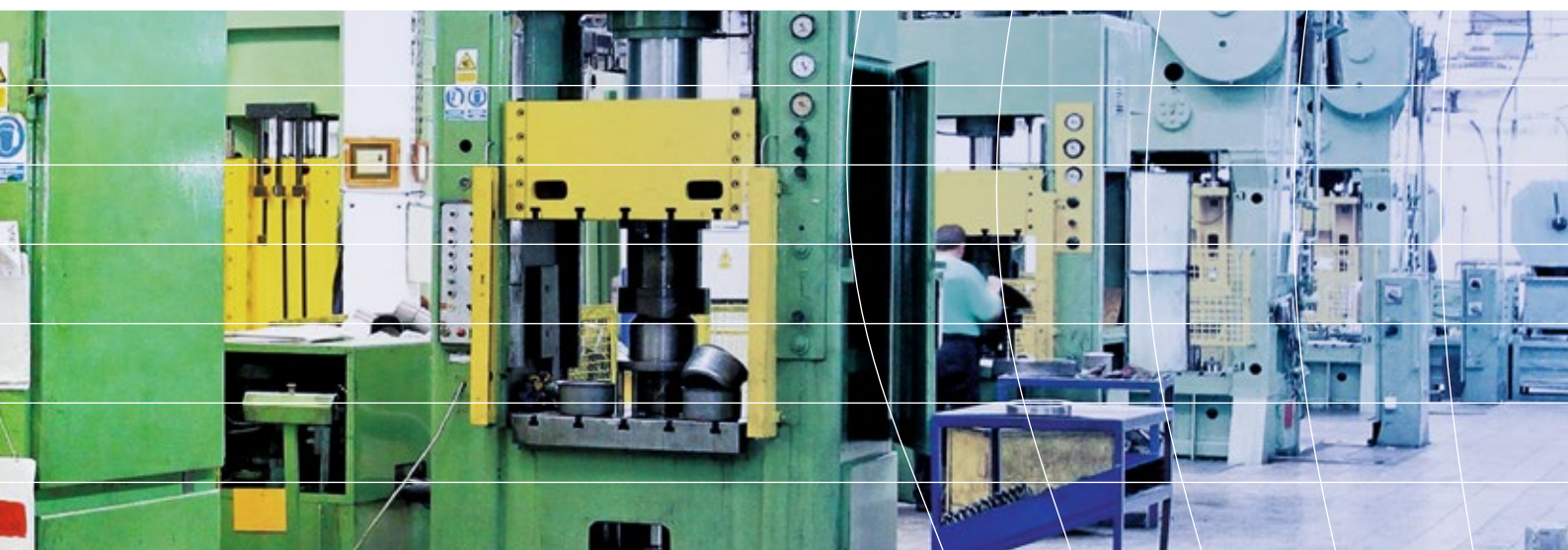


MARTOL

Advanced forming oils for all your operations



TOTAL



A full range of lubricants for all cold forming operations

The MARTOL range brings you multi-purpose and innovative products for metalforming applications that require optimized lubrication. This goes towards:

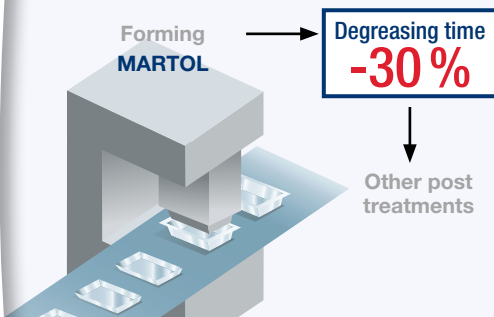
- **Reduced VOC emissions and improved air quality**
- **Minimal or no degreasing step after stamping operation**
- **Enhanced forming capacity for stringent processes**
- **Longer tool lifetime and higher production rates**
- **Decrease in oil consumption.**

Three technologies for all your needs

NEAT OILS

Our range of neat oils covers all the physical and chemical properties needed for the success of your cold forming operations: viscosity, lubricity, extreme pressure and non-extreme pressure properties, etc. With our range, you are assured to find the suitable product for your needs.

