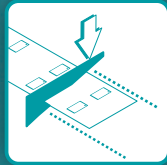


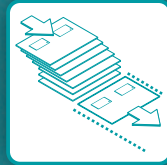
Handling



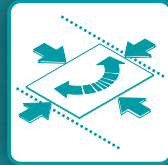
WEB INPUT AND
TRANSPORT -
LARGE FORMAT



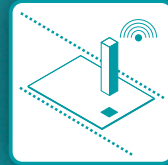
SHEET CUTTING -
GUILLOTINE



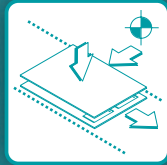
SHEET FEEDER -
STACK / CONTINUOUS



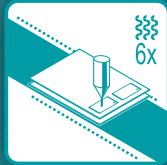
SHEET
ALIGNMENT



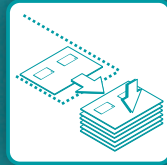
HOLE/HINGE
PUNCHING - MECHANICAL /
ULTRASONIC



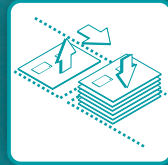
SHEET PICK AND PLACE -
HIGH PRECISION



SPOT WELDING -
HOT SPOT/ULTRASONIC

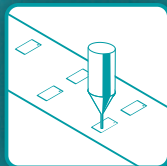


INLAY - STACKER
BOX

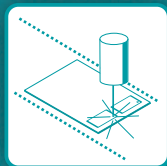


PILE OUTPUT
CONVEYOR

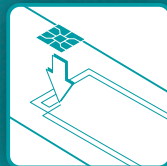
Process



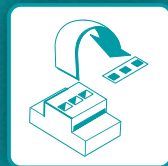
WIRE EMBEDDING -
UP TO 12 HEADS



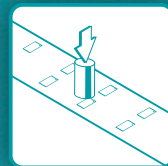
VANISH REMOVAL -
ANTENNA WIRE



MODULE
IMPLANTING



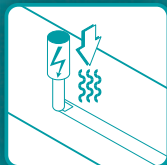
MODULE
FLIPPING



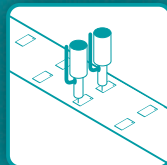
MODULE HOT
PRE-FIXING



MODULE
GLUING



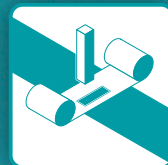
WELDING -
2 HEADS



SOLDERING -
2 HEADS

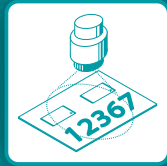


DOD PRINTING -
MONOCHROME

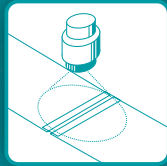


PROTECTIVE FOIL
APPLICATION

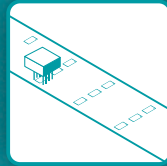
Testing / Measurement



OPTICAL VERIFICATION/
MEASUREMENT



SPLICING
DETECTION



MODULE
PRE-TESTING



RFID TESTING - 2 HEADS
4 HEADS / 24 HEADS

ruhlamat
solutions for your needs.

MACK
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High-quality RFID inlays –
quickly and economically

Our reliable machine solutions offer great flexibility and productivity, enabling you to make both prototypes and mass products in an economical way and with consistently high quality. From antenna embedding to production of RFID inlays for eCovers, PC holder pages or ID1-cards, the options are versatile.

Wire embedded antennas produced on ruhlamat machines offer an excellent cost-to-benefit ratio and yet provide the best product characteristics compared to etched or plated antennas.

Our excellent sonotrode know-how for various substrate / wire combinations ensures highest precision at wire embedding. Optimised sonotrode geometries and materials guarantee best performing products with proven reliability even in the most demanding applications.

ruhlamat – customised machine solutions for

- › Chip Module Production
- › RFID Inlay Production
- › Card Personalisation
- › Card Quality Control
- › Passport Personalisation
- › Passport Quality Control
- › Special Machinery

 www.linkedin.com/company/ruhlamat-gmbh



ruhlamat
solutions for your needs.

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RFID Inlay Production



ruhlat – WCE700

Semi-Automatic Production System



Very economical solution for antenna embedding and RFID inlay production.

The **WCE700** is a semi-automatic system designed to produce RFID inlays for ID documents (ID-1 and ID-3 format). Based on a 4-station roundtable concept with manual load and unload, this solution can handle both small jobs and high-volume runs with ease.

Benefits and features:

- Semi-automatic system for antenna embedding and RFID inlay production with up to 1,600 inlays/hour
- Very precise and accurate antenna embedding on various substrates

- Automated intermetallic bonding process
- Modular system design, with the flexibility to choose the number of heads for wire embedding, thermo-compression and soldering

ruhlat – WCE2000 S2S

Automatic Production System for Antennas



Standard machine for the production of RFID antennas in mass production.

The **WCE2000 S2S** was developed as a fully automatic wire embedding machine and is the basis for the full automated RFID antenna production. Based on an ultra-fast wire embedding process, high volume production is possible.

