

Schweißen & Schneiden 2017 Flashback

Shaping the future with metallurgy

Filler metal specialist voestalpine Böhler Welding took advantage of the unique podium of Schweißen & Schneiden 2017 to showcase its achievements in the field of 3D printing with welding wires. Under the Böhler Welding brand name, it presented an innovative range of specialized wire electrodes for 3D printing, developed from a basis of metallurgical expertise and application know-how in welding and cladding.

Wire Arc Additive Manufacturing (WAAM), as this revolutionary technology is officially named, is rapidly gaining ground as a flexible and cost-efficient method for the on-demand creation of components from special alloys. It uses robotic gas metal arc welding to create any desired product shape by depositing the weld metal layer upon layer. The WAAM process can be automated completely from part design to fabrication in a CAD/CAM environment, reducing the production time and the amount of human intervention needed for each new part.

The challenge in WAAM is to produce complex-shaped metal components with a good geometric accuracy requiring minimal machining, in a variety of alloys and without loss of high-value material. This places high demands on the wire electrode in terms of consistent welding characteristics such as wire feeding, arc stability, wetting properties and control of spatter. A new dimension in metallurgical expertise is the need to balance the chemical composition in such a way that WAAM produced components obtain the desired mechanical and chemical properties under welding conditions in a casting-like micro structure.

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The innovative Böhler Welding 3Dprint range consists of highest quality solid and cored wires with excellent surface finishing and the welding characteristics required for a stable 3D printing process. The available chemical compositions cover low- and medium alloyed steel, various types of stainless steel including duplex grades, nickel-base alloys, titanium and aluminium.

For more information on the Böhler Welding 3Dprint range of wires and for Böhler Welding contact details visit:

<http://www.voestalpine.com/welding/Company/Press/Press-Releases/Schweissen-Schneiden-Flashback-Part-2>

A detailed brochure is available for [downloading](#).

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About us

voestalpine Böhler Welding

Is a leading manufacturer and worldwide supplier of filler metals for industrial welding and brazing applications. As a part of the voestalpine Group, one of the world's leading suppliers of specialized steel products, voestalpine Böhler Welding is part of a global network of metallurgy experts. With more than 100 years of experience, the enterprise has decisively influenced the development of welding technology, setting the benchmark with its innovative solutions. With its three areas of competence – Böhler Welding for joint welding, UTP Maintenance for repair and maintenance welding and Fontargen Brazing for soldering and brazing – outstanding solutions for all challenging welding projects in demanding industries are offered. Read more on www.voestalpine.com/welding

Metal Engineering Division

The voestalpine Metal Engineering Division is the global market leader in turnout technology, and the European market leader in special rails and quality wire. The Division is also a leading provider of tubulars and high-quality welding consumables. Customer segments include the railway infrastructure industry, the oil and gas industry, the steel and construction industry, as well as the mechanical engineering and automotive industries. In the business year 2016/17 the Division and its Steel, Rail Technology, Wire Technology, Tubulars, Turnout Systems, and Welding Consumables

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business units generated revenue of nearly EUR 2.7 billion, of which around 40 percent was generated outside Europe. The division, with its more than 13,000 employees worldwide, generated an operating result (EBITDA) of EUR 361 million.

The voestalpine Group

In its business segments, voestalpine is a globally leading technology and capital goods group with a unique combination of material and processing expertise. voestalpine, which operates globally, has around 500 Group companies and locations in more than 50 countries on all five continents. It has been listed on the Vienna Stock Exchange since 1995. With its top-quality products and system solutions using steel and other metals, it is one of the leading partners to the automotive and consumer goods industries in Europe as well as to the aerospace, oil and gas industries worldwide. The voestalpine Group is also the world market leader in turnout technology, special rails, tool steel, and special sections. In the business year 2016/17, the Group generated revenue of EUR 11.3 billion, with an operating result (EBITDA) of EUR 1.54 billion; it has around 50,000 employees worldwide.

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