



AlpSEB

Automatic Billet Labelling System

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AUTOMATIC BILLET LABELLING SYSTEM

AlpSEB is a labelling system for use with both high and low temperature materials. It has been designed as an alternative to the punch marking, or nail-gun tagging or welding methods; the apparatus uses thermo-activated labels applied directly to the materials surface by means of an applicator head fitted with a heat resistant pad. This solution provides for better flexibility, readability, and extensive product information.

AlpSEB in brief:

- Automatic direct labelling (Print & Apply method) or with robotic assistance (where required)
- Application on low and high temperature surfaces
- Precise label positioning
- Labelling resistant to wear, heat, and high mechanical stress
- Durable, information-rich printing using Data-Matrix, QR Code and plaintext methods
- Operational efficiency and versatility thanks to cutting-edge technologies
- System, installation, and maintenance reduced costs



Labels applied to incandescent billets

AlpSEB uses cutting-edge technologies incorporating the hi-tech features of the most modern labels and special adhesives; it offers an innovative solution that meets the continuous challenges in product traceability and the need to access increasingly complete information. The use of data-rich labels designed to withstand high temperatures and high mechanical stress, make the new system the ideal solution to solve problems related to punch marking methods, such as the difficulty with OCR reading, or problems with tagging by means of a pin or a stud that can be displaced due to powerful mechanical impacts during handling with consequent loss of the tag. The new labels, moreover, thanks to Data-Matrix, QR Code, barcode and even plaintext characters can offer a wide range of information that is easily accessible onsite by an operator with a PDA.



ARTIFICIAL INTELLIGENCE



MACHINE VISION



AUTOMATION

SYSTEM ARCHITECTURE

AlpSEB consists of an automatic labelling system combined with a thermal transfer printer. The labelling apparatus involves an automated applicator machine, consisting of a slide type device or alternatively a robotic arm, fitted with a load adjustment cylinder attached to an applicator head equipped with a heat resistant pad; a vacuum pump, and an air blowing mechanism complete the setup.

The system is suitably insulated through a heat-resistant housing, and it is integrated with a dedicated control panel.



On the left of the image the Print & Apply version, on the right, the anthropomorphic robot with the applicator. In the box a detail of the applicator with the pad (Print & Apply version).

HOW IT WORKS

AlpSEB receives the printing information from an existing Level 2 or 3 system (MES-ERP) that it then transmits to the thermal transfer printer which in turn issues a cut-to-size duly printed label. The applicator head will subsequently retrieve the label from the dedicated unit, and it will apply it on the billet's face using the appropriate pad.

If the position of the billet is known (e.g., the first step of the walking beam cooling bed), the Print & Apply system is used. Alternatively, an anthropomorphic robot guided by machine vision will be required to position the applicator head. The action of the vacuum pump and air blowing mechanism ensures that the label and its adhesive layer do not undergo alterations during the gluing process. Once applied, the label is then scanned to determine its correct positioning and legibility of the printed information. The scan result is then transmitted back to levels 2 or 3 for validation and completion of the labelling cycle.



Perfectly legible labels on the cooled billets.

TECHNICAL SPECIFICATIONS

Materials operating temperature	400~1050 °C	Thermal Transfer Printer	Second optional
Labelling time	3s*	Protective housing	Heat resistant*
Full cycle	~ 15s*	Anthropomorphic Robot	On request
Load Adjustment Cylinder range (standard)	1200 mm	Robot's guide system	Machine Vision
Label capacity	~ 2000 pcs.**	Print verification system	Optional

* According to the type of installation

** Approximate quantities according to label size



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