Press Release

Formula Student Team counts on TOX-Joining Technology

Winning the race with TOX-eClinch Technology

TOX PRESSOTECHNIK supports students at Esslingen University in the construction of an all-terrain vehicle. The team will enter it into the Formula Student Electric construction competition. In order to join the twelve individual cells of the vehicle battery, the specialist for sheet metal joining procedures made the eClinch-Technology available free of charge.

In the Formula Student competition, students develop, design and manufacture a race car independently and use it to compete against each other at international competitions. The Formula Student Electric Team of Esslingen University was established in 2011 under the name E.Stall. Currently, the 30-strong team is building its third all-terrain vehicle. A component crucial for a successful outcome is the drive battery. It decides whether the driver has sufficient power to win against the competition. The high-voltage battery installed in the car has a maximum voltage of 600 volt and capacity of 7.6 kilowatt hours. It is divided into twelve modules for proper and safe handling. The individual cells are connected in series using so-called busbars, through which currents of more than 150 ampere flow.

In order to join the cells by means of clinch points, the students used a clinching tool provided by TOX PRESSOTECHNIK. Clinching is an easy to realize joining technology without additional elements or auxiliary part: A push-button-like joint is created in a cold forming process made of several sheet layers – in this case, four layers had to be joined together. The E.Stall Team was able to significantly reduce the construction time using this technology, and increase the process safety. The specialists of TOX PRESSOTECHNIK supported the students with their know-how, and optimally designed the electrical eClinch-Connection.

Raphael Raff of E.Stall is delighted with the result: “We joined 300 cells within two days. We were able to make the battery smaller by one centimeter using a punch with small diameter.”

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Meta title: TOX PRESSOTECHNIK supports Esslingen University with clinching tools

Meta description: Winning the race: TOX PRESSOTECHNIK supports the Team at Esslingen University for the Formula Student construction competition and provides the eClinch technology free of charge.

Keywords: Clinching; eClinching; clinching tool; TOX-Joining Technology; TOX PRESSOTECHNIK; construction technology; Formula Student; Esslingen University

Captions:

Image 1: To win a race, the drive battery in the vehicle must be reliable. The TOX-eClinch Technology is well suited to connecting the individual cells of the battery with each other.

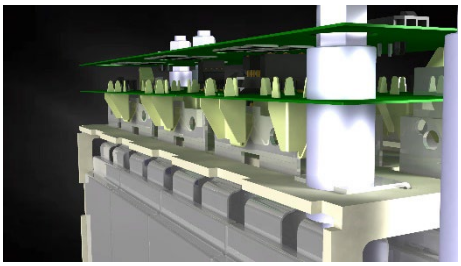

Image 2: The battery is divided into twelve modules for proper and particularly safe handling. The individual cells are connected in series using so-called busbars.

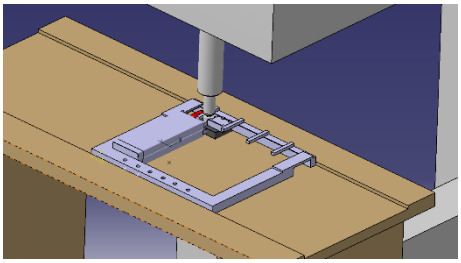

Image 3: During eClinching, a push-button-like joint is created in a cold forming process made of several sheet layers.

About the company:

TOX® PRESSOTECHNIK is a supplier of presses, systems as well as components for sheet metal joining and assembly technology. Since its foundation in 1978, the family business has become a global player with more than 1400 employees worldwide, 550 of which are based at the headquarters in Weingarten near Ravensburg, Germany. The success story started with one pneumohydraulic drive – the TOX®-Powerpackage. The “Components” division now includes pneumohydraulic and electromechanical drives as well as controls, sensors and software for process monitoring and quality assurance. In addition to a large range of presses, the system range comprises manual, machine and robot tongs. Another mainstay are modern sheet metal joining procedures, also incorporating the TOX®-Clinching Technology, which makes the company today’s market leader.

Drives, processes and systems from TOX® PRESSOTECHNIK can be found at automotive manufacturers and their suppliers as well as at industrial businesses for household appliances, electronic components, furniture and much more. Special versions of the TOX®-Drives are also approved for the food industry.

TOX® PRESSOTECHNIK is represented worldwide: 18 subsidiaries, amongst others in the USA and South America, Europe and South Africa, India, China and the entire Pacific Region. 20 representatives in many other markets support and advise local customers.

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