Cold Rolling Expert
Your partner for the cold rolling process

Escofier, a French company, established in Chalon-sur-Saone – Burgundy, designs, develops and provides solutions for the cold rolling technology since 1922. As holder of several patents and inventor of new solutions, it is a result of all of our experience that we are able to provide you with the best possible proposals with our products and services. Our rolling culture, knowledge, latest technology equipment, and capacity to fit with your specific needs are a winning combination to make us your partner for the cold rolling process.

Cold rolling process

Rolling technology is used for cold forming metal parts to produce threads, knurls, splines, or finished gear teeth.

This Process has many advantages compared to other cutting technologies:

- Low cost per part
- High life time of the rolling dies
- Stability and reliability of the process
- Improved mechanical properties of the rolled parts
- Extremely high accuracy
- Material savings (chip-less production)
- Outstanding surface quality
- Low cycle time

Cold rolling is used for many applications in various markets: automotive, aerospace, construction, medical, tooling, electrical goods, etc...

- Thread rolling
- Spline rolling
- Gear / worm burnishing or powder metal gear densification
- Finned tube rolling

We provide complete turnkey solutions from one single source

- Rolling process design
- Design and construction of rolling machines
- Design and manufacturing of rolling tools
OUR MACHINES

FLEX SERIES
PERFORMANCE & PRODUCTIVITY

As a result of its modular design, the FLEX machine series provides many application solutions for all types of cold rolling processes with dies. The maximum rolling force of the cylinder (from 5 to 120t), the type of process (electrical or hydraulic), the different diameters of the roller support shaft, the available types of drive… etc. ensure flexibility to produce all types of standard profiles, Incremental®, Syncroll®, roll-finishing, densification, finned tubes… etc.

Main characteristics
• Tailor made solution according to customer application
• A cast iron body and carriages ensure optimal rigidity of the machine.
• High accuracy of carriage movement as a result of the ground guide ways.
• Two carriers are symmetrically moved by a single hydraulic or electrical cylinder.
• Spindles are rotated by gearing or direct drive shafts.
• The spindle diameter is adapted to the rolling dies and applications.
• Movements are controlled by PLC, numerical axis or CNC.
• Graphical user interface and process visualization (FCM option)
• Force control system for roll-finishing process (FCR option)
• Optional Easy taper and helix adjustment

Principle and application
• In feed, through feed or forced through-feed methods
• Possibility of multiple rolling operations in the same cycle
• Easy production changeovers
• High accessibility of the rolling station enabling adaptation of specific part fixtures and / or integration of automatic loading

ALS SERIES
SOLUTION FOR BACKTAPER ROLLING ON SYNCRO SLEEVE

ALS machine has been designed for internal or external teeth rolling of manual gearbox sleeves or pinions dedicated to industrial or light vehicles.

Main characteristics
• Solution for internal rolling with 1 slide
• Hydraulic cylinder
• Control of all rolling parameters, graphical user interface and process visualization
• Manual or automatic loading
• Easy production changeovers
The MTR machines (Machine Thread Rolling) are our entry level range for rolling threads, knurls/serrations or other profiles with circular and constant profile dies. Simple, strong and economical, these machines benefit from Escofier experience and knowledge at the best price for through-feed or in-feed rolling operations.

**Main characteristics**

- Standard solution
- A rigid base assures an optimal rigidity of the machine.
- Accurate carriage movements are assured by 3 guides
- Symmetrical movement of the movable carriages
- A gearbox enables a wide range of spindle rotation
- High accessibility and easy manual adjustment.
- In-feed or thru feed rolling
- Peripheral units: Siemens, Rexroth.
- Digital screen to assist with operator adjustments (not for the MTR 15).

---

The TRIROLL machine is available for classical rolling process or more specifically dedicated to finned tube rolling. Thanks to its modular design, the TRIROLL series accommodates a wide range of applications especially for hollow parts.

**Main characteristics**

- Escofier design with 3 carriages at 120°. Movement by means of electric ball screws.
- Welded frame
- Direct drive of the shafts
- Graphical user interface and process visualization
- Optional Easy taper and helix adjustment
- Easy production changeovers
**OUR TOOLS**

**Circular tools**
Thread, spline or knurl rolling dies

**Circular tools with progressive profile**
Spline rolling

**Gear finishing dies**
Profile finishing of worms or gears, and densification of powder metal gears

**Disks**
Finned tube rolling

---

**OUR SERVICES**

**RESEARCH & DEVELOPMENT**
ESCOFIER offers technical development assistance by means of:
- Our PROCESS engineering department is responsible for new product development
- A Design engineering department controlling the final production process and the evolution of your machines
- A trial and R&D centre to develop the required rolling process and optimise the prototypes

**PRODUCTION**
As a result of the various machines available in our trial and R&D facility, ESCOFIER can produce small part batches and prototypes in collaboration with its customers.

**TRAINING**
ESCOFIER is also a certified training centre and offers customers three variants of training executed by our experts:
- Training sessions for Rolling Process
- Training sessions for the use of rolling machine (internal or at your facility)
- Training sessions for the maintenance of your rolling machines

**AFTER SALES SERVICE**
ESCOFIER provides after Sales service with three main benefits:
- Expert staff dedicated to listening to our customer.
- The supply of spare parts
- Technical staff dedicated to preventive maintenance operation or troubleshooting at the customer facilities.

**RETROFIT**
Among the services of the ESCOFIER Company, the machine Retrofit department offers several possibilities:
- Expertise
- Geometrical re-work
- Replacement of wear parts
- Adaptation, improvement, re-furbishing of the rolling machines
- Replacement of control systems
- Numerical Control integration
- Reliability improvement and optimization of the rolling machines
90 years experience and more than 1500 machines delivered worldwide

Contact
11, rue Paul Sabatier • BP 50295
71107 Chalon-sur-Saône Cedex • France
T. +33 (0)3 85 46 07 89 • F. +33 (0)3 85 41 63 37
contact@escofier.com