

## TC13 ENVIRONMENT (TC13)

**Chair** Andreas Kasper, St. Gobain, Germany  
**Vice-Chair** Laurent Piranda, Guardian, Luxembourg  
**Secretary** Simon Slade, Pilkington NSG, UK  
**Webmaster** Marco Van Kersbergen, CelSian, The Netherlands

**Members** Guy Van Marcke, AGC Glass Europe, Belgium  
Denis Lalart, Arc International, France  
Zsuzsa Varga, GE, Hungary  
Walter Battaglia, SSV, Italy  
Mark Pudner, British Glass, UK  
Thomas Hünlich, Schott, Germany  
Karlheinz Gitzhofer, HVG, Germany  
Phil Ross, GICI, USA  
Hugues Abensour, St. Gobain, France  
Etienne Senechal, Arc International, France  
Egolf Maier, St. Gobain Isover, Germany  
Bariş Orhan, Şişecam, Turkey  
Claas Heymann, Heymann Engineering, Germany  
Jan Boogaardt, AGC Glass Europe, Belgium  
Hans Van Limpt, Sibleco, Belgium

### SUMMARY

TC13 is the environment committee of ICG. All environmental issues affecting the glass industry are covered. Members are drawn from industry, consultancies and glass federations. The TC13 meets twice a year and produces extensive minutes detailing the many topics addressed. Subjects range from characterising and controlling glass furnace emissions to understanding the impact of new regulations on the different sectors of the industry. The TC13 regularly produces briefing papers and journal articles and is a source of important expertise for the industry.

All members actively contribute during the meetings. Minutes and Annual Reports are written by the secretary. Reports and external publications are written by the secretary and jointly authored.

TC13's own website, kindly hosted by CelSian, houses an extensive collection of data and is regularly updated with useful information on the work of the TC. <http://www.celsian.nl/TC13/> (Note that the bulk of the documents are in a members-only password-protected area.)

### ACTIVITIES IN 2016

The first TC13 meeting of 2015 was held in Chapeltown, near Sheffield, England at the offices of British Glass. Mr. Laurent Piranda chaired the meeting and Dr. Simon Slade was the secretary. The meeting had a typically full agenda and was well-attended with the eighteen participants discussing many important environmental issues associated with the manufacture of glass. St. Gobain and Arc provided further updates on the operation of their Cercat ceramic catalytic bag house, and the measurement of emissions of boron, selenium, and ammonia were discussed by the committee.

There were detailed presentations by SSV of both their work on the PRIME project to develop novel primary NO<sub>x</sub> control techniques and also on their work to monitor dust and respirable crystalline silica in the glass factory workplace. The respirable fraction of glass-making sand was also discussed and the meeting concluded with a tour de table on new regulations and abatement installations. The extensive minutes provide a thorough record of the discussions, and were issued to TC13 members along with the presentations made at the meeting.

The second TC13 meeting was hosted by CelSian, in Eindhoven, in The Netherlands. Dr. Andreas Kasper chaired the meeting and Dr. Simon Slade was the secretary. The typically busy meeting had 13 participants who discussed many important environmental and health issues associated with the manufacture of different types of glass. The committee heard about problems with EP dust recycling in USA, both from a technical and from a regulatory point of view. The use of EP dust sometimes has technical difficulties for the glass-maker, but there may also be some significant regulatory concerns.

There was also an interesting presentation of an on-going German project to assess the impact of increased recycling of cullet and EP dust on the accumulation of unwanted components in the furnace system. High cullet use and EP dust recycling are good environmental practices, but may be associated with an increase in halides and heavy metals in the glass and in the emissions. There were also short updates on: the operation of a Cercat ceramic catalytic bag house; the measurement of emissions of boron and selenium; the impact of NH<sub>3</sub> on measurements of emitted SO<sub>x</sub>; an inexplicably high SO<sub>2</sub> measurement; and the CO+ sensor developed by CelSian.

Finally, the committee considered the presence of respirable crystalline silica in various glass-making sands. The committee heard an interesting presentation by an invited guest from the sand supplier Sibelco, and the draft of a TC13 paper to be published in early 2017 on the subject was discussed. The usual extensive minutes provide a thorough record of the discussions, and were issued with the presentations made at the meeting.

#### **PLANS FOR 2017**

There are two meetings planned for 2017. The first will be in Ladenburg, Germany hosted by St. Gobain Isover, on 3<sup>rd</sup> and 4<sup>th</sup> April. The second will be held in September, hosted by PQ, in Wurzen, Germany. The rolling assessment of environmental issues addressed at each meeting will continue. In particular, two important on-going practical studies will be reported in detail: furnace emissions and the influence of recycling; and respirable crystalline silica in glass-making sand and in the workplace. The TC13 paper on respirable crystalline silica in glass-making sand will be published in early 2017.