

CASE STUDY

Die Casting: 70% Increase in Parts Produced

DIE SLICK® AD 32

The Challenge

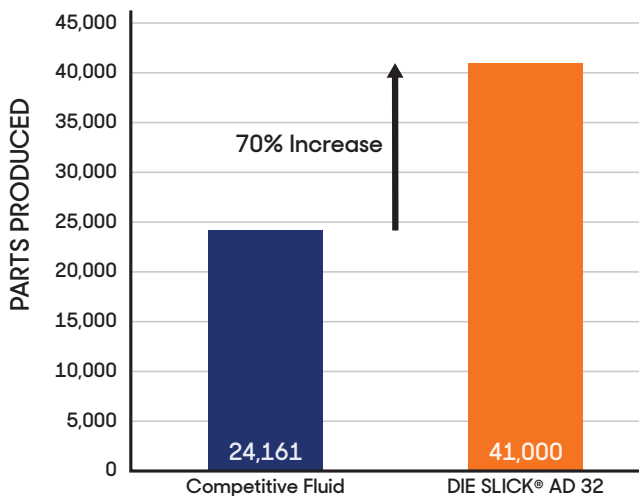
A large Japanese die casting company that produces electric power steering systems for the automotive industry was experiencing problems with their die casting release agent. The competitive product was causing issues clogging the die spray nozzles which caused excessive downtime. The customer turned to Quaker Houghton for a new die release lubricant with the following requirements:

- Eliminate nozzle clogging
- Increase productivity
- Decrease consumption and save money

The Solution

The Quaker Houghton team worked closely with the customer to better understand their production process and analyze the structure of the casting. Quaker Houghton recommended DIE SLICK® AD 32 as a solution. This product was chosen because it does not contain wax, and has good film-forming performance at high temperatures. The castings produced are bright and clean with great lubrication. By switching to DIE SLICK® AD 32, nozzle clogging has been eliminated, number of parts produced has increased, and consumption has been decreased.

Parts Produced per 36kg of Die Lubricant

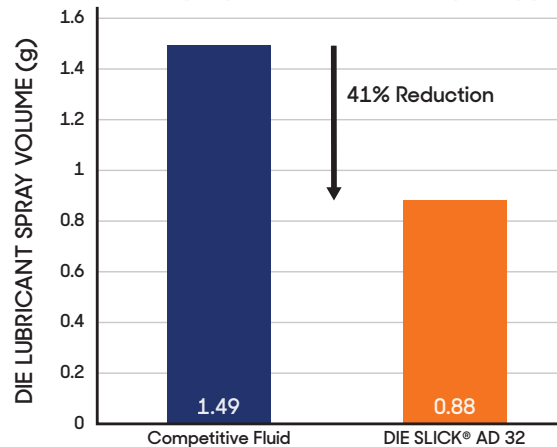


The Benefits

The customer has experienced the following improvements by switching to DIE SLICK® AD 32:

- Reduced the dilution ratio from 1: 80-1: 90 with the competitive fluid to 1: 140, saving costs
- Eliminated nozzle clogging, reduced mold and nozzle cleaning time, and further increased production efficiency
- The number of parts produced per 36 kg of mold release agent increased from 24,161 to 41,000, an increase of about 70%

Die Lubricant Spray Volume Reduction per Application





Creating Sustainable Value

Quaker Houghton focuses on providing customer solutions that reduce waste, energy, water usage and chemical consumption, while improving operational processes, tool life and the health and safety of workers. We are committed to creating a positive social, environmental and economic impact on our world. By converting to DIE SLICK® AD 32, the customer was able to reduce chemical consumption by increasing the dilution ratio. No more nozzle clogging means less downtime, and the product boosted production by 70% giving them the ability to produce more parts, increasing profits.

The Product

DIE SLICK® AD-32 is a high performance synthetic die lubricant formulated for more difficult die casting operations. DIE SLICK® AD-32 incorporates state of the art polymers that enhance its wetting and release capabilities while producing bright and clean castings. Typical operating temperature range is 175°C to 285°C.

Process and Equipment

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|----------------|--|
| Part | Electric power steering systems |
| Material | Aluminum Alloy |
| Dilution Ratio | Competitive Product- 1:80 to 1:90 DIE SLICK® AD 32 - 1:140 |
| Operation | High Pressure Die Casting |

