

A 19% improvement in die life and effective cost saving with **Molygraphs Graphol Ultra 300**.



Industry: Forging | **Application:** Hot Forging | **Machine Make:** LKM (Mechanical Press)
Client: Automotive Components Manufacturer | **Location:** South India

Overview

Forging Lubricants play a very critical role in the daily production of forged parts in the forging industry. The hot forging process takes place at extreme temperatures and under adverse conditions. The major benchmarks for a good forging lubricant are die life, efficient die cooling, and smooth release of the components without any surface defects. This makes a good forging lubricant indispensable for smooth and efficient day to day production of forged parts.

A global manufacturer of forging lubricants reached out to Molygraph to provide an improvement against the current forging lubricant used in their manufacturing plant in india.

Component Specifications

Name	Weight / kg
Drive Shaft #4193	2.2 kg
Body Part #4082	3.6 kg
Cam Shaft	6.4 kg
Connecting Rod	2.7 kg

Challenge

- ⚙️ Can the Molygraph lubricant provide an increase in performance and die life?
- ⚙️ The lubricant has to be cost effective.

Solution

MOLYGRAPH GRAPHOL ULTRA 300

- ⚙️ Custom Graphite particle size.
- ⚙️ Wettable temperatures exceeding 350°.
- ⚙️ Excellent resistance to settling of the graphite particles.



Benefits of Molygraph Graphol Ultra 300

Technical Specifications	Competitor Product	Graphol Ultra 300	Test Method	Molygraph Advantage
Mean particle size	3 um	2 um	Malvern Masterzizer	Customized lower particle size gives a significant increase in performance
Settling Test (24 hrs)	Hard Settling	Soft Settling	ASTM D-445	Greater stability of the lubricant under standing conditions

Results

Running on a dilution ratio of 1:13 to 1:14 the following was observed during the trial. A total of 13,229 parts were forged.

- ⚙ Smooth release.
- ⚙ No surface defects such as underfilling or pitting.
- ⚙ Excellent die cooling curves.
- ⚙ Die life increase from an average of 2500 parts per die to 3100 parts per die.

19% improvement in die life, showing higher performance as well as cost saving



We accelerate industrial productivity by providing the most efficient lubrication solution.

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