

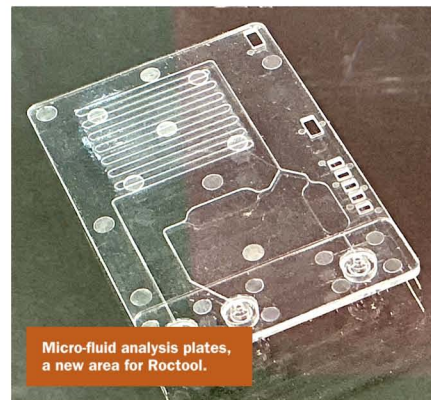
Roctool pushes induction molding into high-performance, optics



Roctool CEO Mathieu Boulanger, left, and Mikael Chailly, engineering director
Plastics News photos by David Vink



Blow molded face lotion bottles produced with induction heating.



Micro-fluid analysis plates, a new area for Roctool.

By David Vink
Plastics News Correspondent

Roctool SA, a specialist in mold and press induction heating based in Le Bourget-du-Lac, France, is showcasing how its technology enables faster cycle times, lower stress, and enhanced surface finishes in a growing range of plastics applications — from automotive to medical, optical to high-performance engineering.

Founded in 2000, Roctool developed its rapid heating and cooling systems first for compression molding of composite sheets and later for induction-heated injection mold tooling — now the core focus of its K 2025 booth.

The company's growth has been largely fueled by its role in premium automotive interiors, where induction allows for high gloss, detailed grain replication, and the elimination of painting or in-mold decoration. Examples on display at K 2025 include parts from earlier shows alongside more recent Scania truck components.

Roctool is also displaying more recent cases beyond automotive, such as luxury cosmetic packaging and blow molded PET bottles, including those used by Clinique.

In the medical sector, Roctool's technology enables low-stress molding of cyclic olefin copolymer (COC) parts with fine micro- or nano-fluidic channels. The company demonstrates stress reduction at its booth by showing molded samples with and without induction heating, viewed under polarized light.

Focus on high-performance plastics

Roctool is now turning its attention to high-temperature thermoplastics. CEO Mathieu Boulanger told *Plastics News* that although aesthetics like gloss or grain are less relevant in technical parts, induction heating still

offers significant benefits such as reduced stress, smoother surfaces, less visible glass fibers and eliminated weld lines.

"Cycle time advantages also apply," Boulanger said. For example, using Ultem PEI from Sabic, cycle time was reduced from 50 seconds to 28 seconds with induction heating. A PEEK part saw cycle time drop from 60 to 50 seconds by heating the mold to 220°C instead of 180°C, then rapidly cooling with water.

"Induction is a dry process," Boulanger noted. "There's no risk of oil or water leaks, unlike traditional mold temperature control systems."

Live demos at the Roctool booth feature two new compact, 50-kilowatt, air-cooled generators powering a KraussMaffei CX 80-380 injection molding machine with a new LRX-plus linear robot. The system runs with a two-cavity mold from Moldetipo and processes Ultem PEI and KetaSpire PEEK from Syensqo SpA.

Mold temperatures reach 230°C, resulting in a 40 percent cycle time reduction and 30 percent lower energy consumption compared with conventional temperature control.

New possibilities

Thick optical lenses made of polycarbonate or PMMA, typically 8-12 millimeters thick, are often molded using time-consuming injection compression processes or overmolding. Roctool claims its induction heating allows single-stage molding of optical parts, cutting cycle time by 20 to 50 percent.

Asked whether induction heating could improve liquid silicone rubber (LSR) molding by accelerating cycle time and helping drive off volatiles, Boulanger confirmed interest.

"Yes, we have tested induction with LSR molding. Yes, we want to do it. Yes, we are working on it," he said.



Roctool promotes a single-shot solution for plastic optical lenses.



PEI moldings show better surfaces with induction heating.



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