

# VITROLIS DL WG Improved fire safety, cost & performance benefits

## **The Customer**

A market-leading supplier of glass packaging to the food and beverage markets. They are part of a larger group based in South Africa who own 20+ glass production facilities in the EMEA region.

### **The Problem**

The customer had been using a competitor lubricant for many years to lubricate high-speed gob deliveries to their numerous IS machines located within the plant's hot end.

This highly refined mineral-based lubricant is very common across the glass container industry, due to its relatively low cost and low residue forming.

Due to the extreme temperatures of the molten glass gobs, a flash could be seen every time the gob passed through the deliveries, highlighting that the auto-ignition temperature limit of this competitor lubricant was being greatly exceeded. The ignition is usually a short flash once the delivery oil (fuel) is burnt off.

In a different location, the same customer suffered a considerable fire outbreak due to this same flashing as it ignited another close fuel source which quickly turned into a critical situation, resulting in the shutting down of production to one machine at a profit loss upwards of £1,000 per hour (£24,000 per day) + the substantial repair costs.

Thankfully, nobody was injured during the fire which could have easily led to further health & safety sanctions and additional costs.

> Before: Visible flashes as the competitor lubricant ignites upon gob impact





### **Problem**

- Flashing/igniting of current competitor lubricant on the gob delivery system
- Risk of further fires and injury
- High repair costs
- Further profit losses of £24,000 per day through production downtime
- Risk of further health & safety sanctions

### **Solution**

- Implementing VITROLIS DL WG:
  - Water based for better fire resistance
  - Reduces carbon residue formation
  - Biodegradable formulation

### Results

- No more product flashing/ignition
- Maintained high levels of cleanliness
- Maintained high gob delivery speeds
- Performance based price justification
- Led to further discussions to reduce application rates for more cost savings
- The customer agreed to implement the product across the whole facility

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# **CASE STUDY**

Product Development & Implementation

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### The Solution

The customer contacted FUCHS to discuss a more suitable product to reduce/remove the risk of future fire outbreaks.

A lubricant assessment was undertaken to determine all technical parameters i.e. temperatures of the specific application (peak and normal operating temperatures & current vulnerabilities).

### The customer then set the following project KPI's:

- The product must offer sufficient lubricity, to ensure timely delivery of the molten gobs to the forming machine through the deliveries
- The product must maintain high levels of gob delivery cleanliness (low carbon forming tendencies)
- Improved fire-resistance

FUCHS made the decision to offer VITROLIS DL WG to the customer. This grade offers outstanding health & safety and environmental benefits.

- Water-based fluid: Greatly reduces the risk of fires associated with conventional mineral-oil based products
- Readily atomises: Produces a micro-fine mist spray for excellent wetting, essential for optimum gob acceleration and gob loading performance - particularly where very limited clearances are being employed
- Extremely low levels of soft carbon residue formation: Enables extended maintenance schedules with the potential to review application rates
- Inherently biodegradable: The product offers distinct environmental advantages compared to mineral-oil based formulations

### **Results & Conclusion**

The customer agreed that VITROLIS DL WG was likely to match or exceed the KPI's outlined for the project, plus offered the added biodegradable/environmental benefits to lift the companies green credentials.

The customer agreed to product testing which lasted over 6 months, running from summer to winter 2024.

### The customer noted the following improvements:

- Improved fire resistance This was clear to see in the process with no auto-ignition of the VITROLIS DL WG, even when the molten gobs made contact at 1000 degrees. This addressed the No1 KPI for the project.
- The product maintained the cleanliness of the deliveries, which they advised us are changed every 2500 hours as part of their existing regular maintenance programme - The customer is considering a 2nd phase of the project to trial extending the maintenance intervals as the delivery troughs are looking visibly cleaner.
- The customer is happy to be making a positive impact on the environment by using an inherently biodegradable product.
- High IS machine loading speeds have been maintained with no negative performance issues related to the new lubricant.
- The customer is extremely satisfied with the price of the product, which is very reasonable for the heightened safety advantages it brings.

FUCHS will continue to provide regular aftercare to the customer who will soon be happily implementing this product across their whole facility during Q3 of 2025.

No flashes upon gob impact, preventing the risk of fire





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