

voestalpine holds patent for carbon-neutral pre-material used in green steel production

voestalpine has developed an industrial scale process for carbon-neutral steel production without the use of fossil carbon and secured the intellectual property rights to the process from the European Patent Office. The patent is valid in all major European steel manufacturing countries and specifically covers the production of sponge iron (DRI or HBI) using green hydrogen and biogas in the direct reduction process.

Europe's climate goals are facing the steel industry with profound technological challenges. The political objective of achieving climate neutrality by 2050 can only be met with new production technologies. As a global benchmark in climate and environmental protection, voestalpine is conscious of the ecological and social responsibility which comes with its Europe-wide intellectual property rights to climate-neutral steel manufacturing. "We are convinced that transforming Europe's steel industry is only possible when we all pull together. We are focusing on cooperation and dialogue with all stakeholders," stresses Herbert Eibensteiner, Chairman of the Management Board of voestalpine AG.

The process developed by voestalpine uses green hydrogen and biogas in the direct reduction process. In addition to carbon neutrality, the process offers other advantages. For example, the biogenic carbon allows carburization of the sponge iron, for efficient melting in the electric arc furnace. The steel and technology Group will grant patent licenses for the carbon-neutral prematerial used in steel production and plans to work with the license holders to transfer the necessary know-how.

greentec steel is the ambitious plan developed by voestalpine to decarbonize steel production. Using a hybrid technology and electric arc furnaces would allow CO₂ emissions to be reduced by around 30% in a first step to 2030. The steel and technology Group's long-term goal is to successively increase the share of green electricity and hydrogen used in the steel production process, together with tomorrow's climate-neutral prematerials DRI and HBI, to achieve the goal of carbon-neutral steel production by 2050.

voestalpine is continuously investing in the research & development of new product solutions and processes. Over 700 voestalpine employees at more than 70 Group companies worldwide are researching, testing, and bringing new product solutions to the market on an ongoing basis. The Group has already registered more than 3,200 patents for technologies and products, and current research is focused on digitalization and sustainability.

The voestalpine Group

In its business segments, voestalpine is a globally leading steel and technology group with a unique combination of materials 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, it is a leading partner to the automotive and consumer goods industries as well as the aerospace and oil &

voestalpine AG

gas industries; it is also the world market leader in railway systems, tool steel, and special sections. voestalpine is fully committed to the global climate goals, and its greentec steel program represents a clear plan for decarbonizing the production of steel. In the business year 2020/21, the Group generated revenue of EUR 11.3 billion, with an operating result (EBITDA) of EUR 1.1 billion; it had about 48,700 employees worldwide.

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