

Automotive

The Unique Challenge

GKN Driveline is the global leader in developing, building, and marketing an extensive range of automotive driveline components and systems. Specifically, GKN is the number one manufacturer of constant velocity jointed sids shafts and prop shafts (CVJs) which is a vital component in the driveshaft of a car.

Another lubricant manufacturer had been supplying GKN's Mexican plant with a metal removal lubricant for some time, however the plant was experiencing both EHS issues and falling short on meeting parts specifications for its major customers, Ford and Chrysler.

EHS problems:

- Plant personnel had skin and eye irritation from lubricant misting

Machining performance problems:

- Heavy foam
- Fell short on meeting roughness specification for tulips
- Grinding wheel produced excessive vibration

The Houghton Approach

Houghton proposed **Metalina®B 3650**, a user-friendly synthetic formulation based on specially developed polymers for high lubricity, low foaming propensity, and with high corrosion inhibition.

Test conditions:

- Test machine: OKUMA
- Tank capacity: : 450 liters
- Oil flow: 50 liters/min
- Pressure: 1 Bar
- Filter media: 70 microns
- Speed: 2,500 RPMs

Case Study:

Metalina®B 3650 tested to improve machining and EHS at GKN Driveline Celaya

Results and Benefits

After two months of intensive trials, GKN Driveline realized significant improvement in operations:

- **Improved EHS conditions: eliminated skin and eye irritation**
- **Foamless operation**
- **Improved surface finish: achieved roughness specifications for tulips**
- **Extended coolant life translated into increased production capacity and lower cost per tool:**
 - ◇ Fewer production interruptions
 - ◇ Reduced frequency of coolant replenishment
- **Improved equipment operation:**
 - ◇ Quieted grinding wheel vibration
 - ◇ Increased tool life



Machined parts are tulips for Chrysler and Ford, with hardness of 58 – 62 HRC

Fluid Partnerships Making A World Of Difference

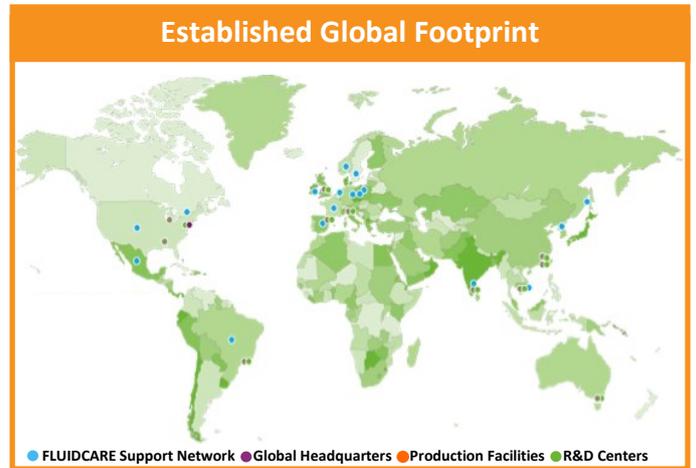
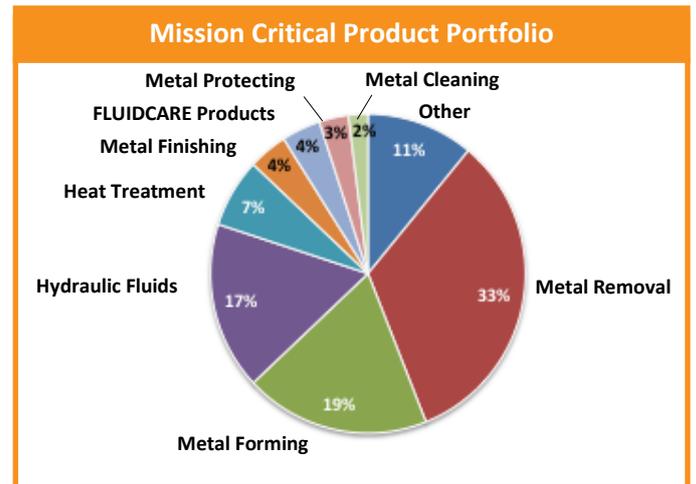
Case study after case study demonstrates why Houghton International is leading the global Metalworking Fluids market today. Growth industries, such as automotive, aerospace, energy, steel and aluminum rolling, fabricated metal goods and energy, look to Houghton for Total Chemical Management. For over 150 years, our technology, coupled with value-added services such as formulation and on-site customization and monitoring, has reduced our customers' operating costs, improved productivity, increased product quality, and strengthened overall competitiveness. Currently, >13,000 customers worldwide, across a diversified range of manufacturing processes, have improved operations due to the mission-critical product portfolio of Houghton.

Building A Team For Customer Success

An approach that combines chemistry and technology with business expertise uniquely positions Houghton to support customer growth and changing market requirements. With over 2,000 employees in 33 countries, and 12 manufacturing facilities in 10 countries, we are well prepared to capture regional and local business opportunities and support growing expansion of global customers.

Through innovation, expertise and efficiency, our engineers and business specialists are able to build a team with the customer that ensures product optimization, employee health and safety, procurement and logistics management, and reduction of environmental impact. By providing both the solution to customers' fluid challenges and the foundation for continued improvement, Houghton offers a proven method of sustainable profitability.

For immediate consideration and evaluation of your fluids needs, and to request additional support material, please contact your Houghton International sales representative at houghtonintl.com/en-us/requestinfo.



Established Client Relationships

Houghton International has long-standing partnerships with over

13,000 Leading Global Customers

servicing their metalworking fluids needs across a wide range of applications and diversified end-markets including **automotive, aerospace, fabricated metal goods, bearings, energy, non-ferrous and steel.**



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