Quaker
It's what's inside that counts.®

METALWORKING

CASE STUDY

MACHINING RADAR EQUIPMENT

FLEXICOOL™ TECHNOLOGY QUAKERCOOL® 7350 BFF

CHALLENGES

A major Russian manufacturer of various precision radio and electrical components performing several types of machining was looking to replace their cutting fluid. The manufacturer was unhappy with the cost of the competitor's coolant and was looking for the following solutions from Quaker:

» Lower costs

» Equal or better machining performance

THE SOLUTION

Together with a local distributor, Quaker Chemical Corporation ("Quaker") reviewed the customers concerns and introduced QUAKERCOOL® 7350 BFF initially into two machines. QUAKERCOOL® 7350 BFF is a formaldehyde, boron and secondary amine free high performance micro-emulsion and was chosen because it is ideally suited to all operations where high surface finish quality and high lubrication is needed. Based on regular visits and excellent technical support Quaker provided the fluid maintenance to the customer, monitored the concentration between 5 to 7% and suggested to add skimmers on the machines. The skimmers were added to extend the bath life, reduce the possible production of fumes, avoid microbiological growth, and keep the machines clean.

The customer was pleased with the high lubrication properties of the coolant, no foam, good emulsion stability, effective anti-corrosion characteristics, and no dermatitis or microbiological issues. Also, QUAKERCOOL® 7350 BFF showed good detergency properties, the chips were easily removed from the parts and no dirt or residue was present on the parts after drying. Within a month, the manufacturer decided to extend the use of QUAKERCOOL® 7350 BFF to 20 machines and benefitted from the following results:

» Savings of 37.000 €/year

» Excellent machining characteristics on all materials and surface finish was in compliance with technical requirements

PROCESS AND EQUIPMENT

Part	Radar equipment components
Material	Aluminum, titanium alloys, structural steel, and stainless steel
Machine	Okuma machines
Water Hardness	22°dH, Chloride 45ppm
Concentration	QUAKERCOOL® 7350 BFF: 5-7% Competitive fluid: 6-8%
Operation	Milling, threading, thread milling Critical operation: Drilling

THE PRODUCT

QUAKERCOOL® 7350 BFF is a high performance micro-emulsion ideally suited to all operations where excellent surface finish quality and increased lubrication is needed. Ideal for general purpose machining of most engineering materials Recommended for light to medium metalworking operations on cast iron, steel and aluminum

THE EXPERTISE

Metalworking lubricants represent a very minor part of the costs in a metalworking process, typically less than 1%. This case illustrates the importance of correct fluid selection. The impact of the fluid can be a multiple of its costs, making the price of a metalworking fluid insignificant. That is why Quaker focuses on developing fluids with the highest performance without compromise, fluids that sharpen your competitive edge.

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