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# Most suitable evaluation method for adhesive strength to minimize bend effect in lap joints in terms of the intensity of singular stress field

Rong LI<sup>a,c</sup>, Nao-Aki NODA<sup>a,\*</sup>, Rei TAKAKI<sup>a</sup>, Yoshikazu SANO<sup>a</sup>, Yasushi TAKASE<sup>a</sup>, Tatsujiro MIYAZAKI<sup>b</sup>

<sup>a</sup>Department of Mechanical Engineering, Kyushu Institute of Technology, 1-1 Sensui-cho Tobata-ku, Kitakyushu-shi 804-8550, Japan

<sup>b</sup>Department of Mechanical Engineering, University of the Ryukyus, 1 Senbaru, Nishihara-cho, Nakagami-gun, Okinawa 903-0213, Japan

<sup>c</sup>School of Civil Engineering, Henan University of Science and Technology, Luoyang 471023, China

\*Corresponding author: Nao-Aki NODA, Department of Mechanical Engineering, Kyushu Institute of Technology, 1-1 Sensui-cho, Tobata-ku, Kitakyushu-shi, Fukuoka 804-8550, Japan, Tel: +81-080-3886-6069, E-mail: noda@mech.kyutech.ac.jp

## Abstract

The lap joint testing is designed to investigate the adhesive strength under pure shear loading. However, actually pure shear testing is very difficult to be realized in the experiment because of the bend deformation during testing causing the peeling force appearing at the adhesive region. To reduce the bend effect, this paper focuses on the intensity of singular stress field (ISSF) at the interface end in order to minimize the ISSF for lap joints. The results show that the ISSF decreases with increasing the adherend thickness. The minimum ISSF is obtained when the adherend thickness is large enough with the small deformation angle defined at the interface end. Since the strength of double lap joint (DLJ) is sometimes about two times larger than the strength of single lap joint

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