

## Carbide Grinding: Significant Oil Consumption Reduction

QUAKERCUT® 010 XP

### The Challenge

A leading global supplier of tools and tooling solutions to the metalworking industry was looking for improvements for its carbide grinding operation at one of its largest facilities in Sweden. The customer wanted to improve the following parameters compared to using the previous product which was a mineral oil-based grinding oil:

- Increase oil drain interval
- Decrease oil consumption
- Eliminate oil mist
- Increase interval on candle filter changes

### The Solution

Binol, a Quaker Houghton Company, analyzed the customer's challenges and introduced QUAKERCUT® 010 XP, an extra high performance neat cutting and grinding oil.

### Process and Equipment

PRODUCT TITLE	PRODUCT INFORMATION
Material	Solid carbide round tools - drills with internal cooling
Machine	29 machines, Junker, Jungner, Anca high-speed grinders
Filter	Transor, 5µ stacked filter, back flush system
Tank Volume	6x7m <sup>3</sup>
Pump Pressure	20 to 80 bar
Running Time	6,000 hrs/filter/yea
Type of Abrasive	Diamond cutting wheel
Operation	Grinding
Adjustments	Green machines running vegetable hydraulic and slideway oils

### The Benefits

After using QUAKERCUT® 010 XP, Binol was able to realize the following operational improvements:

- No skin or respiratory irritation
- Cost savings of 40,000 to 50,000€ per year for 29 running machines
- No system dump or oil change necessary; the oldest system has been in operation for 78.000 h since initial fill
- Oil consumption reduction - top up volume/year approximately 13%
- Oil mist decrease from 1 mg/m<sup>3</sup> to ≤0.05 mg/m<sup>3</sup> Occupational Exposure Limit (OEL) =1 mg/m<sup>3</sup>

### The Product

QUAKERCUT® 010 XP is an extra high performance neat cutting oil based on advanced ester technology from renewable raw materials with a viscosity of approximately 11mm<sup>2</sup>/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.