

Vulcan Expert



OBJECTIVES

- | Meet strict requirements for quality control
- | Fast sorting of raw materials
- | Works in low temperatures

RESULTS

- | Outstanding performance
- | Improved efficiency
- | Cost savings

Vulcan increases product quality control at production site for Northeast Light Alloy

China's first aluminium-magnesium alloy enterprise, Northeast Light Alloy Co., Ltd. (Northeast Light Alloy), designs and produces more than 82,000 tonnes of alloys annually. Fast detection of elemental content for quality control had become a major task for the production lines due to large scale daily capacity. Based on its outstanding performance – both speed and accuracy - and trial results, North Light Alloy chose Hitachi High-Tech's handheld Vulcan laser analysers to increase quality control efficiency and achieve cost savings.

WHY QUALITY CONTROL IS VITAL FOR AN EXPANDING BUSINESS

Quality control of raw materials is extremely important for Northeast Light Alloy, based in Harbin, known as the 'Ice City'. With over 170 categories of alloy, it has extremely strict quality requirements, especially for military products including the chemical components, burdening and melt quality. Additionally, alloy sorting is required for casting inputs, even the geometric wastes, and all leftover materials.

“ The Vulcan Expert makes us connected with advanced technology. ”

In the past, the team has judged the alloy type based on shape, colour, thickness and size by eye only. To determine the elemental composition of materials not only required a lot of manpower but also, highly-skilled staff. The electrode excitation analysis method, which was adopted later, could show the spectral colour and ray length of elements by electrode excitation to judge the element proportion of the alloy. However, this was not a quantitative standard and relied on experienced staff.

Northeast Light Alloy built up its molten aluminium production line in 2016, mainly for casting aluminium alloy ingots, such as ADC12, ZAISI9Cu3Mg, AC4B and AC2B-B. It passed through the quality system authentication of ISO/TS 16949:2009 in 2017. Along with the market expansion, the output and different alloy grade increases, the traditional electrode excitation method for detection could no longer meet the demands for quality control.

Simultaneously as more production lines were being added in the same plant, and production space for each reduced, preventing material mix-ups has become even more crucial for the business

SELECTING THE BEST INSTRUMENT FOR THE JOB

According to Zheng Chao, Senior Engineer, responsible for technologies of the molten aluminium production line, many managers and technicians at Northeast Light Alloy have searched for a suitable analyser that would meet the analysis demands at the production site. Hitachi High-Tech's distributor, Shenyang Huayi Times Technology Co., Ltd., recommended the Vulcan Expert, a handheld LIBS (laser induced breakdown spectroscopy) analyser, which can provide the grade and elemental composition of metals in just one

second. After a comprehensive selection process, the Vulcan Expert was chosen to be adopted across the business based on its performance and successful trial. This was also thanks to the expertise and professionalism of Hitachi High-Tech's distributor.

Zheng Chao, said, "The Vulcan Expert connects us with advanced technology, but also with the expertise provided by Hitachi High-Tech and their distributor. We hope that their know-how and engagement allow us to take advantage of the analyser's capability to best serve our production lines."



If you'd like to see the Vulcan analyser in action visit www.hitachi-hightech.com/hha or book a demo.

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VULCAN EXPERT FOR FASTEST ALUMINIUM SORTING

Vulcan Expert is one of the world's the fastest handheld tools available to analyse and identify aluminium alloys. It provides full chemistry and grade identification in just one second, including the traditionally challenging close grades such as 6061/6063, 3003/3004 and 7050/7075 – a task that can easily take 5–10 seconds or even more with handheld XRF.

When Wi-Fi is available, Vulcan Expert connects to Hitachi High-Technology's cloud based data storage and management service making analysis results available in real time from any computer, anywhere.