



Press Release

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Grenzebach at *Glasstec 2008*

Prominently featured on Stand No. C33 in Hall 15 at the Glasstec 2008 fair, are Grenzebach's latest developments in the field of laser cutting and thin film photovoltaic processing. There is also a demonstration of a new seaming robot system as well as host and optimization systems for float line equipment.

Laser Cutting of Flat Glass

Grenzebach presents the world's first serial laser cutting table to the float glass industry. In close cooperation with MDI Schott Advanced Processing, this equipment, intended for industrial use, has been developed for medium-size glass plates with a thickness from 2 - 10 mm. A special device directs the laser beam onto the glass thus heating up the glass surface along the intended score line. The actual score is then generated with a special spray system. Conventional snapping tools finally snap the scored glass.

Laser-cut glass edges provide considerable advantages. There are no micro-cracks on the glass surface as caused by cutting wheels in conventional cuts. This leads to a drastically increased breaking strength of glass with lasered edges which is 2-3 times higher. New opportunities for the additional processing of glass are opened - especially in thermal processes since edge grinding is no longer required.

The increased world-wide focus on energy saving and climate protection has led to a rising demand for photo-voltaic technology. This has become a key target market for Grenzebach's laser cutting table, specially developed for the production of thin film modules. The delicate film photovoltaic substrates undergo considerable thermal stress during traditional cut-to size production procedures. Using laser edge cutting dramatically reduces these stresses and offers other clear advantages as well.

Clean Room equipment for Thin Glass

Clean room components are among the latest developments of Grenzebach. They are mainly used in the TFT-LCD industry. Here the usual thickness of the panels ranges from 0.5 mm to 1.1 mm and the size from 550 x 650 mm to 3100 x 3400 mm. Cycle time goes down to 20s per substrate.



The products are certified by Fraunhofer Institute with clean room certificate class 100 (ISO 5). This certification enables Grenzobach to supply the complete range of equipment needed for loading/unloading, glass transport and other typical handling procedures.

Compared with the use of a 6 axis robot, the Grenzobach solution needs far less clean room space. Also, particles are reduced, initial costs are lower and less maintenance is required - clear advantages to the user.

Edge Seaming by Robot

Also on display at *glasstec* 2008 is the Grenzobach seaming robot. Developed together with engineers from Rohmer & Stimpfig, it is a unique innovation in this sector and designed for the photovoltaic industry as well as for all applications where glass seaming is required (e.g. tempering).

A robot takes the glass from a transport unit or a rack and runs all edges along a stationary seaming unit at a constant speed. By means of an intelligent and patented edge detection device located immediately upstream from the seaming unit, it is possible to achieve extremely precise results

Revised visualisation and optimisation system

In the electronics sector, Grenzobach shows a completely revised host and optimization system for float line equipment. Visualisation has been enhanced and further intelligent features have been implemented. Also the product line has been extended with respect to optimisation. In addition to an offline production planning system, Grenzobach offers an online production planning system, which provides an integrated solution to cut-to-size optimisation. It also dramatically increases glass yield.

For more than 40 years, Grenzobach has been a recognized partner for the supply and installation of jumbo-size equipment and complex line components in the flat glass industry. From initial planning through engineering, manufacturing, intelligent control system solutions, commissioning and after-sales service the Grenzobach group spans an extensive and impressive service spectrum. Six production facilities and more than 1200 employees spread over three continents ensure close co-operation and with specialist representatives located in key locations throughout the world. Grenzobach ensures they stay close to their customers.