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GS stand – Glasstec 2010 – 3D visualization

Welcome to our Glasstec edition of Glass Service Newsletter

By Josef Chmelar
President of Glass Service Group

Dear customers, partners and friends,

Welcome to our Glass Service (GS) newsletter. This edition is dedicated to Glasstec 2010, a very important bi-annual event for us and our customers. Glasstec is recognized as the world-leading event to meet each other in a very efficient and pleasant way. It is even more special this year because we celebrate the 20-year anniversary of Glass Service. We can look back on a steady growth of business and are proud of the very good and hard working team of men and women that support our company and customers worldwide for these many years. In this edition we would like to share with you some of our recent developments, achievements and thoughts for the future.

It seems that the economic situation for most of our customers is improving now, but nevertheless the effort is on continuous quality monitoring and improvement as well as keeping costs and emissions levels down.

In order to be able to support these areas GS has been continuously developing new software solutions, forming new partnerships, and designing new hardware solutions. We hope that in this way we can continue to support our customers to maximize their recovery, growth and profit.

We are looking forward to meeting you during Glasstec and having very interesting personal discussions.

Josef Chmelar

glasstec

28.9. - 1.10.2010
Messe Düsseldorf
Germany
Hall 15, Stand C03

Adolf Dietzel Industriepreis Award presented to Erik Muijsenberg

The German Glass Society organized its 84th annual conference in conjunction with the 10th conference of the European Glass Society in Magdeburg, Germany, from 30.5.2010 through 2.6.2010.

The “Adolf-Dietzel-Industriepreis” award was presented during the opening ceremony of this event to Harald Zimmermann of Saint-Gobain Oberland (Bad Würzach, Germany) and Erik Muijsenberg of Glass Service Inc. (Vsetin, Czech Republic).



Left Prof. Dr. Barklage, President of DGG
Right Ir. Erik Muijsenberg

The award was presented to Erik Muijsenberg for his continuous contribution in the area of modeling and optimization of glass melting processes. His papers and presentation in DGG conferences and its magazine have resulted in a higher level of understanding, acceptance and use of modeling tools to optimize glass processes in Germany and around the world.

Glass Service and Bohemia Hotwork form new partnership for hot electric boosting installations

By Frantisek Masarik



Glass Service and Bohemia Hotwork have formed a new alliance with the aim of installing electric boosting during the melting operation to further improve services to our glass customers.

Bohemia Hotwork, based in Czech Republic began as a successful business in 1996 and became a recognized supplier of hot drilling.

Glass Service has extensive knowledge of electric boosting design and optimization using furnace modeling results. We have been designing and supplying electric boosting for many cold repairs and new constructions over the last ten years. It is, however, only now that we will begin to supply electric boost during hot operation. It has been recognized that electric boosting is a chosen product for most of our customers to increase productivity on an existing line, and provides many important benefits. Both Glass Service and Bohemia Hotwork are combining technology to supply complete electric boosting solutions for improved flexibility, glass quality, fuel efficiency, and stricter environmental control.

For more information please contact:

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Manager of GS Engineering Department

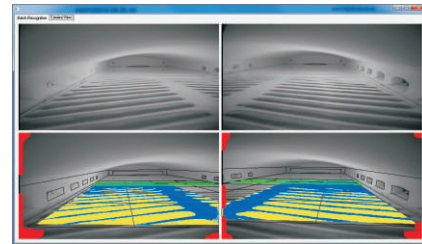
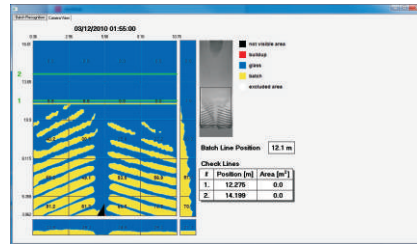
Glass Service – adding batch visualization and automatic control as *ES III™* extension



By Robert Bodi

Glass Service has installed more than 85 advanced control solutions and *Expert System ES III™ (ES III™)* in glass plants worldwide through mid 2010. Our main areas in glass production are:

- Float and Sheet Glass
- Solar Glass
- Composite Fiber
- Insulation Fiber
- Container Glass
- Specialty Glasses



