# CONDAT: identifying the right lubricant for the right job

During glass forming, swabbing greases provide a combination of functionalities, such as helping the molten glass to perfectly cover mould surfaces to avoid any potential defects owing to poor distribution.

For decades now, graphite has been a central element in swabbing grease formulations - a well-known raw material that's coveted for its lubrication properties in several industrial fields. Forging operations and tube manufacturing are examples of other areas that use it. Its origins can be natural (mining ore) or synthetic (full chemical process). And such characteristics as carbon content, particle size and crystallography all help CONDAT to select graphite to optimize performance.

That said, graphite also lies at the origin of some notorious defects in glass making. Here the first common issue is graphite transfer, which leads to dirtiness in glass items. This phenomenon is explained by graphite migration from the mould-applied swabbing grease to the glass container. The second problem is graphite build-up, which usually occurs in finish moulds where engravings are used. In some areas graphite will concentrate and then stay. Consequently the molten glass won't reach those areas, thus blocking the mould covering. With that marks are not fully printed and production must be stopped.

Such defects can be either limited or overcome by the choice of the right swabbing grease for the right job - or by trying a new technology, such as a white swabbing grease.

**After its 160-year history of industrial lubrication, CONDAT's swabbing greases serve today's container glass manufacturing process by ensuring high, constant productivity. Indeed the same products will typically enhance mould lifespan just as their releasing properties will enable easy removal of glass items from each mould.**

### Selecting the right swabbing grease for the right job

Each segment of the container glass industry requires specific lubricants adapted to its production specifications: production rate, item cleanliness, glass types, gob weights, item shape, etc. Here's why CONDAT decided to develop dedicated swabbing solutions to correspond with their customers' different application fields:

- Wine & beer bottles
- Spirit bottles
- Cosmetics & perfumes
- Pharmaceuticals

Here a dedicated swabbing grease must be chosen depending on which particular glassware is being produced. The use of a non-suitable swabbing grease will lead to more rejects due to graphite transfer and graphite build-up.

Each lubricant is also specified for a particular mould type given that lubrication needs between blank, neck ring and finish moulds are all different. Where high releasing properties are sought at the first stage of glass forming, swabbing the neck ring and blank mould must be soft and light. Over-swabbing these areas will lead to more glass checks.

## SWABBING GREASES PER INDUSTRY SEGMENT

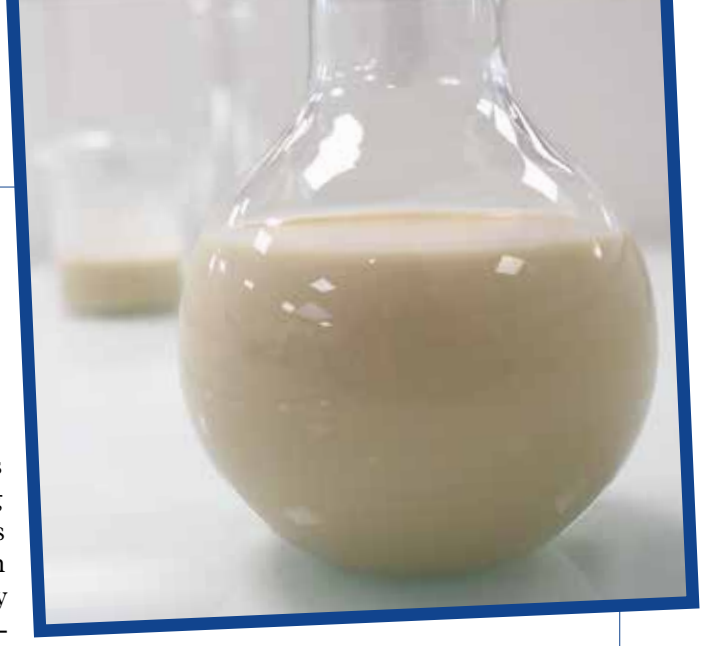
### Using a lower graphited grease - CONDAGLASS 397

An Asian glass bottle manufacturer specialized in light amber bottle production for energy drinks had over many years been using a highly-graphited swabbing grease for every mould of its 10-section, triple-gob IS Machines. Production yield was correct - only they were after more.

Upon analyzing the glass items manufactured and the mould material used, CONDAT glass experts suggested CONDAGLASS 397 for a test - a lower graphited swabbing grease dedicated to small glass container release.

Results demonstrated a product with excellent wetting properties that could support good gob loading. Thanks to its elevated quality and low graphite content, CONDAGLASS 397 helped the company to reduce its number of automatic rejects by 50 percent after swabbing.

## SWABBING GREASES



This indicates how less graphite means less build-up - which proved an essential feature here in that it helped the company decrease its swabbing frequency by 33 percent whilst cutting mould maintenance downtime.

Within a year this same company could potentially save more than 8 million bottles - in addition to its significant decrease in swabbing grease consumption.

But that's not all. Besides productivity, safety too was improved. Less swabbing operations led to a decrease in the risk of operator injuries.

### Turn on white!

Of course, being graphite free CONDAT white swabbing greases avoid any graphite transfer. Automatic post-swabbing rejects are thereby limited with the result that millions of bottles get saved each year. In this way glass manufacturers generate less waste while enjoying immediate productivity gains.

No graphite also means a cleaner working environment for operators within the gob forming area. When swabbing the blank, blow and neck ring moulds they handle no graphited and blackened products - an improvement that extends to the mould workshop as well.

Here CONDAT aims not only to replace graphite from swabbing greases but also to bring technical benefits in application. The lubricating raw materials used in the company's new technology have a higher thermal resistance, which leads to increased swabbing frequency. Companies that chose this solution were able to extend by 2 to 4 times their swabbing frequency. Thanks to this high performance, operators come into less contact with the glass forming area - leaving them more focused upon IS machine working parameter optimization. In this way white swabbing greases help to consume less and better - all while creating a safer working environment.

And that's not all. With environmental impact reduction taking pride of place among CONDAT's core values, its white swabbing solutions comprise a mix of renewable vegetable-based oils and recycled refined oils. Indeed when developing the product, particular attention was also paid to end-users, which is why the Safety Data Sheet displays no hazardous pictogram. Finally, thanks to their high flash point, CONDAT swabbing greases limit fire risk and ensure protection to both equipment and operators. Thanks to its responsible formulation the same technology is rated at the Lubriscor$^{e®}$, CONDAT self-scoring system on eco-designed products, which well illustrates the concept of Responsible Performance that the company targets.

### CONDAT in glass making

CONDAT has supplied and supported the container glass industry by providing lubricating solutions for over 30 years now. Around 200 customers across the globe rely on the company today - both for their plant productivity and for their safety. Whether it's shears, scoops, deliveries, moulds or IS machine mechanisms, the glass production process is still consistently addressed with the company's much-valued solutions.

CONDAT can produce very capably throughout the world - also thanks to its mantra to 'think global, act local.' Among its commitments to the glass industry CONDAT especially prizes limiting transportation delays, reducing the carbon footprint and investing in local companies. ■

## ABOUT CONDAT

CONDAT is an independent company with an international presence, specializing in industrial lubrication. For over 160 years it has adapted its products to the specific needs of each market (drawing, cold heading, metal working and the glass industry, among others) - all whilst developing a wide range of soaps, greases, oils, etc. CONDAT's vast range of lubricant is already well acknowledged within the glass industry. The company caters to all glass processing needs - from glass containers to flat glass to optical glass. Its offer includes shear spray oils, scoop oils, delivery coatings, graphited varnish for mould lubrication, graphite and graphite-free swabbing mould compounds, IS machine maintenance oils.

CONDAT

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