caused by wrong insertion of coordinates.

Suitable selections for burning areas



Automatic selection
- User define only one solidface and the System find automatically all faces of burning area

Manual selection
- User defined surface selection

Selection by boundaries
- Recognition by given boundary faces

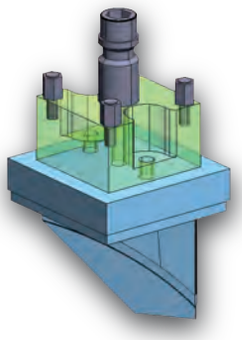
Area selection by custom contour
- Circular, rectangular or free contour for electrode area

Rib selection
- Generation of rib-electrodes, gaps are closed automatically

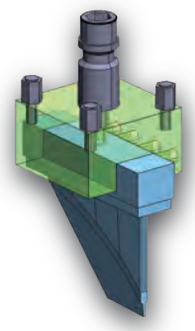
Selection for sprue electrodes
- Automated creation of geometry for sprue electrodes

Automatic stock optimization

Stock model optimization saves up to 80% of material



Without **stock optimization**
Stock 70x70x90



With **stock optimization**
Stock 13x74x88

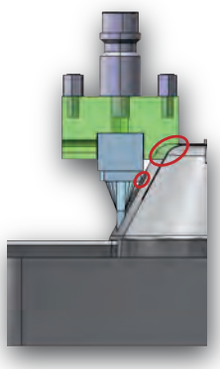
Automatic electrode design with user defined rules

Automatic area selection
Automatic extension of faces
Automatic calculation of electrode position and stock size
Automatic holder selection
Calculation of burning area and undersize

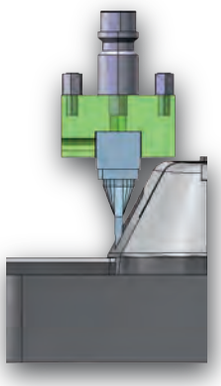
Secure processes through reliable collision avoidance

Automatic face extension in case of collision between electrode and work piece

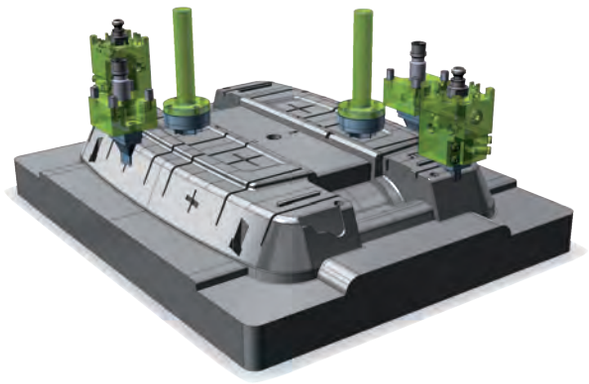
Automatic box extension in case of collision between holder and work piece



Without collision avoidance



With collision avoidance



- **Multiple positioning**

  Multi-cavity-machining through global positioning
  - Rotation and translation

- **Mirrored positions**
  - Machining of mirrored cavities by global or local mirroring

- **Clear lists of stock, electrodes and 2D documentation**

  User defined template for the electrode supplementary sheet
  Customizable export as xls, html, CSV, PDF, etc..

Projekt: tl-
Erstellt von: Max
Firma: thinkline
Abteilung: Support
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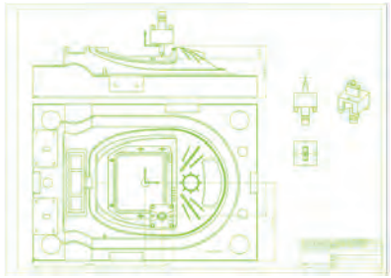
Elektrodenliste

thinkline

Modell: thinkline-Elektrode
ECS 1

Elektrode	Position	Start-Koordinaten SX	SY	SZ	SC	Ziel-Koordinaten X	Y	Z	C	Rohmaße Z2	rx	ry	rz	Untermaße V	Maß	V°	Maß	Fläche	VDI	Bemerkung
Elek_001	01	18	-83.5	-20.71	0	18	-83.5	-32.71	0	12	26	50	38	1	0.3	1	0.1	1.5	27	
Elek_002	01	37	-74	-20.6	0	37	-74	-30.6	0	10	10	70	36	1	0.3	1	0.1	0.1	27	
Elek_002	02	-8.588	-74	-20.6	0	-8.588	-74	-30.6	0	10	10	30	36	1	0.3	1	0.1	0.1	27	
Elek_003	01	-73.5	-60	-6.07	0	-73.5	-60	-26.07	0	18	30	10	44	1	0.3	1	0.1	0.1	27	
Elek_004	01	-136	114	-24.51	0	-136	114	-64.51	0	40	112	42	86	1	0.4	1	0.2	29.3	27	
Elek_005	01	99.5	42.5	-2.08	0	99.5	42.5	-52.08	0	50	70	70	76	1	0.4	1	0.2	21.7	27	
Elek_006	01	100	-52.5	-4.08	130	100	-52.5	-52.08	130	48	74	13	74	1	0.3	1	0.1	5.1	27	



- **Transfer of parameters to the CAM system**

  In combination with hyperMILL parameters like undersize, machining depth, milling area, zero point, stock dimension etc. are transferred automatically to the CAM system. HM-Interface selects from a user defined library automatically a suitable electrode milling template and start the calculation.

- **Average effort per electrode**

	Without tl-Elektrode	With tl-Elektrode	Saving
Manual electrode design	10 min	2 min	8 min
Making of starting sheets	5 min	1 min	4 min
Writing of electrode lists	2 min	0 min	2 min
Making of milling programs	15 min	2 min	13 min
Programming for EDM	5 min	1 min	4 min
	37 min	6 min	ca. 84 %

- **Support of many common EDM systems**

  tl-Maschine automatic transfer technology and positions to the eroding machine. This includes all relevant parameters as start-end-position, undersize, excursion strategy, electrode and work piece material, etc. and could be used by the machine control. At any time manual intervention by the operator is possible.

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From design to production -
consistent data base and user interface

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