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## Asymmetrical Bonding in Cold Spraying of Dissimilar Materials

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## Abstract

Characteristics of particle bonding, especially for dissimilar materials, remains a key question in cold spray deposition. There are limited reports in direct correlation to particle/substrate bonding and peripheral shear zones. Cold spraying experiments and numerical simulations are conducted to characterise and analyse the correlation between bonding and peripheral shear zones for asymmetric particle/substrate pairs of intermetallic-forming elements of nickel and titanium. The correlation between metallic bonding and highly strained areas is explored in view of the growth of the intermetallic phase at the particle/substrate interface during subsequent heat treatments.

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