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New design of GS booth - Glasstec 2008

Welcome to the Glass Service newsletter

By Petr Chmelar

Vice President of Glass Service Group

Dear customers, partners and friends,

The glass market keeps changing and so Glass Service (GS) will keep following the trends. At present we see large growth and demand for special low iron glass. This is a perfect example where GS can help the customers with our laboratory services for melting and defect analysis. Our advanced furnace simulation modeling helps our customers choose the optimal furnace design to compliment these condition changes. Once the furnace is designed, options include choosing from our **FlammaTec™** burner solutions for the best energy transfer and low NOx emissions, and implementing our **Expert System ES III™** for advanced model based furnace control to smoothly operate the furnace for lowest energy use and lowest emissions.

We see that more and more customers are installing our **ES III™** for advanced control of furnace and hearth, with improvements further downstream as well. And every year our **GS Glass Furnace Model (GFM)** is used by many more licensees who benefit from our on-site training at their own facilities. These are practical examples of how GS can apply many different types of services and equipment.

This year the glass magazine Glass International published a very nice overview of our company in its May 2008 issue, which we recommend you to read.

We hope that GS can again be at your service this year. We will continue to help you in every possible way to maximize your production efficiency and minimize your costs with our advanced tools and technology.

This issue highlights some of our success stories that were realized in the last year and presents some of our valuable customers. We hope you find interesting and perhaps surprising information about our company herein.

Petr Chmelar

Heinz-Glas, Klein-Tettau, Germany

By Erik Muijsenberg

HEINZ-GLAS – specialists in the production and decoration of glass flacons for the perfumery and cosmetics market

With nearly 400 years of experience and tradition, Heinz-Glas remains an innovative family owned business.

HEINZ-GLAS continues with its strategy for safeguarding the future and has invested in the most up-to-date production technology.



Picture ca 1910

Mr. Heinz says: "With our long experience, technical abilities, and innovations, we are able to offer our customers, like in a stop shop, a premium quality, excellent services and high flexibility. We are one of the leading manufacturers in the global market place."



Heinz has two production sites in Germany and additional sites in Poland, China and Peru. Following our mutual introduction six years ago, Glass Service and Heinz-Glas have benefited from a very close relationship. Heinz-Glas is using several services offered by Glass Service. Among them are express defect analyses, HTO melting experiments, furnace design optimization simulation modeling, furnace simulators, and our most recent technology for 3D non-round, bottle-forming modeling.

Heinz-Glas will not build a furnace without it being modeled, checked and optimized by Glass Service. With forming modeling they are able to reduce the number of sample productions and so the time required before launching a new product.



Celebrating the 10th International Seminar on furnace design – operation & process simulation

By Jana Schachlova

On June 17 – 18, 2009, we will host our 10th International Seminar on Furnace Design Operation & Process Simulation. Our 10th edition is cause for celebration of an event that is still growing every year with more attendees from all over the world.

The first seminar in 1990 was made possible after Czech Republic borders were opened to the world. The format of the annual seminar has evolved from its primary focus on mathematical modeling into one which includes very practical approaches and demonstrations of advanced tools to better understand and optimize glass production.



Seminar venue – Hotel Horal

Last year's seminar showcased record contributions from glass producers, our customers, and licensees which demonstrates it is not a commercial event, but an event to exchange information between all that attend. Eighty percent of the attendees return within two years, which demonstrates the value and pleasure from this very interesting and entertaining seminar.

Among the many interesting papers presented, for instance, were contributions from the following glass producers: Schott, Corning, Owens Corning Fiber, Johns Manville, Rona, Bormioli Luigi, and lastly (but not least) two papers from AGC Flat Glass Europe.

A meeting of TC21 will be held during this seminar, with our Erik Muijsenberg officiating. He has been asked by the International Commission on Glass (ICG) to become Chairman of TC21 – Modeling of Glass Melts.

Glass Service – Maintaining market leadership with advanced model based predictive process Control

By Robert Bodi

Glass Service has installed over the last year many more *Expert System ES III™* (*ES III™*) in glass plants all over the world. This brings the total number of installed Advanced Model Based Control solutions to now over 75. Also, we keep extending our *ES III™* with more functionality such as burner ratio control, emission control, gob temperature control, and batch vision control. As our customers have found, the *ES III™* can decrease defects levels and lower energy use. In addition, many customers have been able to increase production. The use of the fully automatic and stable control provides a time-saving benefit allowing the operator to focus on other tasks.



Jaroslav Orsag – the most known employee of GS

By Erik Muijsenberg

Jaroslav Orsag is probably the most well-known employee of Glass Service. Many companies all over the world address their defect samples for analysis to Glass Service in Vsetin to the attention of Mr. Jaroslav Orsag. Every day GS receives new samples by express mail, such as DHL, TNT, UPC etc. Most of these analyses need our express service whereby we promise the customer to send the results within 36 hours. If urgency is very high, however, we often are able to send the results the same day the samples arrive. Besides Jaroslav, we actually have a team of seven people working in our laboratory with Jiri Ullrich as a department leader.



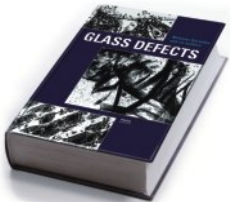
Jaroslav Orsag

The demand for our services has grown to the extent that we found it necessary to install a 2nd mass spectrometer. So our Vsetin facilities have two mass spectrometers and one microprobe in operation. Furthermore, our laboratory technicians perform many melting experiments including our famous High Temperature Observation method where we can observe visually the melting reaction of glass.



Laboratory team

Glass Defects book



This summer we have published Glass Defects book. This valuable book is written by the leading experts in the field of glass defects. We believe the book will become a standard reference in the glass industry. You can order the book online at www.gsl.cz.

Did you know?

- > There are more than 25 licensees with more than 70 licenses over the world using the leading glass furnace modeling package of Glass Service – **GFM**
- > Glass Service has optimized furnace design with modeling for over 500 glass furnaces over the past years
- > Glass Service is developing a complete new non structured grid version **GFM 5**, but even **GFM 4** today allows you to use parallel processors for speeding up calculations

Coming events

We will be attending the following glass exhibitions:

- | | |
|--------------------------|--|
| Oct 21 – 25, 2008 | Glasstec – Düsseldorf, Germany (stand number 15C01) |
| Nov 04 – 05, 2008 | Glass Problems Conference – Columbus, Ohio, USA |
| Nov 20 – 22, 2008 | Glasstech Asia – Ho Chi Min City, Vietnam |
| May 13 – 14, 2009 | Glassman Europe – Lyon, France (stand number 79) |
| May 13 – 16, 2009 | China Glass – Shanghai, China |

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 MINISTRY OF INDUSTRY AND TRADE OF THE CZECH REPUBLIC
 SUPPORT INVESTMENT IN YOUR FUTURE.