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An innovative fixture for testing the crashwithness in resistance spot welding of press hardening steel

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Resumo:

The resistance spot welding has an important role in automotive manufacturing for joining lightweight, high-strength materials crucial for enhancing vehicle safety and performance. It underscores the growing demand for efficient methods to weld AHSS components while maintaining structural integrity, especially in areas critical for crashworthiness and energy absorption. The management to ensure consistent and reliable weld quality during crash events are based on nugget diameters but the AHSS can present partial or interfacial detachment while affect the maximizing energy absorption capabilities. The new fixture was development to characterizes the energy absorption of spot welding. The tests showed the influences of welding parameters on energy absorption.