

Sentin^{AL}



Quality assurance of foundry half products has become more and more important throughout the last decade. To meet this demand from the metal processing industry InPhase Solutions has developed the SentinAL. The SentinAL is a full volume, ultrasonic inspection system for Aluminum extrusion billets.

Principle of operation

Most inspection systems submerge the entire billet or do not submerge the billet at all. Non-submerge systems are prone to contact loss while submerge systems exhibit a longer scan duration. The SentinAL combines the best of both worlds, it only creates water contact with the billet segment under inspection. It is also able to use a large number of sensors at the same time which reduces the scan duration. All this is achieved by keeping water spilling at a minimum.



Advantages

Through its design the SentinAL provides a set of unique advantages:

- Small footprint allowing the system to be retrofitted to existing production lines
- Fully automated and integrated with the production line system
- Full volume inspection in accordance with the ASTM B594 standard C to A class
- Scan duration less than 2 minutes for a 7.5 m long, 7 inch diameter billet
- Designed for billet diameters from 7 to 14 inch
- Scans up to the very end of the billet (i.e. very small unscanned caps)
- Self diagnosing and self calibrating
- Efficiently adaptable to special needs

An inspection system for the future

The SentinAL has been successfully installed on site and additional features are under development, such as: surface crack detection, trending of material parameters and ultrasonic tomography.



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