+ Limited degreasing time to improve productivity



+ Facing the chlorine issue

This use of chlorine is more and more regulated worldwide. This is why Total offers:

- Highly additivated sulfurised products, to be used successfully under very high loads
- New generation of chlorinated products that are non toxic following 1999/45/EC, or CLP

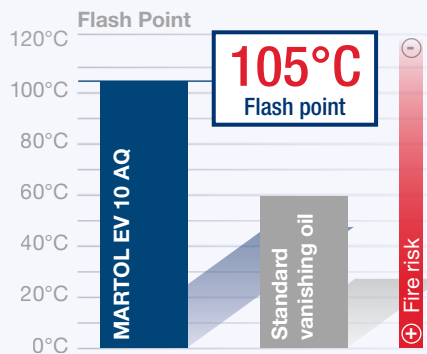
VANISHING OILS

Formulated from light petroleum cuts, vanishing oils allow to reduce or even eliminate degreasing operations. They are perfectly suited to medium difficulty or high throughput operations.

+ New generation of vanishing products to reduce VOC* emissions

The product does not contain any VOC and still has a fast evaporating rate, thus limiting the degreasing operations. At the same time, the high flash limits the fire risk to ensure the safety of the workshop, thus decreasing all related costs.

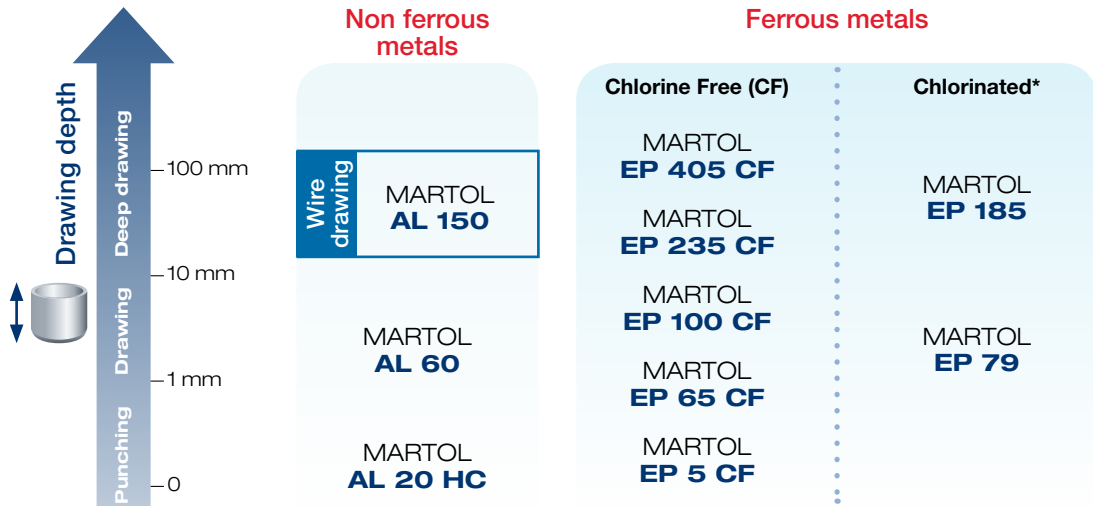
* Volatile Organic Compound



SOLUBLE OILS

As the forming operations give off a lot of heat, our MARTOL SOLUBLE oils combine strong lubricating and cooling powers. When used as an emulsion in water, they reduce product consumption.

