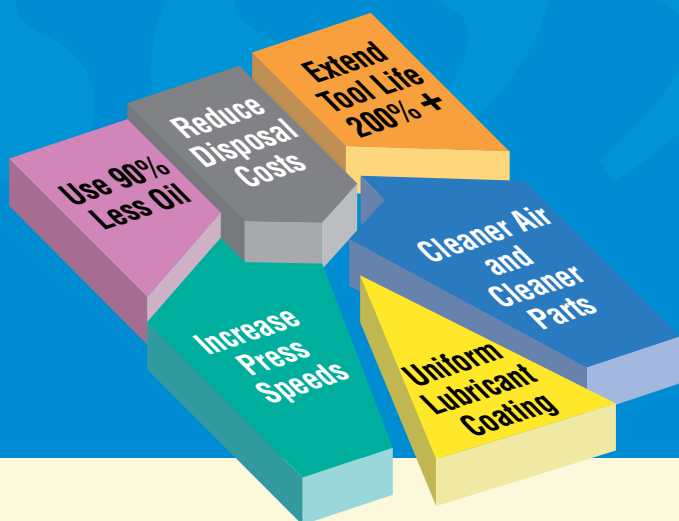


Metal stampers talk about the world's most advanced lubrication system



MicroCoat®

EFD's MicroCoat is the first stock lubrication system to provide truly consistent oil coverage.

The system quickly pays for itself with significant savings throughout the pressroom – from extended tool life and reduced oil use to cleaner parts and lower waste disposal costs.

In the following pages, we'd like to share with you the experiences of MicroCoat users worldwide.



Zierick Manufacturing Corporation

Products:	Connectors for circuit boards, cell phones, appliances, and automobiles.
Old method:	Drip systems, pressurized rollers.
Problem areas:	No control – stock was flooded with oil. This led to waste, maintenance, cleanup and disposal problems.
Problem solvers:	Bill Searles, Engineering Manager Ajay Sharma, Manufacturing Engineer
Action:	Installed 22 MicroCoat systems.
Biggest result:	Consistent stock lubrication – using 60% less oil.
Extra benefits:	Longer tool life. No pressroom puddles.
Savings:	\$19,000 per year

“We stamped over 900,000 parts using only 1 gallon of oil. When we checked the tool under a microscope, there was no visible wear.”

Ajay Sharma, Manufacturing Engineer

Stock:

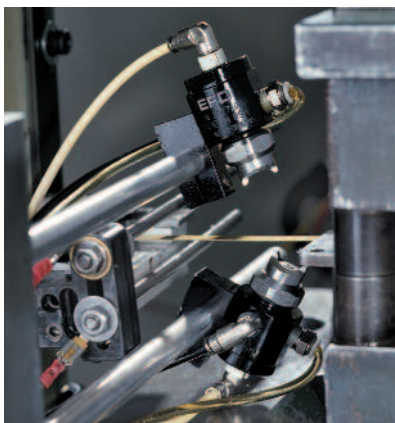
Brass, bronze, copper, stainless steel

Press type:

Bruderer & Minster
25 – 60 tons

Speed:

400 – 1000 SPM



Imagine the profits on multiple presses.

Products: Microwave, automotive and electronics components.

Old method: Airless spray system.

Problem areas: Airless spray system required so much pressure that there was more oil on the floor than on the components.

Problem solver: Tony Daly, Project & Maintenance Manager

Action: Installed 4 MicroCoat systems.

Biggest result: Created a cleaner work environment. Cut oil use almost 90%.

Extra benefits: Eliminated manual degreasing. Simplified inspection. Reduced hazardous waste.

“The savings have been staggering! Now that we lubricate only the stock – not the floor – we’ve reduced oil use by about 90%.”

Tony Daly, Project & Maintenance Manager

Stock:
Stainless and mild steel

Press type:
Erfurt, 400 tons

Speed:
32 SPM



Photo courtesy of Sharp Precision Manufacturing, UK Ltd.

Prove the value of MicroCoat on your press.

ETCO Incorporated

Products:	Connectors for automotive, appliance and power tool applications.
Old method:	Roller systems.
Problem areas:	Roller systems were inconsistent – applied too much or too little oil.
Problem solvers:	Rolland Blom, Maintenance Supervisor George Brennan, 2nd Shift Supervisor
Action:	Installed 10 MicroCoat systems.
Biggest result:	Consistent coverage extended sharpening intervals by 500,000 strokes.
Extra benefits:	Reduced sludge by 90%. Improved part quality. Reduced tool damage.

