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Abstract

Effect of Filler Metal Type on Tensile Properties of Dissimilar Welded Joint of 316 Stainless Steel and HSLA Steel

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Abstract:

During the current period of covid-19 pandemic where international flight/shipping are suspended, supply of materials and equipmen for oil and gas industries might have been hindere Stainless steel filler metal may be scarce in the plant. Selection of filler metal is critical in dissimilar metal welding involving stainless steel, this is due to the weldability challenges associated with the technique. As a result, it is necessary employ the available filler metal for the progress of production/maintenance. Dissimilar weld joints of 316 stainless steel/HSLA steel were joined using ER316L-16 and E7018 filler metals. The joints were subjected to tensile test and tensile values were determined, computed, recorded and analysed.According to the results obtained and analysis carried –out the weld joint of E7018 filler metal presented higher ultimate tensile strength of 498MPa than weld joint of ER316L-16 filler metal of ultimate tensile strength of 450MPa.Specimen A indicated percent elongation of 15% while specimen B 19.5%.The results were compared with related previous works. Tensile strengths of specimen A and B are superior to that of HSLA steel but inferior to 316SS in as-received condition proving that the weld joints meet requirement for engineering applications.

Biography:

Biography: I am Hayatu Misbahu Abdullahi from Nigeria born on 1985 studied BEng,MSc, Materials and Metallurgical Engineering.(PhD Inview). Lecturer, Welding and Fabrication Engineering Department from Jigawa State Polytechnic,Dutse, Nigeria. Attended and presented papers in National conferences. I have published articles Have numerous publications in national and International Journals. Webinar: Participated in many webinars.

Publication of speakers:

1. Obiagu, Adaobiagu & Nwaubani, Okechukwu. (2020). The challenges of teaching for human rights in Nigeria: knowledge, pedagogy and activism. Human Rights Education Review. 3. 5 - 26. 10.7577/hrer.3804.
2. Shimeles, Abebe & Verdier-Chouchane, Audrey & Boly, Amadou. (2018). Conclusions: Enhancing the Resilience and Sustainability of the Agriculture Sector in sub-Saharan Africa. 10.1007/978-3-319-76222-7_13.
3. Heck, Sarah. (2019). From Anita Hill to Christine Blasey Ford: a reflection on lessons learned. Equality, Diversity and Inclusion: An International Journal. ahead-of-print. 10.1108/EDI-04-2019-0136.
4. Gumucio, Tatiana & Hansen, James & Huyer, Sophia & van Huysen, Tiff & Schwager, Saroja. (2018). Identifying Pathways for More Gender-Sensitive Communication Channels in Climate Services..
5. Wang, Fengnian & Li, Baosheng & Niu, Dongfeng & Wen, Xiaohao & Li, Zhiwen & Si, Yuejun & Guo, Yihua & Yang, Zhiying & Liu, Enbo. (2017). Millennial-Scale Climate Variations During the MIS3 in the North Piedmont of the Kunlun Mountains, China. Journal of Environmental & Analytical Toxicology. 07. 10.4172/2161-0525.1000455.

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