

On Course for the World Record in eMobility:

From 0 to 100 kph in less than three seconds - thanks to electric power and VAC's magnetic materials

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Hanau / Frankfurt – VACUUMSCHMELZE GmbH & Co. KG (Hanau) is a Sponsor of the University of Stuttgart's GreenTeam who compete in the Formula Student Electric racing series. VAC supplies its VACOFLEX® 50 high saturation magnetic alloy for the electric drives of the GreenTeam's race car. The 30-strong team of students recently announced their intention to attempt to break the world record with their electric racing car and promptly succeeded. Their electric vehicle with the model number E0711-3, known to the students as E3, had to accelerate from zero to 100 kilometres per hour in less than four seconds. After two test runs under the supervision of an official timekeeper, the results have been confirmed that the car achieved the required acceleration in 2.93 seconds – a new world record. The GreenTeam's vehicle weighed in at 267 kg and was equipped with two electric motors delivering almost 140 hp of power and 1100 Nm torque. Adjusted for weight and power output, the E3 therefore outperformed any Ferrari.



VAC supplied the GreenTeam from the University of Stuttgart with two laminated stator stacks made of VACOFLEX® 50. The manufacturer of the drive and control unit, AMK, used the VACOFLEX 50 stator stacks in its high-performance version of an existing electrical steel motor to significantly enhance the power density. VACOFLEX 50 is an advanced material with a saturation magnetisation of 2.3 T and is thus vastly superior to conventional electrical steel – particularly in the medium field strength range that is found in electric motors.

VACOFLEX 50 is typically used for high-performance, power dense motors and generators with high torque, in application areas such as aviation, automation technology and motor racing. Depending on the motor design, the use of VACOFLEX 50 can boost torque by as much as 50%.

VACUUMSCHMELZE GmbH & Co. KG

VACUUMSCHMELZE (VAC) with 1,500 employees in Hanau, designs, produces and markets advanced materials, primarily magnetic but also with other physical properties, and related products. In 1914 the first vacuum furnace laid the foundation for today's VACUUMSCHMELZE. Industrial vacuum melting techniques for alloys have been in operation since 1923.

VAC Group today achieves annual sales of over 450 million euros in over 40 countries and is the holder of more than 750 patents, placing it among the world's most highly innovative developers of advanced industrial materials.

VAC's portfolio comprises a broad array of semi-finished products and parts with superior magnetic and physical properties, inductive components for electronics, magnets and magnetic systems for use in a wide variety of fields and industries from watch-making to medical technology, renewable energies, shipbuilding, installation, and the automotive and aviation industries. VAC's custom solutions are developed in close collaboration with the customer, reflecting the company's expertise in materials and state-of-the-art production technology.

Find out more at www.vacuumschmelze.com

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