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The study of pull off adhesion for aluminum wire grade 1350 on carbon steel ASTM A36 by thermal wire arc spray

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The aim of work for a coating aluminum grade 1350 on carbon steel ASTM A 36 in different roughness of 50, 75, 100 and 125 microns by thermal spray with wire arc spray technique. After that, the coated specimen was tested the mechanical property, pull off adhesion, bending as NACE No.12 and analyzed the macrostructure. From the results, the specimen with roughness of 75, 100 and 125 microns exhibited nearly thickness in averages of 370 ± 49 , 375 ± 32 , and 369 ± 59 microns, respectively. The result indicated that the surface preparation of carbon steel ASTM A36 with highest 75 micron was suitable range caused to the nearly thickness of coated aluminum on specimen. Moreover, all specimens were agreed in criteria of bending test as NACE No.12 standard without crack. The macrostructure testing result shown the nearly thickness and pull off adhesion between coating surface of aluminum and carbon steel ASTM A36.

Biography

Trinet Yingsamphancharoen has expertise in welding Engineering and materials such as metals and plastic. He can be prepared welding procedure specification (WPS) and procedure qualification record (PQR) for controlling qualification of welding methods for their materials such as plasma arc welding for titanium, submerge arc welding for API 5L pipe and etc. Moreover, he has described corrosion of welded pipe based carbon steel in conditions of brine and salt spray. Now, he focused on surface welding of carbon steel for improving resistances of wear and corrosion.

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