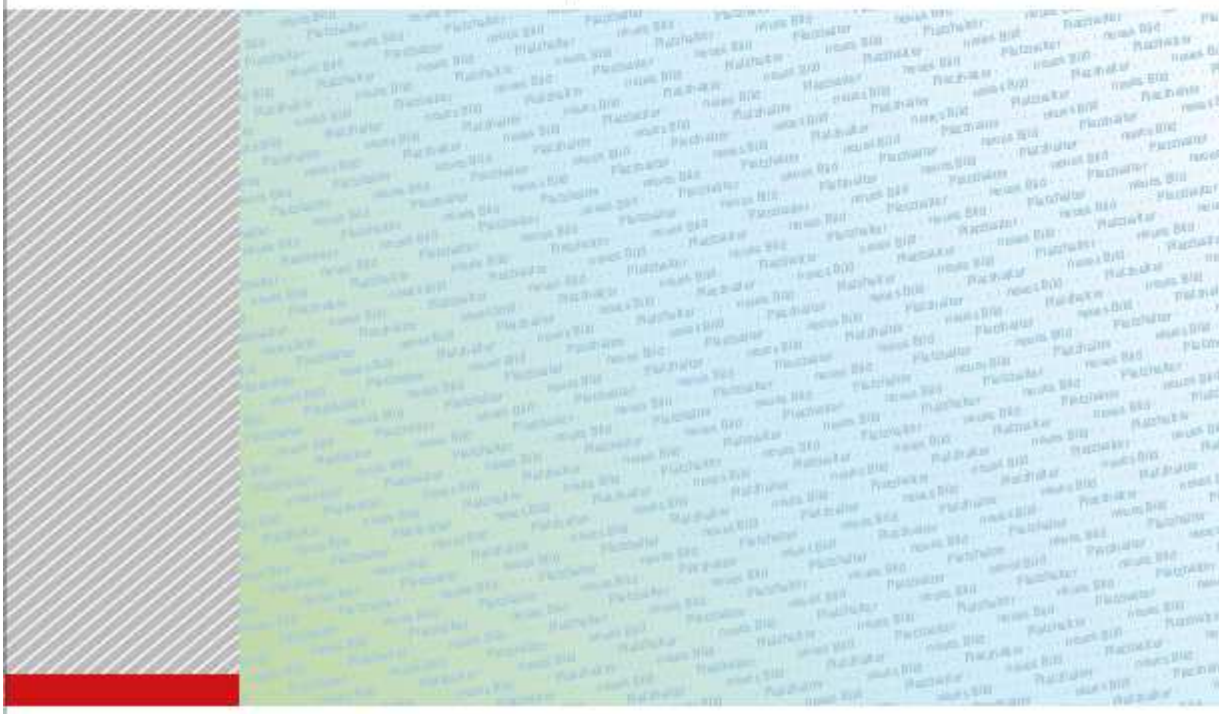
FLOAT GLASS | PATTERNED GLASS | COATED GLASS |
ARCHITECTURAL GLASS | SAFETY GLASS



Glass Inspection

GRENZEBACH

A company introduces itself

GRENZEBACH has achieved its leading position as an acknowledged specialist in handling and processing technology through intensive know how and long experience in the construction of processing equipment for material flow.

From a single machine to a complete production line – with its efficient process controlled equipment we are the trend setter for the flat glass industry. Working in close communication with our customers all over the world we design, manufacture and deliver project technology that is precisely designed for individual production needs. Just as recognised as its flat glass technology, the GRENZEBACH overall concept of manufacturing lines combined with good control technology is successful in the production and processing of building panels, in the processing of gypsum from raw material to finished plaster board and in cutting and drying of veneers. "Open to new ideas" provides the basis for continuous new development in all aspects of our business. The capability to find innovative solutions and to implement them successfully is our task. GRENZEBACH place great emphasis on maintaining cooperative partnership with its customers and business partners. While taking full advantage of modern communications technology, the direct and personal contact is especially important to us. With our affiliates and representation offices throughout the world we are always close to your vicinity.

Grenzebach ALGOSCAN is the preferred partner, when optical glass inspection is needed. Technical innovation is the mainspring for rising demand of more precise and faster inspection systems.

Different glass manufacturing and processing branches rely on us because of our considerable experience in this field. Based on 50 years continuous advancement our technology enables our customers to detect the tiniest defects inline, and also to measure different glass parameters.
Technical innovation is the mainspring for rising demand of more precise and faster glass inspection systems.

We use the best and fastest new technology in optics, software, hardware and mechanical components.

Grenzebach ALGOSCAN stands for high quality products and services. We are up to date with the newest technology. More than 650 of our systems are operating worldwide.
Our success is based on two factors: delivering an outstanding quality and providing on-site support and service to our customers worldwide - in cooperation with our partners.

We integrate our systems directly into the production process. Smallest defects in the µm-range can be detected. This also applies to high production speeds.

