

## **VDM Metals opens a new bright annealing line**

Werdohl, 5 July 2019. ***Today, VDM Metals opened a new bright annealing plant at the Werdohl site and formally dedicated the plant to its function in the presence of invited guests. With this globally unique vertical bright annealing plant with double muffle system, VDM Metals continues its tradition of innovation.***

High-tech – literally. The vertical bright annealing plant sets new standards not only in height but also in efficiency and performance.

“Annealing is a central process step for us. The recrystallization of the microstructure makes it possible to achieve very specific, important material properties,” says Dr. Niclas Müller, Chairman of the Management Board at VDM Metals. “The new bright annealing line brings us a roughly 30 to 40 percent increase in performance. With this 21 million euro investment, we are optimally positioned for the future.”

In addition to increasing the capacity, the product portfolio was also expanded: Strips with a width of 350 to 830 mm and a thickness of 0.40 to 4 mm can be offered. The coil weight has now also been increased to ten tons.

### **Two-year construction phase**

For the city of Werdohl, the tower is a new landmark, visible from afar. The planning of the bright annealing plant III as a replacement for the horizontal plant II from the year 1977 began in 2014. Construction, including the tower, started in mid-2017. Assembly of the plant itself began in April 2018.

The new hall with the prominent furnace tower is 73 meters long, 14 meters wide and up to 50 meters high. Behind the blue facade of this ambitious construction stands the annealing furnace and two loop accumulators, which ensure that the strip can be annealed in the furnace continuously and without interruption, even while the coils are being changed at the infeed and outfeed. Up to four coils can be situated in the plant at the same time. Other plant components, such as degreasing, cleaning and reel systems, are located in the extension of the new hall and round out the functions of the new annealing line.

### **Quantum leap in technology**

Tower furnaces are state of the art in stainless steel production. The unique aspects of the plant in Werdohl consist, firstly, of the high annealing temperatures and, secondly, of a double muffle concept that does not require support rollers inside the annealing unit. The lower muffle

covers the temperature range from 1,150 to 1,170 degrees Celsius. This is the required standard for stainless steel. The upper high-temperature muffle is operated at up to 1,230 degrees Celsius.

“That is 80 degrees more than in a typical furnace. These 80 degrees represent a quantum leap – for the muffle material used and the furnace design as well as for the associated possibilities for processing the products,” explains Müller. The annealing muffles are heated with natural gas. The annealing chamber itself contains hydrogen as a shielding gas to prevent oxidation of the strips. The material to be annealed passes first through a cleaning and degreasing process before entering the furnace. The shielding gas ensures that the material remains bright. This is where the term bright annealing plant comes from. Incidentally, the muffles are made of a material developed in-house at VDM Metals: VDM® Alloy 602 CA. The strips of extremely corrosion- and heat-resistant materials annealed here are used in the electrical industry, the chemical and petrochemical industries and the automotive industry.

### **Resource-conserving plant concept**

The plant needs to fear no comparisons with regard to sustainability as well. In addition to a heat recovery system for heating the required media in the degreasing system, the bright annealing plant also has a hydrogen production system. This results in very low specific consumption values for natural gas and hydrogen gas which contribute to a low environmental impact and conserve resources.

### **Additional information**

Silke van Os

Ph.: +49 2392 55 2588

Email: [silke.vanos@vdm-metals.com](mailto:silke.vanos@vdm-metals.com)

### **About VDM Metals**

The VDM Metals Group, based in Werdohl, develops and manufactures nickel, cobalt and zirconium alloys as well as high alloyed special stainless steels. For over 85 years, the company has been supplying sheet metal, strips, rods, bars, wires, welding fillers and (now also) powder to customers in the chemical industry as well as the plant construction, energy production, oil and gas, electrical and electronics, and automotive and aerospace industries. Worldwide, VDM Metals employs around 2,000 people.

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