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# Forging

*Customized Range of  
Hot, Warm & Cold  
Forging Lubricants*





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## **Graphol®** Cutting-edge forging lubricants for smooth release & extended die life.

Hot and warm forging are highly intensive processes that involve the deformation of the metal by means of dies in one or several stages resulting in the metal conforming to the final shape of the die itself. The operating conditions are severe as the material to be forged is heated to 1300°C and the dies have to operate at a temperature of 160°C to 300°C. Two critical factors in the whole process require the need for a high-quality lubricant. The first one is cooling which directly affects die life. The second is controlling the rate of metal flow, which correlates to the forgings' surface quality.

*The Graphol range of Forging lubricants from Molygraph has been specifically developed keeping both these factors in mind. In most forging processes graphite is still the most widely used lubricant and with a good reason. The lamellar structure of Graphite provides exceptional lubricity while keeping the costs constrained. Moreover, our graphite-based dispersions are uniquely formulated with specific particle size distributions to optimize performance.*











Molygraph has also developed a range of non-graphited lubricants. These products are now increasing in prevalence across the industry. The AF series of white lubricants from Molygraph now approaches the performance of graphited lubricants and are most suitable for simple to semi-complex components and provide a much cleaner environment to work in.

### **OPERATING CONDITIONS**

- ↗ Smooth release
- ↗ High Temperature

- ↗ Die wetting
- ↗ Die Life

## Product Selector

PROCESS	TYPE	DESCRIPTION	FEATURES, BENEFITS & APPLICATION	PRODUCT	SYMBOLS
Hot Forging	Water Based Graphited Lubricants	High Performance Graphite Based Forging Lubricant	High-performance forging lubricant with a unique binder and dispersion system. The low mean particle size of graphite provides excellent lubricity and die life. Typically used for carbon steel & stainless steel components like flanges, valves bodies automotive components like connecting rods, universal joints.	GRAPHOL GFL 6000 PLUS	
		Heavy Grade Water Based Graphited Hot Forging Die Lubricant	Good lubrication and release for a range of forged components. High solid content provides uniform coating on die surface. It is used to forge components like crankshafts, stub axles, Valve bodies etc. Extrusion of heavy spindles.	GRAPHOL GFL 5000 HD - MF	
		New Generation Ultrafine Synthetic Graphite Based Hot Forging Lubricant	High-Performance lubricants with the ultrafine mean particle size of graphite provide good release and lubricity & increases die life. Used for forging gear & transmission assembly, connecting rods, Bevel & Pinion assemblies.	GRAPHOL GFL ULTRA 300	
		High Performance Ultra fine Graphited Die Lubricant for Precision Forging	Forging lubricants with the finest mean graphite particle size used for precision forging of bevel gears & pinion assembly. Increases die life upto 25%.	GRAPHOL GFL ULTRA 100	
	Oil Based Graphited Lubricants	New Generation Graphite Based Hot Forging Lubricant	High-performance forging lubricant with an ultrafine mean graphite particle size increases the die life.	GRAPHOL GFL ULTRA 300 PREMIUM	
		Highly stable Colloidal Dispersion of pure Graphite in Oil	Graphite coating improves metal flow and gives an excellent surface finish by reducing wear and thereby increasing die life.	GRAPHOL 2000 / GRAPHOL 1000	
	Polymer Based Non-Graphited Lubricants	Synthetic water-based non-graphited die lubricant for hot forging presses, hammers & upsetters	Synthetic hot forging lubricant provides good anti-corrosion, lubrication & release properties. Used for forging of rear axle parts on Siempelkamp presses.	AF 2000 / AF 2030	
Cold Forging		A highly stable water based colloidal dispersion of synergistic solid lubricants for warm & cold forging applications	Dispersion of MoS <sub>2</sub> & other solid lubricants in water provides excellent lubricity and surface finish to cold forged components like lug gears, bushes etc. Suitable for hot dip application.	GRAPHOL GFL 1600	
		High purity super refined molybdenum disulphide powder for cold forging	Molybdenum Disulphide Powder having the lowest co-efficient of friction provides the best surface finish to cold-forged components. Excellent lubrication & antiseizing properties.	AS 1000	
		Synergistic blend of MoS <sub>2</sub> and friction modifiers	An optimum mixture of MoS <sub>2</sub> and friction modifiers to provide superior surface finish to cold-forged components. Prevent anti-galling and anti-seizing. Can be used as a dry lubricant under vacuum and radiation.	AS 2000	

# Accelerating industrial performances across the world

Designed by empirici designs



## Efficient lubrication solutions to drive industries forward

Molygraph is India's leading engineered lubricants company. For over 32 years we have mastered the art of making high quality speciality lubricants for various industries & applications. At the core of each of our products lies our strong emphasis on Research & Development and a deep understanding of the client's expectations, which helps us deliver optimal solutions.

The consultative selling approach lays emphasis on value creation for our clients & has led Molygraph to be a front runner in the speciality Lubricants market in India as well as developing a global footprint with a presence in over 25 countries around the world.

### BUSINESS VERTICALS

- Animal Feed
- Automotive Components & Manufacturing
- Cement
- Food
- Forging
- Metal Cutting & Forming
- Mining
- MRO
- Oil & Gas
- Pharmaceutical
- Plastic Moulding
- Pulp & Paper
- Punching & Stamping
- Steel
- Sugar
- Textile
- Wind Power

### PRODUCT LINE

- Aerosol Sprays
- Cleaners & Degreasers
- Dispersions
- Lubricating Greases & Pastes
- Lubricating Oils
- Metal Forming Fluids
- Rust Preventives
- Solid Lubricants
- Thread Dope Compounds

### PRODUCT APPLICATIONS

- Bearings
- Chain & Wire Ropes
- Conveyor Chains
- Forging & Extrusion
- Gears
- Metal Cutting & Grinding
- Metal Punching & Stamping
- Nuts, Bolts & Threads
- Sheet Metal Drawing
- Valves