Float Glass Inspection

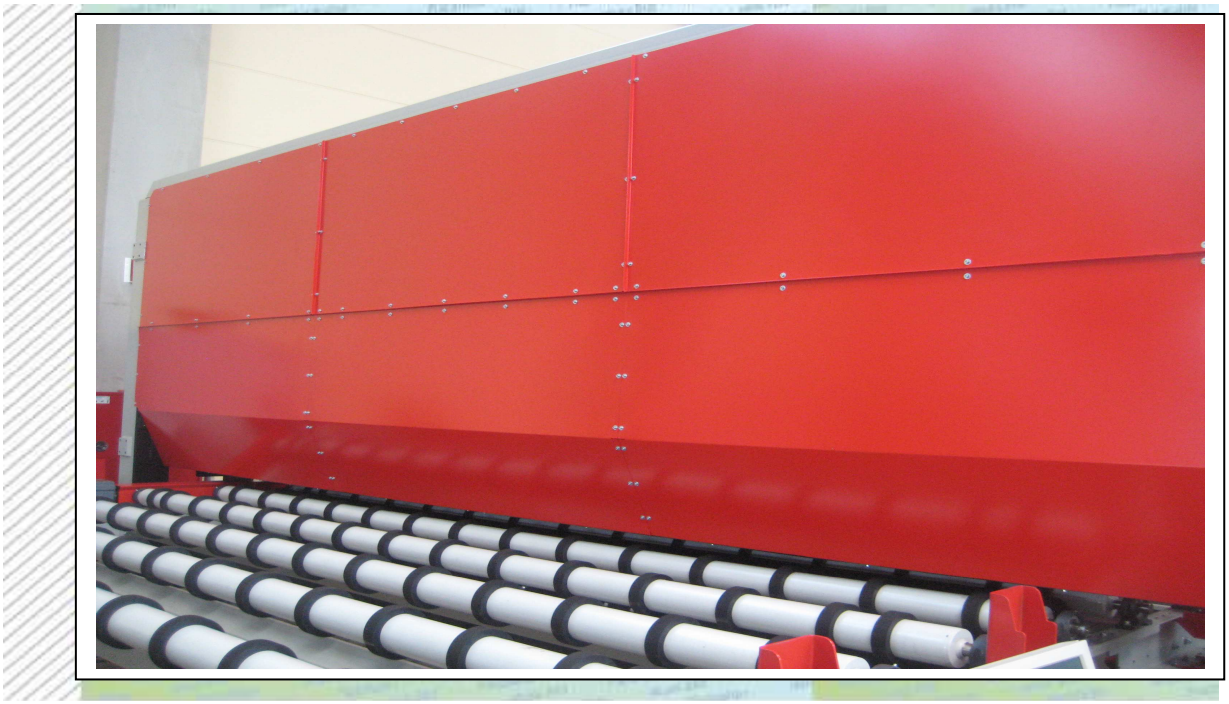
With 95% the float glass process is actually dominating he production of flat glass used for house windows, are windows, mirrors etc. Excellent Quality is very important for all different applications of glass in downstream operations. The float glass runs on the conveyor through the camera inspection system IQLine G, which detects all typical float glass defects.

CCD- Cameras with an intelligent LED-Illumination seethe defects on the material. This information is processed n a high speed evaluation system for further se by the operator, PLC, Sorters and further peripheries. he automatic inspection is essential for each float glass line, as a constant high quality is needed for a maximum yield of the production itself and for the quality of the final product.

Float Glass Inspection
Inspection width: up to 6000mm
Material speed: max. 25 m/min
Material thickness: 1 – 25.4mm
Optics: CCD-Cameras with intelligent LED-Illumination in Transmission
(Option: Reflection)
Optical resolution: 130µm
Detected defects: Bubbles, Inclusions, Scratches, Cracks, Particles, Inclusions, Drips, Tin spots, …
Defect Classification: Automatic

Communication: Visualization of defects, Statistics. All common interfaces for printer, marker, Cutting, Database, remote diagnosis and maintenance via Internet

