

Glass Engineering on demand.
Productivity lead for glass
producers.

Linde Gas

Linde



Optimize your production
processes online:
[www.glassglobal.com/
engineering](http://www.glassglobal.com/engineering)



Analyze, calculate and plan with speed and precision – online.

There are few substances more versatile than glass. Which is one of the reasons it is so complex to produce. Complex production processes are compounded by rising energy costs, stricter environmental regulations and growing competitive pressures. In this challenging environment, transparency is critical to increase efficiency and economic viability. Which is why Linde Gas teamed up with OGIS GmbH. Together, they have created the world's first online analysis tool for the glass industry. It allows glass manufacturers to increase productivity by analyzing, planning and monitoring all process parameters online. Drop into www.glassglobal.com/engineering and tap into the combined know-how and experience of two key glass players.

As technology leader in the glass industry, Linde Gas is a defining force for glass melting, polishing and surface treatment innovations. OGIS GmbH, operator of the biggest glass portal worldwide with over 1.2 million page impressions a month, has exceptional reach and experience in the glass industry. Together, they are a winning combination that can work to your benefit.

www.glassglobal.com/engineering

24-hour access to the synergized know-how of two glass experts!

Visit the largest database in the industry – any time, any place.

Intelligent software is essential to optimize all parameters involved in the various glass production steps. Investing in a proprietary solution can be time-consuming and expensive. Now, thanks to Linde Gas and OGIS GmbH, there is another way. Glass manufacturers have on-demand access to a Web-based analysis tool that allows them to quickly and easily analyze complex process parameters. “Glass engineering on demand” offers rich functionality to make sure you get your glass, ingredients and batch data just right.

This 24-hour Web-enabled tool incorporates all facets of the glass-making process from thermal engineering to operating data analysis. And SSL encryption ensures that all data and queries you enter are totally secure. In a nutshell, our vast glass knowledge base takes the guesswork out of glasswork.

All-new Web-based glass knowledge base.

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The screenshot displays the 'glass global ENGINEERING' web application. The main interface is divided into sections for 'Furnace' and 'current batch composition'. Two furnace profiles are visible: 'Furnace 1' (Cross Fired) and 'Furnace 2' (U-Flame). Each furnace profile includes details like 'Type of Furnace', 'Combustion', and 'Melting area'. The 'current batch composition' section lists raw materials such as Sand, Phonolithe, Limestone, Dolomite, Soda, heavy, and Own cullet white, along with their respective weights and charges. A 'Raw material' table provides a detailed breakdown of these materials by initial weight and ratio percentage. On the right side, a 'Specific energy consumption' table shows key metrics like theoretical energy consumption, specific energy cost, and supplied energy. At the bottom right, a table illustrates the calculation of viscosity values using different models, with columns for 'Lakatos', 'Sasek', and 'Ledermanova'.

Raw material	initial weight kg	Ratio %
Sand	4.061	45,16
Phonolithe	614	6,83
Limestone	755	8,40
Dolomite	720	8,01
Soda, heavy	843	9,37
Own cullet white	2.000	22,24
Total	8.993	

Specific energy consumption	2.873	kcal/kg Glas
Theoretical energy consumption	674	kcal/kg Glas
Specific energy cost	71,54	EUR / t Glas
Supplied energy	2.162.436	kWh/d
Wall losses	164.881	kWh/d

Lakatos	Sasek	Ledermanova
1.507	1.562	1.573
1.246	1.275	1.291
1.076	1.099	1.107
761	772	766
580	564	571

The energy equation reveals areas offering scope for greater efficiencies and provides solid pointers for future investments.

The batch mixture is calculated to deliver the required glass properties.

Example: calculation of the viscosity values with different models.



There's always room for improvement. But you need to know where to look.

Whether you're looking to simplify your workflow, create a more homogenous melt environment, reduce energy consumption or increase adaptability to meet individual customer demands, the answer always lies in process enhancements. Which is easier said than done. To make an informed decision, you need qualified information. When can you expect a return on your investment? What parameters need to be fine-tuned? What is the medium-term impact of switching from oil to gas?

"Glass engineering on demand" gives glass manufacturers the transparency they need to systematically optimize their production processes. We're offering a free test-run for the next three weeks. Once you have seen what www.glassglobal.com/engineering can do for your business, you have the option of taking out an annual subscription at our special introductory rate. All you have to do is mail us at engineering@glassglobal.com and we will send your password and user guidelines.

Take a test-run today and slip
into the productivity lane.

www.glassglobal.com/engineering

First Glass Engineering – on demand.

First global glass engineering tool – on demand. To find out more about the world's first online analysis tool for the glass industry or check the dates for upcoming glass exhibitions and shows, send an email to engineering@glassglobal.com

Linde Gas – ideas become solutions

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