

Turning Small Precision Components: Productivity Improvement of 40%

QUAKERCUT® 005 XP

The Challenge

A leading supplier of small, precision turned parts for various industries such as electrical equipment, electronics, telecom, locks, fasteners and blinds was looking for productivity improvement. The customer had been using water-based coolants such as semi-synthetics and full synthetics, but always ran into production interruptions when running unmanned. The customer was looking for:

- A technology providing non-stop unmanned production
- Cost savings from cradle-to-grave metalworking fluid management

The Solution

Binol, a Quaker Houghton Company, analyzed the customer's challenges and introduced QUAKERCUT® 005 XP, a low viscosity neat cutting and grinding oil to replace the water-based coolants.

The Product

QUAKERCUT® 005 XP is an extra high performance neat cutting oil based on advanced ester technology from renewable raw materials with a viscosity of approximately 5,5 mm²/s at 40°C. High polar additives gives optimal wetting and lubricating properties ensuring high surface finish quality and improved tool life. The product should be used neat and the main application is heavy-duty metalworking operations.

The Benefits

After using QUAKERCUT® 005 XP for brass parts and QUAKERCUT® 008 XP for stainless steel parts, the customer was able to realize the following operational improvements:

- No dirt build-up in machines causing production interruptions
- Productivity improvement of 40% realizing a savings of 8,500 € per machine/year
- Reduced machine maintenance
- No need for coolant waste disposal, nor biocide treatment

Process and Equipment

PRODUCT TITLE	PRODUCT INFORMATION
Material	Brass and stainless steel
Machine	42 Rotex and Citizen machines
Filter	Sedimentation
Tank Volume	20 – 250 liter
Pump Pressure	1 to 4 bar
Running Time	Was 8-10 hours/day, now more than 12 hours/day
Type of tool	Inserts
Operation	Turning and drilling
Adjustments	Re-use of oil from chips and cleaned parts