



OPTIMUM GROUP of COMPANIES – CASE STUDY

1. **What was the situation? (Market Segment, Application, Machine/Equipment, Materials, Tooling, Filtration, Services etc.)**

The customer operates in the Sub-Contract Engineering segment, and supplies a number of industries but most notably Hydraulics and associated components. The company operates a wide range of machine tools including 43 Sliding Head Lathes machines from Citizen, Traub Index machines all running on neat cutting oil

Due to the nature of its business the company manufacture components from a variety of materials

2. **What was the problem? (Explain the problem and where possible the process in determining the root cause to the problem)**

The company operates 24 hours on a “lights out system” it is imperative to maximize tool life particularly on stainless steel grade 304. The incumbent supplier was supplying 2 neat cutting fluids, one had a viscosity of 23 cost @40 c and was a dark brown colour causing staining of the machine with high drag out on the swarf. Another oil was supplied for more arduous operations. Tool life is closely monitored as the sliding head machines have a high degree of repeatability. It was a request to have 1 oil across the shop on Index machines and sliding Heads, with improved tool life and cleanliness. Occasionally when machining at high speeds and feeds the heat generated would cause the incumbent Oil to Smoke excessively and sometimes combust.

3. **What was the solution? (Details of our proposal or recommendation)**

After evaluating the situation, Optimum recommended moving all of the Sliding Head Lathes and Index Machines to Houghton Macron 402-m12, this product has a very high flash point but is a lower viscosity fluid than the incumbent fluid.

4. **How was the solution Implemented? (Include what we did as a service to the customer)**

Houghton Macron 402-m12 was used for an initial fill on a new Index Multi spindle automatic machines. The cleanliness of the product, low misting and low drag out was immediately noticed. It was then decided to trial Houghton Macron 402-m12 on a Citizen M32 sliding head machine

5. **How did the Customer benefit? (Quantify savings in OEE, maintenance & repair, people, indirect materials & improvements in HSE etc.)**

The customer has benefitted as he now only has 1 neat cutting fluid in use across all applications. Cleanliness of the parts and the machine tool have been improved. Tool life on 1 internal thread application on the sliding heads has been improved by 300 components per tool edge. Drag out is lower due to the lower viscosity and usage has reduced by 15%



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6. What was the conclusion?

Through the introduction of Houghton Macron 402-m12 the customer is delighted with the results.
Staining of the machines has diminished following a thorough clean down
Tool life has been increased in the magnitude of 10% across the production range
Smoking and misting at high speeds and feeds has greatly been reduced with no fires
Usage has been REDUCED BY 20% due to the improved drag out of Macron 402 –M12 on the swarf