“The MicroCoat has increased die life 50%, reduced maintenance and downtime, and has given us greater production capacity. Plus, part consistency is dramatically better.”

Dennis Herdegen, Vice President of Manufacturing

Stock:

Brass, steel,
beryllium, copper

Press type:

Bruderer

Speed:

600 – 1800 SPM



Photo courtesy of ETCO Incorporated

Now's the time to rethink coil stock lubrication.

National Metal Technologies

Products: Cartridge belts for military ammunition.

Old method: Rollers, airless spray system.

Problem areas: Excessive oil use, tool wear and pressroom mist.

Problem solver: John Wilson, Chief of Operations

Action: Installed MicroCoat system.

Biggest result: Cut oil use by 90% and eliminated pressroom mist.

Extra benefits: Increased tool life 40%, reduced maintenance 33% and cut waste disposal costs in half.

Savings: \$13,000 per year

“Our dies now stay in such good shape, we’ve upped the interval between sharpenings by 40%.”

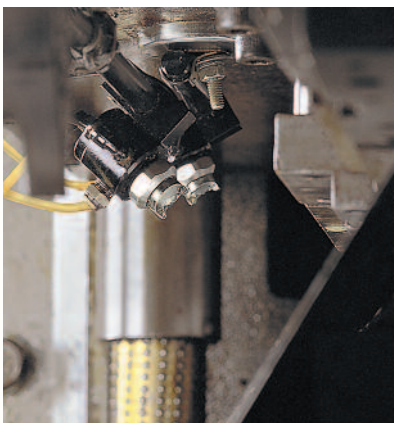
John Wilson, Chief of Operations

Stock:

Annealed
spring steel

Press type:

Minster, 150 tons



**Prove the value of MicroCoat
in your pressroom.**

Crown Cork & Seal Company, Inc. (UK)

Products:	Beverage can ends and pull tabs.
Old method:	Drip pads.
Problem areas:	Pad systems' coarse adjustment could not provide the accuracy and control needed to meet a demanding industry specification.
Problem solvers:	Derry Casson, Engineering Coordinator Don Heap, Tool Care Engineer
Action:	Installed 2 MicroCoat systems.
Biggest result:	Precise oil coverage and increased specification compliance.*
Extra benefits:	Reduced lubricant residue.* Longer tool life.*

**Proprietary data*

“The MicroCoat’s measured, consistent lubrication has significantly improved die life and reduced lubricant residue.”

Derry Casson, Engineering Coordinator

Stock:
Aluminum

Press type:
Minster

Speed:
620 SPM

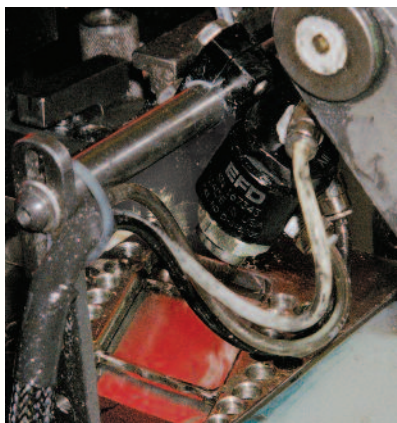


Photo courtesy of Crown Cork and Seal Company, Inc.

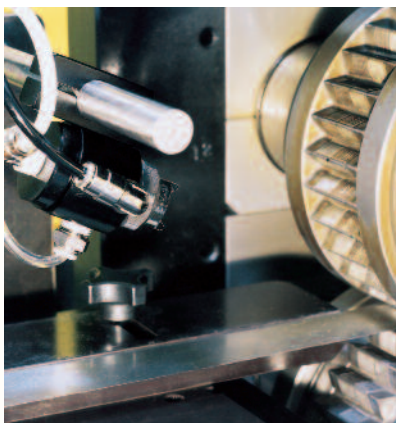
**Controlled lubrication.
It's about your profitability.**

Products:	Fin mills used to make fins for automotive radiators, air conditioners and other heat transfer systems.
Old method:	Pad lubrication systems.
Problem areas:	Pad systems not accurate enough for their mills to run at optimum speed.
Problem solver:	Mike Carapellatti, Senior Engineering Designer
Action:	Installed 10 MicroCoat systems.
Biggest result:	Optimized fin mill performance. Increased die life 30-50%.
Extra benefits:	Lowered VOC levels. Cut oil use 50%. Reduced maintenance & downtime.