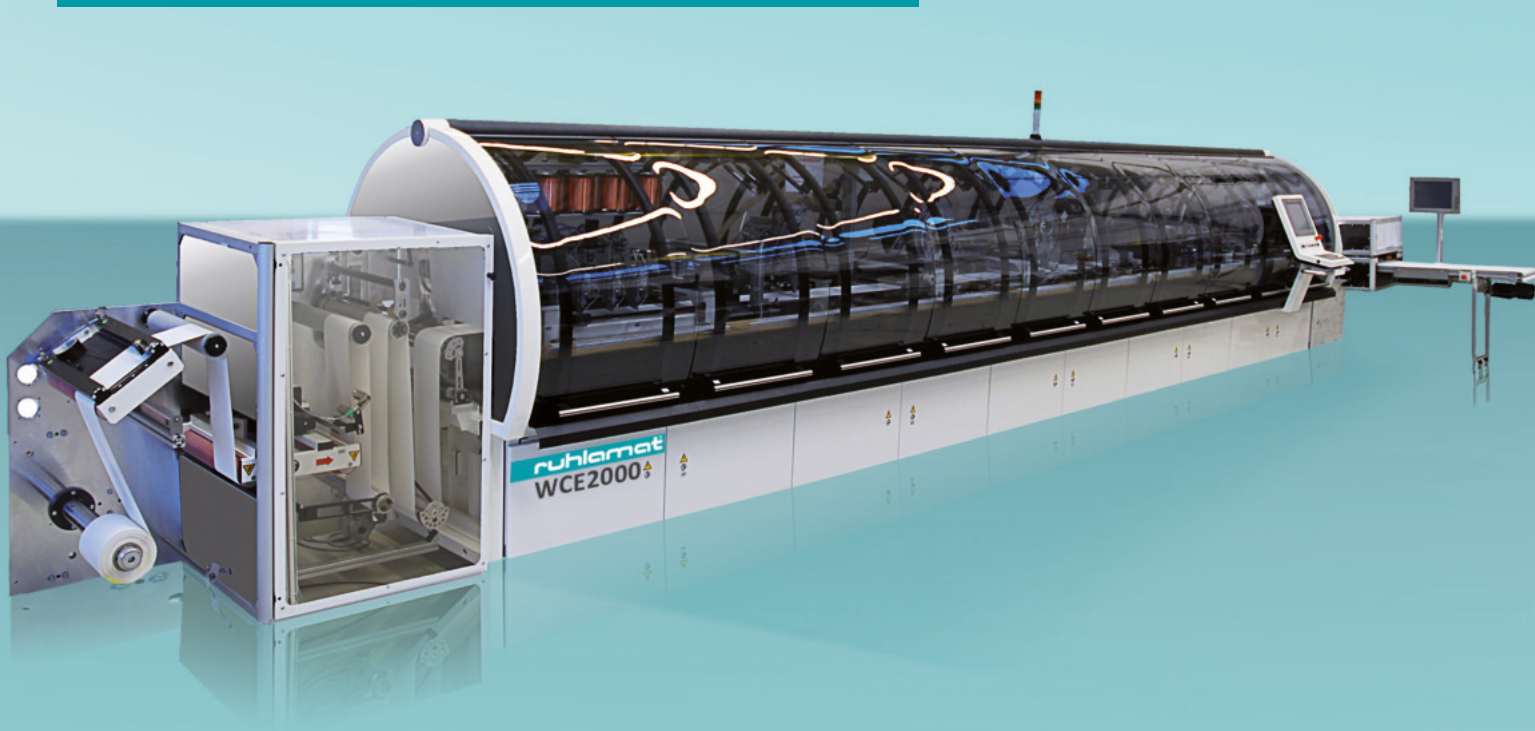
Benefits and features:

- Antenna geometry is freely programmable, no additional tools are required
- High precise and accurate antenna embedding on various substrates and different wire diameters
- Depending on customer request up to 12 ultra-sonic wire embedding heads are possible

- Throughput up to 6,000 antennas/hour
- Wire embedding with substrate fixing on vacuum table
- Specially designed for dual interface antenna solutions
- One operator can easily handle up to 5 machines

ruhlat – WCE2000 R2S

Automatic Production Line for RFID Inlays



Flexible platform for antenna embedding and RFID inlay production.

WCE2000 sets the standard for high-speed wire embedding and RFID inlay production. Superior quality, highest accuracy and unmatched price-performance ratio. The system can be designed to perfectly match your needs: sheet to sheet (**S2S**), reel to sheet (**R2S**), or reel to reel (**R2R**).

Benefits and features:

- Highly modular and flexible, allows for the processing of web and sheet materials
- Up to 2,000 finished RFID inlays/hour as inlay manufacturing line
- Very precise and accurate antenna embedding on various substrates and different wire diameters

- Inline product testing (ATS)
- Automatic inline control for each process unit ensures highest quality and yield