PR EMO 2023

Metals from VBN Components redefine wear resistance at EMO 2023

Swedish VBN Components is coming to EMO 2023 to show their Vibenite® alloys for additive manufacturing (AM) with extreme wear and heat resistance. You can meet them in Hall 9 Stand F02 to see examples of tools blanks, boring tools, gear tools, nozzles, stamping tools, etc., made with Vibenite® steels and hardmetal. VBN was a pioneer in producing hard metals with AM, and no other company can additively manufacture metals with such high carbide content. Compared to traditional materials, they often give an application increased performance and significantly improve the lifetime of a component. VBN produces on demand as well as offers license solutions which give the right to produce Vibenite® components in your own factory.

Within the range of materials is the hardest commercially available steel in the world, Vibenite® 290 (hardness of 72 HRC), and a unique cemented carbide type of material – Vibenite® 480. The latter won the "Maschinenmarkt Award" for additive manufacturing at EMO 2019. Vibenite® materials are among the most sustainable metals you can find on the market. Metal AM is about 90% less harmful to the environment than traditional manufacturing of metals, and Vibenite® powders are also produced from recycled scrap and with a good electricity mix.

Components exposed to a lot of wear often improve significantly when the current alloy is replaced with Vibenite®. Successful examples come from very different fields such as the energy, aerospace, automotive, tooling, and food industry. Vibenite® gear cutting hobs have proved to run twice as long and cut twice as deep as regular gear hobs in a top, traditional steel, which lowers production cost by 30–40% per gear. Another customer replaced blasting and shot-peening nozzles with Vibenite® and thereby improved the lifetime from days to months, which considerably increased uptime and quality.

Vibenite® materials have also shown to provide very good fatigue properties due to their purity, hardness, and fine microstructure. They have therefore been involved in projects within racing and aerospace. One of the newer projects is to test the benefits on large size bearings, where rolling fatigue resistance as well as weight reduction will be important factors.