NEAT OILS

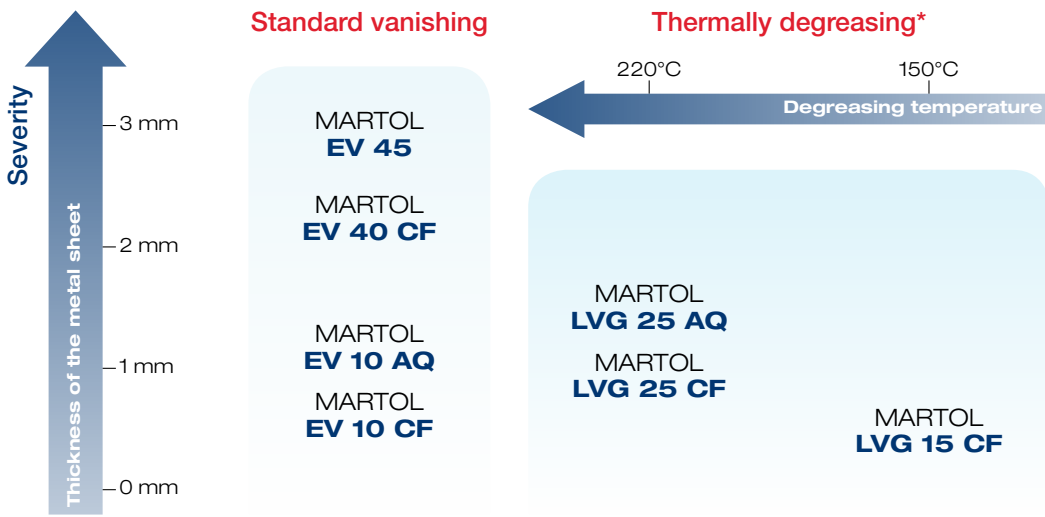


* Non toxic according to 1999/45/EC

Caption
MARTOL
AL / EP 00
Aluminium
Extreme Pressure
Viscosity
(cSt) at 40°C



VANISHING OILS



* Both the oil and its additives can be washed away with an increase in temperature (brazing, annealing etc...).

Caption
MARTOL
EV / LVG 00 AQ
Standard vanishing
Thermally degreasing
Performance level
Air Quality to reduce VOC emissions

FOOD MANUFACTURING OILS (FMO)



MARTOL FMO	Viscosity (cSt at 40°C)
MARTOL FMO 15 CF	15
MARTOL FMO 75 CF	75
MARTOL FMO 235 CF	230

COLD HEADING AND EXTRUSION



Metal	Products	Viscosity (cSt at 40°C)
Carbon steels	MARTOL VB	68/150
Stainless steels	MARTOL EP	79/185
Aluminium and copper alloys	MARTOL AL	20/60/150



A major player

With our production, supply chain and commercial presence in more than 150 countries, we deliver a full range of lubricants to cover all your needs.

Support and partnership

Thanks to local technical presence, we provide a high level of services to optimize your Total Cost of Ownership.

References & OEMs

Total Lubrifiants cooperates with equipment manufacturers to create high-technology products for optimal performances and protection of your machinery.

5 good reasons for choosing TOTAL

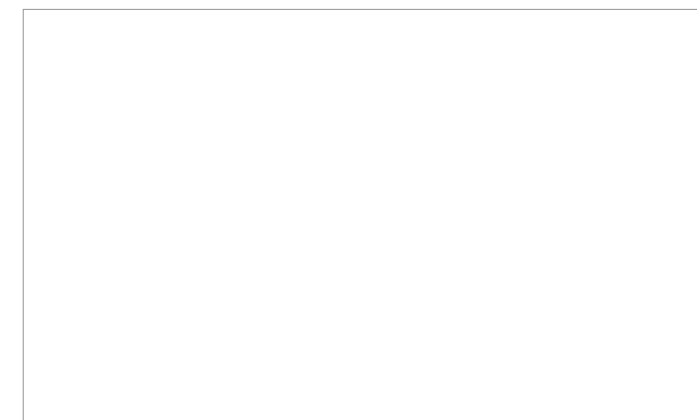
Quality and environment

Total Lubrifiants ISO 9001 certification is the guarantee of long term commitment to quality. From the initial design stage, our R&D teams seek to develop products that minimize toxicity risks and environmental impact.

Innovation & Research

Total invests in biotechnologies to find the most suitable components to reach energy efficiency through formulations designed in our Research Centers.

Safety Data Sheets are available at www.quickfds.com



<http://www.lubricants.total.com/pro/industry.html>
www.lubricants.total.com



TOTAL