Study Of Metallurgical and Mechanical Properties In Submerged Arc Welding With Different Composition Of Fluxes-A Review

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Abstract:

Welding is most widely used in manufacturing industry, submerged arc welding predominantly used to join materials with higher thickness to reduce the defects during welding. This welding process is preferable due to high production rate , high melting efficiency, ease to automation and low operator skill. The quality of joint is highly influenced by flux and it's composition. In the present paper a review has been reported to study the metallurgical and mechanical properties of joint with different flux compositions. The flux composition is varied by adding other fluxing elements like MnO, Cr_2O_3, Ti_2O_3, MgO, etc, in the powder format to the regular flux(SiO_2-Al_2O_3-CaO). The influence of each composition is discussed with merits, demerits, applications, and structural changes with results are recorded and study of strength and other mechanical properties are also reported in the present study

Key Words: SAW, Fluxes, Mechanical properties and Microstructure, Heat affected zone