Batch visualization

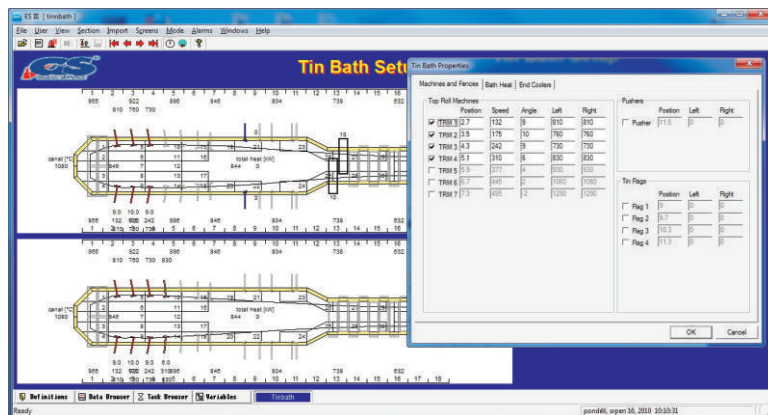
Many of our customers have told us of their interest to better visualize the batch position without the need of the operator to look into the furnace each time. A reliable camera system can give more consistent and reproducible batch position monitoring. Further digitizing of the batch position and feeding it into *ES III™* allows the operator to make control adjustments to the automatic furnace operation, thereby stabilizing the furnace operation and making the lives of operators much easier.

Float tin bath – benefits from *ES III™* and modeling

By Erik Muijsenberg

In the last years GS has continued to develop our understanding and ability to optimize the tin bath with online as well as offline tools. Our GFM mathematical modeling package, which was developed in-house, has been extended to allow us to model most parts of the tin bath operation. Also our Expert System department has developed a specialized package called,

“**Float Tin Bath Expert (FTBE),**” that works as a knowledge base and rule base software to help operators optimize tin bath settings continuously during operation.



Both tools are also available for annealing lehrs.

Float Tin Bath Expert screen

FLAMMATEC – Advanced combustion technology for glass furnaces

By Petr Vojtech

As reported in previous newsletters, the FlammaTec line of burners has received great response from many glass producers all over the world. The advanced remote reproducibility of optimal flame settings of our FlammaTec underport flex burner is especially appreciated by our customers and results in optimal melting performance while allowing flexible operation.



FT Dual Flex LoNOx Gas/Oil Underport Burner

In the meantime we have been able to continue to develop the oil lance insert into the FlammaTec flex burner to allow our customers to switch easily from gas firing to oil firing without the need to replace burner equipment.

During Glasstec we also will present our line of full oxy-gas combustion burners again with ultra low NOx results. Cleaner emissions is our focus for the complete burner line.

To date we have achieved an impressive record of references on existing as well as greenfield projects for float and container glass using FlammaTec burners.

For more information please contact:
Petr Vojtech, FlammaTec Ltd. (petr.vojtech@flammatec.com)

f | glass achieves very low energy consumption and low emissions with underport FlammaTec flex injectors

By Petr Vojtech



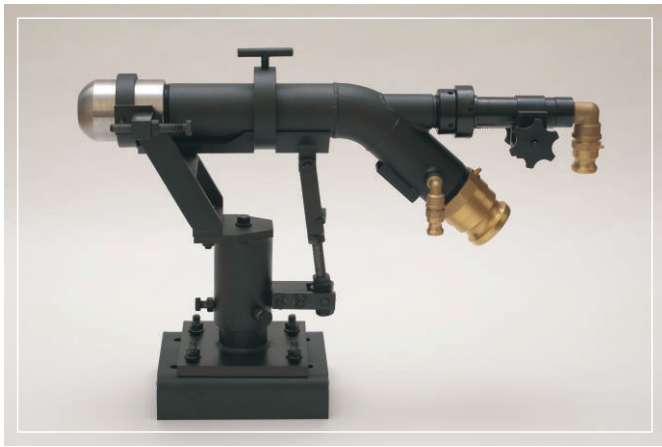
f | glass operation near Magdeburg, Germany, started its new float furnace in July 2009. The float furnace is designed to manufacture float glass as well as low iron and very low iron glass for solar application.

f | glass selected the FlammaTec flex injector from FlammaTec Ltd. of the Czech Republic as the gas injector supplier.

