

PRESS RELEASE

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Fully automatic closed-die forging line from SMS group successfully commissioned at Ningbo Xusheng Auto Technology

Light-weight and massive: Chassis components in
aluminium for electric vehicles



The new, fully automatic 2,500-ton closed-die forging line from SMS group at Ningbo Xusheng Auto Technology. The die lubrication system features innovative, 3D-printed spray heads.

Chinese automotive supplier Ningbo Xusheng Auto Technology Co., Ltd. has issued the Final Acceptance Certificate to SMS group for the new, fully automatic closed-die forging line installed at the company's Ningbo location in the Chinese province of Zhejiang. The forging line supplied by SMS group consists of an MP 2500 eccentric forging press and, as a pre-forming unit, an automatic forging roll. The eccentric press operates with a maximum press force of 25 MN. Ningbo Xusheng Auto Technology uses the new line for the production of chassis components in aluminium, especially for electric vehicles.

With support of a specific simulation software, SMS group cooperated with Ningbo Xusheng to jointly develop the technology and the dies for the aluminium forging process. Excellent mechanical properties and a uniform microstructure of the aluminium forgings are indispensable requirements to guarantee the safety of mass-produced automobile chassis parts.

The new line produces high-quality aluminium forgings in maximum cycle times of five seconds. Massive forming of aluminium requires processing within a very narrow temperature window. Therefore, all process steps must be perfectly coordinated and aligned with one another. The forging roll pre-forms heated stock into a predetermined shape applying a nominal rolling force of 1,250 kN. Thanks to the optimal distribution of material within the forging, this pre-forming step enhances material efficiency in the subsequent forging operation significantly. In the fully automatic press, the stock goes through several forging sequences. The components are precisely handled by an automatic electric walking-beam system – which was also part of the SMS group supply.

Specifically for Ningbo Xusheng, SMS group developed a function-optimized spray lubrication system. Three newly designed, 3D-printed spray heads markedly enhance the effectiveness and reliability of die lubrication. Thanks to the possibilities provided by 3D printing, the spray nozzles inside the spray heads are arranged in a way that guarantees perfect lubrication of all die contours.

The change-over times between different products are very short thanks to the supplied change device for the tool holder and the efficiently operating tool changing arm.

Ningbo Xusheng has been active in the mass production and marketing of specific aluminium die castings, among others for the automotive industry. The company supplies its products to well-known international customers. Now the new forging line from SMS enables Ningbo Xusheng to expand its production capacities and also serve the growing market for high-end forged aluminium components.



In action: the die lubrication system with additively manufactured spray heads.

SMS group is a group of companies internationally active in plant construction and mechanical engineering for the steel and nonferrous metals industry. It has some 14,000 employees who generate worldwide sales of more than EUR 2.9 billion. The sole owner of the holding company SMS GmbH is the Familie Weiss Foundation.