



WORKSHOPS 2009

June 11-12



WS 11: Cutting, Grinding, Washing: Three fundamental steps in Float Glass Processing

**Presenters: Part 1 Peter Pokoern, Bohle AG
Part 2 & 3 Michael Emonds, ACW**

**WORKSHOP LOCATION:
UNIVERSITY OF TAMPERE, PINNI B
KANSLERINRINNE 1**

Course Summary

Target group

This workshop addresses users in the industrial glass processing, who are cutting glass with common CNC cutting tables or cutting lines.

Your advantage / benefit

The important parameters of use of the cutting line, like wheel selection, cutting pressure, cutting speed and selection of the ideal cutting fluid are carried out on your own machinery.

Another target of this workshop is an optimization, and therefore a cost reduction, in cutting technical or special glass like Ceran, Neoceran, Borofloat and others

Part 1: Cutting

The first step in processing float glass is the cutting step. The choice of the right cutting parameters is decisive and influences the quality and the lifetime of the processed glass. The workshop will provide the participants with all information necessary to understand the cutting process and to create a perfect cutting result. Beneath other things Mr. Pokoern will report the effect of cutting wheel, cutting wheel angle, cutting wheel finish, cutting pressure and speed. Additionally, Mr. Emonds will report details regarding the influence of the cutting fluid on the cutting process.

Part 2: Grinding

Part Two will start with a general overview of the grinding process using diamond tools, it will enlighten different test methods for quantifying the edge quality and it will present practice test data regarding e.g. the influence of different coolants on the edge finish of ground as well as drilled glass.

In a more practical approach the proper handling of synthetic coolants will be on focus. Amongst others parameters like cleaning efficiency, corrosion protection, pH-value, and water recycling be discussed.

Part 3: Washing

In the last part the washing process will be treated. Some basic information will be given regarding the chemistry of washing compounds. Different washing concepts depending on the special needs of e.g. insulating glass production vs. low- e glass production will be discussed. Special attention will be paid to the generation of a reproducible glass surface prior to coating.

Bullet Point Summary

- Theory and practice of glass cutting
- Theory and practice of glass processing using diamond tools
- Theory and practice of glass washing
- Cutting wheel
- Cutting fluid
- Coolant chemistry
- Washing compounds
- Edge strength via vertical bend test
- Effect of surface finish and different coolants

Course timetable - Friday 12.6.2009

- | | |
|-------|---|
| 9.00 | Introduction of the speakers and the participants |
| 9.15 | Part 1: Cutting |
| 11.00 | Part 2: Grinding |
| 12.30 | Lunch break |
| 13.15 | Part 3: Washing |
| 14.30 | Discussion |
| 15.00 | End of the workshop |

Registration for Workshops at www.gpd.fi





WORKSHOPS 2009

June 11-12



THURSDAY 11 June

Structural Properties of Laminated Glass

Presenters: S. J. Bennison & I. Stelzer,
E.I. DuPont de Nemours & Co. Inc

Milestones to better understand the Flat Glass Business (history - today - tomorrow)

Presenter: B. Savaëte, BJS. Différences

Industrial Glass Coating Technologies and systems powered by nanotechnology (Beneq)

Presenter: M. Saikkonen, Beneq Oy

Glass Tempering Process (level1): Fundamental steps in tempering and machine test runs

Presenters: V-J. Kuusiniemi & T. Pesonen & M. Äppelqvist & S. Suominen, Glaston Finland Oy

Glass Bending & Tempering process: Theory and machine test runs

Presenters: V-J. Kuusiniemi & T. Pesonen & M. Äppelqvist & S. Suominen, Glaston Finland Oy

Laminating of Heat treated and other speciality glass

Presenters: M.P. Verleyen, Solutia Europe; M. Rantanen & J. Ala-Savikola, Glaston Finland Oy; R. Giovannini, Glaston Italy; A. Uusikartano, Suomen Turvalasi Tambest; C. Bostick, Consulting Architects; J. Gilleeney, Independent Glass

Glass processing basics for Solar industry specialists

Presenters: R. Nieminen, Glaston America Inc.; I. Hiekkänen & T. Pesonen, Glaston Finland Oy

Understanding glass strength, stress analysis and design methodologies for architectural glass

Presenter: Dr. L. Jacob, Jacob & Associates Pty Ltd.

FRIDAY 12 June

Cutting, Grinding, Washing: Three fundamental steps in Float Glass Processing

Presenters: P. Pokoern, Bohle AG; M. Emonds, ACW

Coated Glass - Applications and markets

Presenter: S. Nadel, Applied Materials

Seeing Through Glass Design

Presenter: C. Bostick, Consulting Architects

Basics of Glass Coating Processes and Coated Glass

Presenters: P. Vuoristo & T. Mäntylä,
Tampere University of Technology

Digital Printing on Glass

Presenters: Y. Ninoy & T. Salenius, DIP Tech Ltd.

Glass Tempering Process (level2): Glass Factory profitability and tempering technology know-how

Presenters: V-J. Kuusiniemi & T. Pesonen & M. Äppelqvist, Glaston Finland Oy; F. Serruys, Saint-Gobain Glass Solutions

Profitability of a Glass Processing Factory

Presenter: K. Heikkilä, Glaston Singapore

Solar Power - Opportunities for the glass industry

Presenters: R. Nieminen, Glaston America Inc.; I. Hiekkänen, Glaston Finland Oy; M. Rajala, Beneq Oy; A. Karpinski, Kuraray Europe GmbH; O. Mal, AGC Flat Glass; B. Szyszka, Fraunhofer IST; S. Byers, Ritec International Ltd.; V. Geyer, Scheuten Solar; G. Strij-Hipp, BSW Solar

New trends in the Infrared Non-contact Temperature Measurement for the glass industries

Presenters: R. Gärtner & E. Drews, Raytek GmbH

Registration for Workshops at www.gpd.fi