The injector has been designed and optimized by extensive mathematical modeling by FlammaTec parent companies, Glass Service of the Czech Republic, and STG of Cottbus, Germany. Glass Service and STG are Joint venture partners.

The two separate gas inlet controls allow optimal and flexible (and still reproducible) flame control even with a constant total gas input per injector. The combination of an exceptional furnace design, an enhanced control system (PCS7) and oxygen sensors from STG Cottbus allows f | glass to achieve excellent data in terms of energy consumption and emissions.

The glass is excellent with very low defect levels, and due to low crown temperatures the furnace can be operated with great flexibility and a long lifetime can be expected.



FT Flex LoNOx Gas Underport Burner

The furnace operates with an energy consumption of less than approx. 5.2 MJ/kg and NOx emissions of approx. 800 mg/m³ (dry, 8 % O₂) since its start up, producing 700 metric tons per day.

The energy consumption is about 1 MJ/kg less compared to the average float furnace consumption in Western Europe. Note that these excellent results can only be achieved when all factors are combined and optimal.



Glass Service supply of raw materials

By Jiri Uhlir

Glass Service is now supplying special raw materials to many of our existing customers. We have recognized that supply of reliable high quality raw material for a good price has become critical in order to produce optimal quality with profitable conditions. Therefore we are able to supply the following raw materials:

- Commodities
- Special raw materials
- Rare earths oxides
- Polishing compounds



As a special note concerning most of these materials, we are the sole company that has applied for REACH certification and so can continue to supply these materials with the European Union certifying their safe use.

Turn-key delivery of specialized melting furnaces

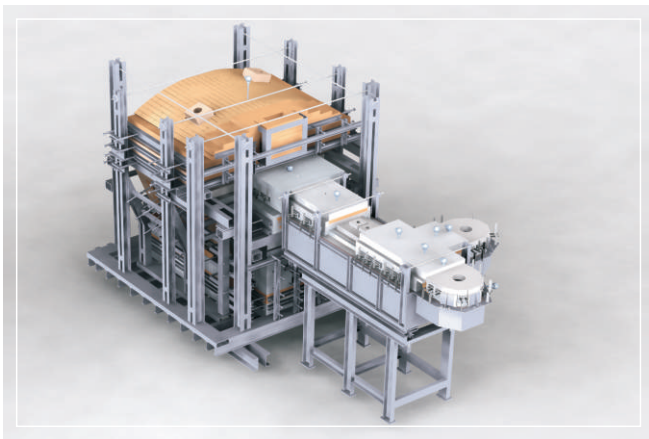
During its existence, Glass Service has become known in the glassworker's community as a promoter of simulation of the melting process by means of mathematical methods.



Also vital to the strength of our business is our engineering and consulting activity, where we utilize the latest knowledge from glass industry science and research and our experience from the practical operation of various types of melting aggregates.

Many companies in the Czech Republic, as well as abroad, melt glass in electric pot furnaces, which have been constructed and commissioned by our company for almost 20 years.

Recently, a new continuous melting furnace, designed for manufacturing special jewelry, was put into operation. The main requirements of the customers were 1) superior quality of its molten glass containing a high content of lead oxide, 2) ease of production of the required products, and 3) the melting efficiency of 2 tons of molten glass every 24 hours.



Turn-key electric furnace

Glass Service's experience with melting simulations came in handy, and several models of the melting process were elaborated. Mutual comparison of the simulated variants and their subsequent optimization achieved the required parameters in melting of the batches, refinement of the molten glass, glass flow, and homogenization. What began as only a finely tuned computer simulation, played out on stage. The furnace delivered excellent quality and energy efficiency, and proved the long term advanced experience of Glass Service. Since then we have installed several continuous specialized furnaces all over the world.

11th International Seminar on Furnace Design – Operation & Process Simulation, and Glass Forming Simulation Workshop

The International Seminar will be held from June 21 through June 23, 2011 at Hotel Horal, Velke Karlovice, Czech Republic.



Newly reconstructed Hotel Horal

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