

SURFACE360™

THE 3D SURFACE FLAW DETECTION SYSTEM FROM THE MAKERS OF PROFILE360™



LASER MEASUREMENT SOLUTIONS

Surface360 from Starrett-Bytewise is a breakthrough in surface inspection technology. Surface360 is an inline inspection system that digitizes the extrusion and measures the true surface geometry in real-time.

Surface360 delivers an exciting alternative to existing technology. It is built upon the industry-leading high-speed laser triangulation capabilities of Starrett-Bytewise's profile measurement platform, Profile360. Because most surface defects in extrusion are actually small deformations, indentions, or protrusions of the profile, the method used by Surface360 results in more accurate detection of surface flaws.

TECHNOLOGY

- Surface360 utilizes laser triangulation at rates 100x faster than traditional cross-section profile measurement systems to detect small changes in surface geometry

SOFTWARE

- Advanced software displays your extrusion in 3D view to highlight flaws
- Quickly scroll through a defect history of 3D images with timestamps
- Define size and frequency of defects that constitute a rule violation for alarming/markings
- Set boundaries for the flaw detection, avoiding non-critical surfaces
- Geometrical-matching overcomes challenges when the part moves or rotates within the field-of-view to maintain consistent inspection
- View reports with statistics on defects for past runs
- No calibration or "part mastering" required!

OUTPUTS

- Light Tower with audible alarm brings immediate attention to problems
- Micro PLC is included to tie to marking or reject system, so that flawed parts are not packaged for shipment

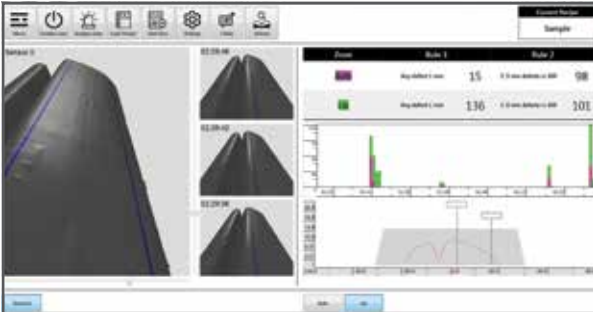
FEATURES OF SURFACE360 INCLUDE

- High-speed laser triangulation
- Inspects geometrical deviations
- View 3D image in real-time
- Detect flaws down to 0.5mm

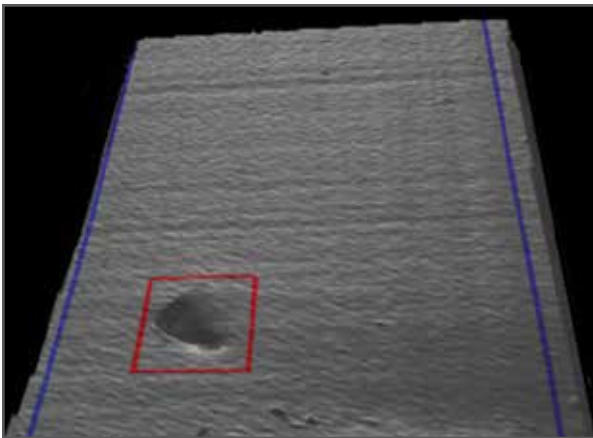


On-site demonstrations available.
Contact Starrett-Bytewise to schedule.

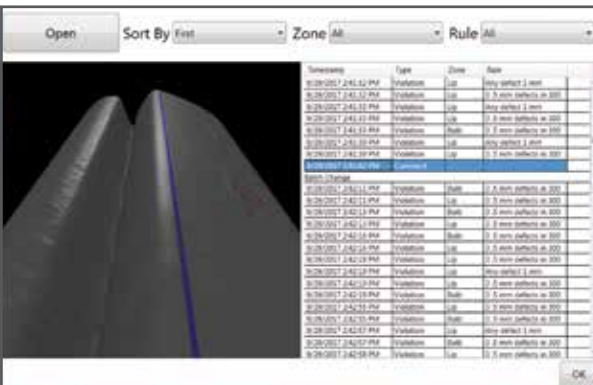
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Screenshot of Software



Real-Time 3D View



History Window

A BETTER APPROACH...

The high-speed Surface360 sensors collect over 3 million 3D points per second to reveal the dimensional characteristics of the extrusion. These detailed profile dimensions are compared to configurable definitions to determine out-of-spec alarm conditions.

Unlike other surface inspection techniques that use complex lighting to create light and dark gradient changes to infer the presence of flaws, Surface360 provides a true 3D geometrical scan of the part with a pixel resolution of 0.25mm, so even the faintest defects can be detected. Also, since Surface360 captures the true geometry, you can easily view the cross-section profile in real-time to set up and verify inspection boundaries - something not possible with vision systems.

Like the very popular design of Profile360, the Surface360 is available in various configurations within a C-frame, to allow ease of setup and portability, avoiding interrupting production when installing or removing from your production line.

Specifications	
Surface Detection Width (per sensor)	50mm
Realtime 3D pixel size	0.25mm
Minimum Recommended Feature Detection	0.5 x 0.5 x 0.05mm (L x W x H)
Max Recommended Line Speed	30 meters/min (100 ft/min)
Measurement Technology	High Speed 3D Laser
Measurement Frequency	2,200 cross-section profiles per sec.
Outputs	PLC with digital outputs for reject signal
Configuration	C-frame on a fully-outfitted mobile cart
System (including Cart) dimensions	903 x 349 x 1900mm (L x W x H)
System (including Cart) weight	120 kg

Now you can scroll through the 3D image of every flaw in every run.

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