

ColourBrain[®] Flooring

Automatic optical inspection
and process monitoring



ColourBrain®

Automatic inspection and process monitoring in flooring production

Your benefit

In the production line, all floor planks or boards are checked in-line for smallest defects on surfaces or edges. Optimized modules for laminate flooring, LVT or digitally printed surfaces ensure the best inspection for each product.

The sorting process is performed with a clock rate up to 250 pieces/min and a speed up to 150 m/min. It is carried out automatically and according to quality rules, without excessive sorting and without missing defects and for all the different decors and surfaces.

The camera systems continuously monitor the quality of products, detect deviations and trigger alarms in case too many defects are detected.

Q-brain® is classifying automatically each defect according to its cause. *Q-live*® records the quality of each shift, each product and each batch 24 hours a day and 7 days a week.

Application

In the production of laminated floor planks, defects are detected reliably and defective planks are marked and sorted out.

Four spectral different camera systems are detecting lamination and surface defects on any decor and surface. For long size planks, up to 12 cameras guarantee highest resolution for the safe detection of every defect.

In the press line defects in the decor paper and the overlay are detected with cameras of highest scanning rate. With up to 24 spray nozzles the position of each defect is marked in order to sort out each plank with a defect after cutting.

In the press line and after digital printing, high-resolution cameras check the surface for every defect in the decor. After profiling, edge modules automatically detect smallest defects on the lacquered edges or incorrect placement of the clip.



Highlights

- Inspection of laminate or LVT floor material
- Inspection of planks, board or long size plank
- Automatic marking and sorting
- Inspection of lacquered edges
- Control of insertion of 5G clip

ColourBrain® Flooring Automation assures quality improvement



Inspection of flooring boards in the press line.



Automatic inspection of floor planks.



Automatic check of insertion.



Automatic inspection of edge laquering.

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After lamination or profiling: *ColourBrain®* systems detect each decor defect, damaged overlay, milkiness or surface defect.

ColourBrain® systems permanently monitor the stability of the production line, issue alarms in case of unacceptable deviations and display the causes of these defects. In production lines of laminate flooring or LVT, at all kind of decors or embossing.

ColourBrain® Edge

Inspection modules for the length and cross edge are directly integrated into the profiling line.

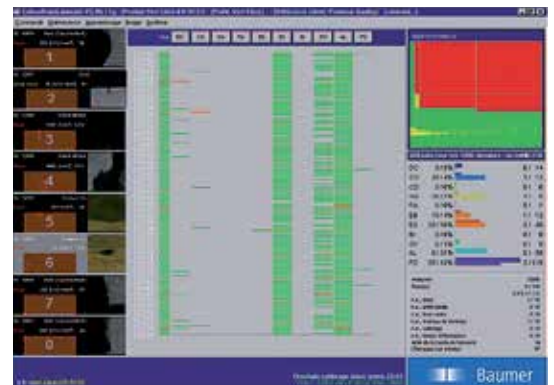
They check LVT as well as laminate floor planks with highest resolution and scan speed for smallest damages and profile defects, the lacquering of the bevelled edge, the lamination with transfer foil and the correct insertion of the clips.



ColourBrain® and Q-brain® technology

The patented *ColourBrain®* technology imitates human perception for checking decorated surfaces. It learns to differentiate between GOOD and BAD based on few samples. Even in case of smallest production volumes and frequent changes, the system immediately adapts to the new product.

The user deploys an intuitive user interface that is easy to understand, with clearly structured graphical menus in order to teach in new products, set tolerances and analyze the frequency and cause of defects with statistics and defect images.

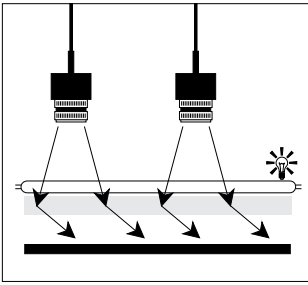


Q-brain® is the novel classification technology of Baumer Inspection. With *Q-brain®* all defects are sorted according to their cause, differentiated between single and process related defects and dirt laying on the surface separate from a real defect.

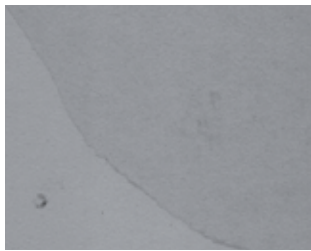
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Inspection modules for the defect detection and process monitoring

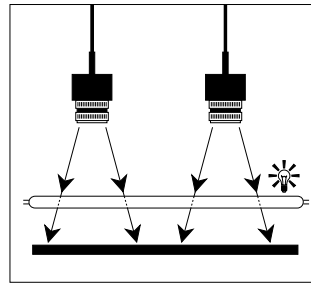
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3D and reflected light modules for the detection of defects on laminate flooring planks.



UV modules for the detection of milkiness or missing overlay.



Colour camera for the detection of each printing defect in digitally printed or direct printed decors.



Camera modules for the detection of decor defects on flooring panels.

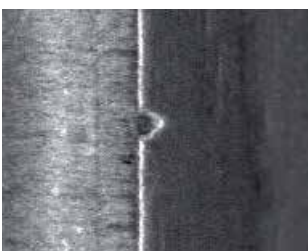


Wrinkles in a LVT product.

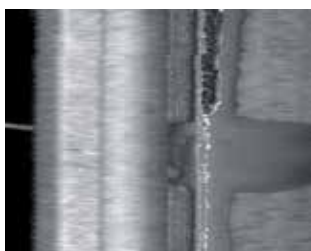


Dent on LVT plank.

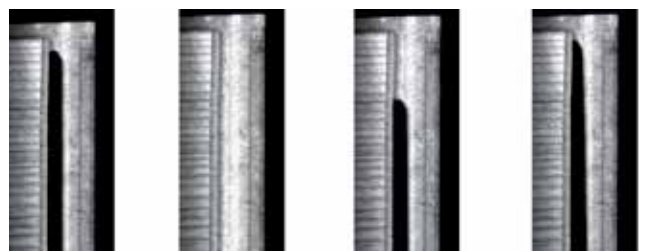
ColourBrain® Edge



Camera modules for the automatic inspection of edges of profiled laminate floor planks.



Camera modules for the automatic inspection of laminated or lacquered edges.



Camera modules for the check of the insertion of clips.



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