“We started offering the MicroCoat as an alternative to drip pad systems, but positive customer feedback has made it the standard lubrication system on every new fin mill we produce.”

Mike Carapellatti, Senior Engineering Designer

Stock:
Aluminum



**Prove the value of MicroCoat
on your press.**

la société Mécagis (France)

Products: Electronic security system components.

Old method: Rollers and airless spray systems.

Problem areas: Uneven coverage caused equipment to seize up, and the spray system they tried created a greasy mist.

Problem solver: Olivier Hironnelle, Process Engineering Manager

Action: Installed 3 MicroCoat systems.

Biggest result: Eliminated lubrication-related downtime and tool damage.

Extra benefits: Extended time between tool sharpenings 30-50%. Oil use down 20%. No oil recycling expense.

“We were very impressed with the MicroCoat’s easy installation. Only two connections were needed – one to the compressed air system and one to the press.”

Olivier Hironnelle, Process Engineering Manager

Stock:

Ferrous cobalt alloys, nickel



Prove the value of exact lubrication control.

Products:	Evaporators for automotive heat exchanger applications.
Old method:	Oil bath.
Problem areas:	Natural gas, thermal de-oiling ovens were used to burn off excess oil from parts and produced harmful emissions.
Problem solvers:	Jeff Homan, Bill Osborne, DeLois Ellies, Michelle White
Action:	Installed 8 MicroCoat systems.
Biggest result:	Eliminated need for thermal de-oiling ovens and reduced emissions by 14,000 pounds.
Extra benefits:	Cut oil use 75%, decreased downtime 70%, and reduced scrap 40%.

Changing the lubrication process had a positive environmental impact – emissions were reduced by 14,000 pounds, the energy needed to heat the de-oiling ovens and power the incinerators has been conserved, and the work environment improved.

Savings:
\$2.7 million overall

(savings include: \$282,744 in lubricant, \$294,560 in downtime, \$102,116 in scrap, and \$51,480 in preventive maintenance.)



Maximize profitability on your existing presses.

Products:	Lead frames for semiconductors.
Old method:	Drip system.
Problem areas:	Slug pulling, over-lubrication, excess oil surrounding press and press bed, high reject rates. Excess waste removed twice weekly.
Problem solver:	Ms. B. K. Ooi, Process Engineer
Action:	Installed 46 MicroCoat systems.
Biggest result:	Uniform oil coverage. Improved process control, increased throughput, extended die life.
Extra benefits:	Lower degreasing costs, fewer rejected lots, significant oil savings.

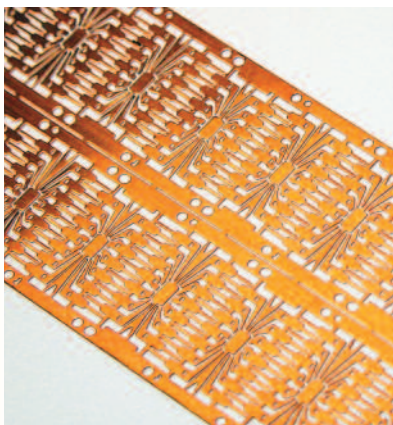
“One of the key reasons we chose the MicroCoat was the professional manner and dedicated support provided during the equipment evaluation period.”

Iain Meikle, Chief Operating Officer

Stock:
Copper, alloys

Press type:
Bruderer

Speed:
250 – 900 SPM



**Stop slug pulling
and increase press speeds.**

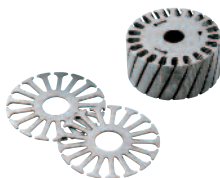
MicroCoat[®]



Rethinking lubrication

Examples of successful metal stamping applications

Aerosol valve ends
Aluminum extrusions
Automotive keys & lock assemblies
Automotive radiator & air conditioner fins
Beverage can tops & ring pulls
Can lids & ends
Candy tins
Connectors for automotive wiring harnesses
Contract shops
Controls for automotive accessories
EFI connectors
Electrical components
Electrical connector pins, terminals
Endforming staples
Hose clamps
Lead frames & connectors
Lightbulb bases
Lock set components
Microwave components
Razor blade components
Semiconductor lead frames
Terminals, connectors for white goods
Torque converter components
Transformer & motor laminations



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