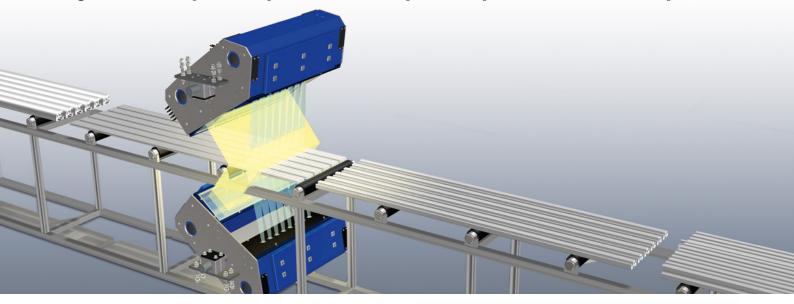
### Extruded Profile Production - Multistrands





## **EXTRUSION MASTER for multistrand extrusion**

High cost and yield improvement for parallel produced extruded profiles



# A wide range of defects can occur on profiles during extrusion – detect them all simultaneously with EXTRUSION MASTER for multistrands

Producers already face high-quality profile requirements today that will continue to increase in the future. To meet these expectations, the EXTRUSION MASTER system already enables automated surface inspection of extruded single and multistrand profiles.

The system's reliable multistrand sensor head detects any relevant surface defects like blisters, dents, spots, inclusions, and scratches on any visible side of the profiles. The system is scalable from single side to up to a four-sided inspection. As a result, processes are improved and scrap is significantly reduced while high-quality throughput and yield are increased.

The surface detection area for each individual profile can be easily set in Cut Editor. Each profile will be stored under a corresponding die or profile number with which the individual inspection settings will be configured automatically. The system ensures maximum die utilization by setting individual thresholds for die lines or streaks, making it a powerful maintenance prediction tool.

Profiles are manufactured in very different shapes and a wide range of dimensions. EXTRUSION MASTER for multistrand lines detects every relevant defect on any visible side of all simultaneous produced profiles.

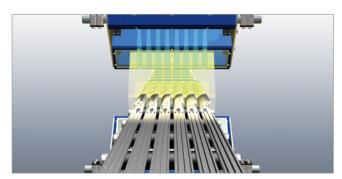
### **Application**

- Simultaneous multistrand in-line surface inspection for extruded profiles
- Automated inspection of all visible sides of all parallel produced profiles
- Profiles of different shapes and sizes can be inspected without new set up
- Evaluation of die condition and recommendations, such as optimum moment to change rolls before the product quality variations

#### **Benefits**

- Common amount of 30 % scrap can be reduced significantly
- Optimized down streaming such as color coating or annealing
- No further processing of defective material
- Ensures maximum die utilization
- Correct quality decisions based on high inspection performance
- Best detection performance with outstanding image processing power
- Return on investment begins after only a few days due to quick system set-up
- Quality statistics for precise process and product analysis as well as optimized

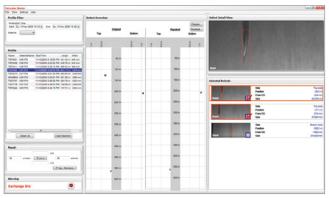
### **Process of EXTRUSION MASTER**



The EXTRUSION MASTER enables automatic surface inspection of several sides of extruded aluminum profiles.



Profiles of different shapes and sizes can be inspected without a new system set up. The requested shapes are taught into the system via CAD drawings.



Defect images are shown and positions are visualized simultaneously on a defect map – for all parallel produced profiles

# Optional performance Enhancement with Expert Modules

### ■ EXPERT<sup>5</sup> ProfileRelease

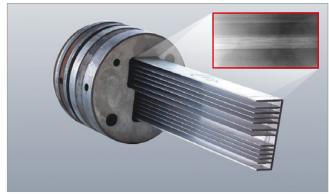
Provides quality analysis of profiles and issues a release suggestion for next process or the end customer

### ■ EXPERT<sup>5</sup> ProfileRepair

Evaluates the efficiency of repair measures like cutting and frequently prevents profile downgrading. Result: Improved material utilization and higher profit

#### ■ EXPERT DefectTrend

Shows synchronized trend data of relevant surface defects spanning multiple batches. Instant defect notifications allow for immediate responses to process problems.



Worn out die is a usual root cause for surface defects. The EXTRUSION MASTER performs a predictive maintenance analysis and recommends the optimal timing for the die exchange.

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