Patterned Glass Inspection

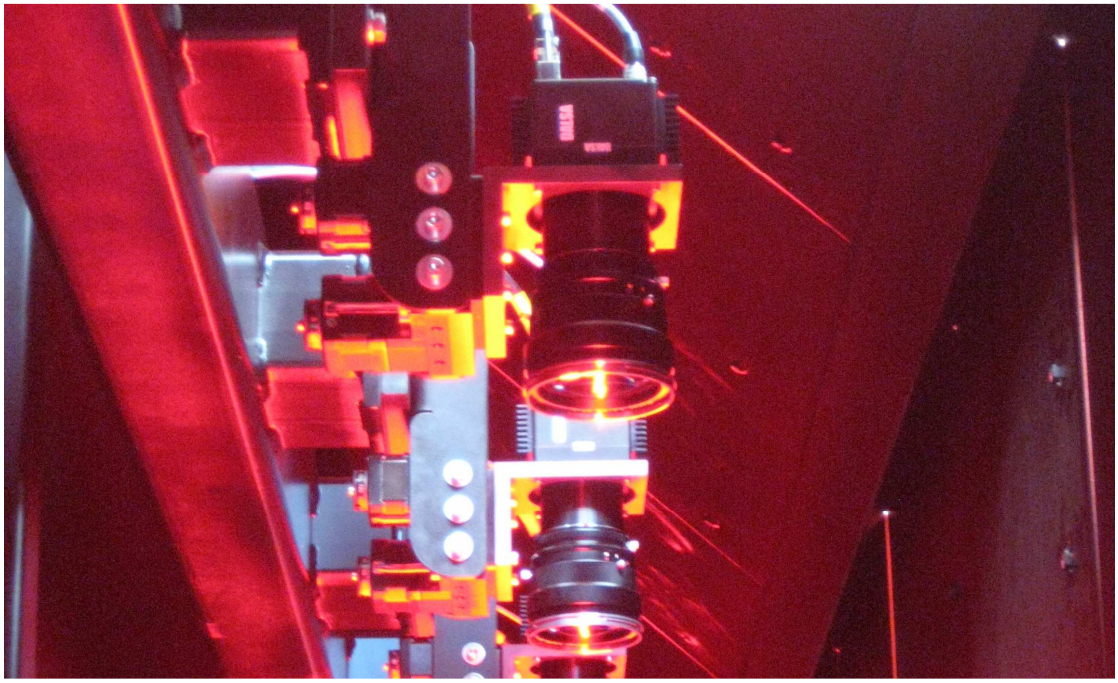


Glass with a structure on one or both sides is manufactured for applications in industry and household. Conventional inspection systems fail, because the structure of the glass often covers many defects. However, the unique optical design of the IQLine G suppresses the structure of the glass and all typical glass defects will be detected even in case of low contrast. The high-performance hard- and software is specially-designed to report all defects online. Additionally the classification separates embedded defects and surface defects clearly. So you'll see whether a bubble is in the glass volume or split open on the surface. A small defect, if embedded in the glass of eg. a ceramic hob can mostly be ignored, but a bubble on the surface makes it unsaleable. That means, for increasing the yield of production a clear identification of kind and position of defects is a must.

Patterned Glass Inspection
Inspection width: up to 6000mm
Material speed: max. 25 m/min
Material thickness: 1 – 25.4mm
Optics: CCD-Cameras with intelligent LED-Illumination in Transmission
(Option: Reflection)
Optical resolution: > 50µm
Detected defects: Bubbles, Inclusions, Scratches, Cracks, Particles, Inclusions, Surface Deformations
Defect Classification: Automatic

Communication: Visualization of defects, Statistics. All common interfaces for printer, marker, Cutting, Database, remote diagnosis and maintenance via Internet

Coated Glass Inspection



For a wide area of technical applications float glass sheets are coated with thin layers. There are many different kinds of coatings, like mirrors, filters, electrical conducting or reflex reducing coatings. Mostly the quality of the coating is very important, because each kind of defect can influence the functionality negatively. So it's necessary to make out defects and their location accurately. An automatic inspection directly after the coating process ensures the detection of all typical defects. It's the only way to notice problems with coating in time and to take countermeasures in the process control immediately.
Since a constant high quality is needed for a maximum yield of the final product, today the automatic inspection is absolutely essential for each coating line.

Coated Glass Inspection
Inspection width: up to 6000mm
Material speed: up to 120 m/min
Material thickness: 1 – 25.4mm
Optics: CCD-Cameras with intelligent LED-Illumination in Transmission
(Option: Reflection)
Optical resolution: > 100 µm
Detected defects: Debris, Stains, Voids, Tin spots, Residues, Arcings,Scratches

Defect Classification: Automatic

Communication: Visualization of defects, Statistics. All common interfaces for printer, marker, Cutting, Database, remote diagnosis and maintenance via Internet

Cutted Glass Inspection

Leaving cutting lines glass panels have to be inspected especially for their right sizes, rectangularity and edge damages. Furthermore there might be grinding lines and other process steps which require inspection. Grinding defects are mostly inaccurate C- or K-shapes, shiners, burns and edge chips. Also additional handling scratches will be detected by using our Cutted Glass inspection solutions. The systems cover high production speeds, acceleration and deceleration of the glass panels

Cutted Glass Inspection
Inspection width: up to 6000mm
Material speed: up to 90 m/min
Material thickness: 1 – 25.4mm
Optics: CCD-Cameras with intelligent LED-Illumination
Optical resolution: > 100 µm
Detected defects: Chips, Cracks, Sizes*, Rectangularity*

Edge Scanning System
Inspection width: up to +/- 25mm
Material speed: up to 60 m/min
Optical resolution: > 60 µm
Detected defects: Chips, Cracks, Burns, Shiners, Scratches

Defect Classification: Automatic

Communication: Visualization of defects, Statistics. All common interfaces for printer, marker, Cutting, Database, remote diagnostics and maintenance via Internet

* Accuracy depends on the conveying system

BUILDING MATERIALS | GENERAL INDUSTRY | SERVICE

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