

## WELDING TECHNOLOGY DEVELOPED BY KOBE STEEL AND MAZDA WINS THE TANAKA KIKUNDO AWARD FROM THE JAPAN WELDING SOCIETY

**Hiroshima / Petit-Lancy, 23 April 2026.** The *Welding Technology for Improved Electrocoating* (hereinafter referred to as *the technology*), jointly developed by Kobe Steel, Ltd. (Kobe Steel) and Mazda Motor Corporation (Mazda), was awarded yesterday the Tanaka Kikundo Award<sup>1</sup> by the Japan Welding Society for the 2025 fiscal year. The technology enables welded joints to achieve more than three times the corrosion resistance of conventional methods, contributing to vehicle weight reduction. This is the first time Mazda has received this prestigious award.



Award recipients from both companies

The Tanaka Kikundo Award is a specialised technical award presented by the Japan Welding Society to recognise practical technologies that have made a significant contribution to the advancement of welding technology, which forms a cornerstone of Japanese manufacturing.

The technology was developed to address welding slag<sup>2</sup>, which negatively affects the electrophoretic coating (electrocoating) process carried out after welding automotive parts. Suspension components, in particular, are critical safety-related parts that require high levels of durability. However, the use of high-strength thin steel sheets—essential for reducing vehicle weight—has posed challenges, as corrosion near welded areas can lead to a reduction in material thickness. In severe corrosive environments, corrosion originating from defects in the electrocoating layer further shortens the service life of these components.

Kobe Steel and Mazda focused on the arc welding process used for suspension components and jointly established a new technology<sup>3</sup> that minimises slag generation during welding while promoting the agglomeration of any slag produced, thereby reducing electrocoating defects. As a result, corrosion resistance tests confirmed an improvement of more than threefold compared with conventional technologies. Furthermore, evaluations conducted using actual automotive parts demonstrated outstanding performance: under conditions in which significant rust formation had previously been observed, virtually no corrosion occurred.

In developing this technology, Kobe Steel was responsible for the development of welding materials and welding process technologies, while Mazda led work on the components themselves, as well as verification testing and evaluation for mass production at parts manufacturers. The joint award recognises the companies' consistent efforts towards commercialisation, combining the technical expertise of both organisations; the successful adoption of the technology in mass production across a wide range of vehicle models; and its contribution to the advancement of production technologies within Japan's welding industry and automotive sector.

To date, the technology has been applied to nine vehicle models, with total production exceeding 3.5 million units, beginning with the Mazda3 launched in 2019. It contributes both to *the joy of driving*—through improved vehicle performance and fuel efficiency achieved by weight reduction—and to environmental sustainability. Most recently, the technology has also been applied to the all-new Mazda CX-5, which is scheduled for launch in Japan this spring.



All-new Mazda CX-5 (European specification)



All-new Mazda CX-5 chassis

Looking ahead, both companies will continue to advance welding and joining technologies through collaborative innovation, with the aim of addressing societal challenges by further improving vehicle weight reduction, driving performance and environmental performance. Through the creation of products that bring genuine enjoyment to customers, Kobe Steel and Mazda are committed to contributing to a more prosperous society.

#### <Award Overview>

Award Name: Japan Welding Society Kikundo Tanaka Award

Award Category: Development of Welding Technology to Improve Electrocoating Adhesion

Awardees:

Kobe Steel, Ltd.: Minoru Miyata, Reiichi Suzuki, Yasuyuki Yokota, Kazuya Imi, Ryota Yamasaki

Mazda Motor Corporation: Masaaki Tanaka, Mitsugu Fukahori, Naoko Saito



Award Ceremony: April 22, 2026, Osaka University Nakanoshima Center

End

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- <sup>1</sup> For further details on the Tanaka Kikundo Award, please refer to the link below. (Japanese only):  
<https://jweld.jp/awards/tanaka-kamehisa-award/>
  - <sup>2</sup> “Welding slag” refers to non-metallic substances formed at the weld joint. It comprises elements in the molten metal that react and combine with oxygen in the shielding gas or the surrounding atmosphere.
  - <sup>3</sup> The technology was developed by optimising the composition of the shielding gas, the welding wire composition, and waveform control of the welding power source. In addition, it was discovered that the diameter of the shielding gas nozzle has a significant influence on slag formation behavior. Through experimentation and analysis, this influence was clarified and optimal control conditions were defined, minimising the area of slag coverage on the weld bead.